A WINERY
Khenshara, Metn

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This work is dedicated to my Parents

"Wine is wont to show the minds of man"

Theognis.

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BACKGROUND OF PROJECT:

There is an already established, small scale winery and distillery in the village of Khenshara, in the Metn, which sells wine and arak to labels already in the market. The owner of the winery is hoping to expand his production of wine and set up an independent label. The grapes that are to be used for the production of Red and Rose wine will be brought in from the Bekaa valley while the white grapes, used for white wines will constitute the major bulk of the production of the winery, will be grown in Khenshara. Most of the land surrounding Khenshara was used for agricultural purposes, especially viticulture, and there are several old wineries which are no longer used in the area. The disadvantage of the existing winery is that there is not enough space for the planned increase of production which involves the introduction of new machinery and new spaces. Furthermore, it was originally built as a distillery and the introduction of the small-scale wining process some years ago resulted in an inconvenient intermixage between the process of wining and the distillation of arak.

ARCHITECTURAL OBJECTIVES:

Most wineries I've observed are either utilitarian sheds that provide the basic shelter to the process of winemaking or stone castles that are very determined to impress us with the heritage of the wine and it's inherent worth. The interesting aspect to wineries is that the architect is always up against a very formidable foe : the wine itself. Usually it is either the wine or the basic architecture needed that stamps it's authority on the winery. Either that or the winery ends up being split in two directions: the 'ambiance' Vs the factory. What I am trying to question is the balance between these two factors and if there should be one that is reached in the first place. It also involves the questioning of the myth of the autonomy and 'individuality' of the process and the extent of man's intervention and the eventual architecture it produces. Another issue to be considered is the recent combining of what is fast becoming an Industrial process with the layers of romanticism and 'ruralism' that have always been associated with wine. Lastly, it is an investigation and questioning of the natural constraints that dictate the structure of events in the winemaking process and the nature of each event within it's position in the process.

SCOPE :

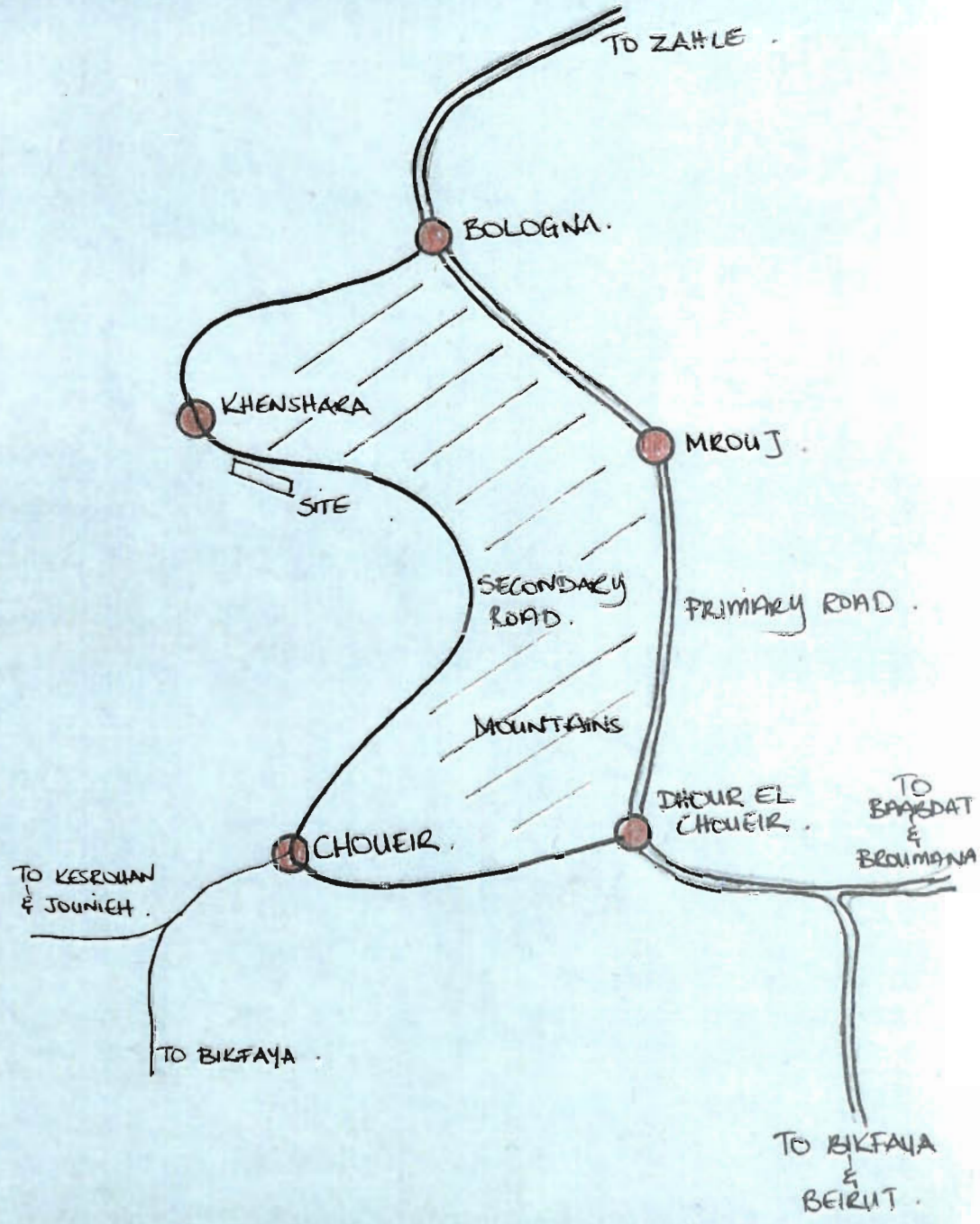
This winery will eventually bring about the consideration of the following issues:

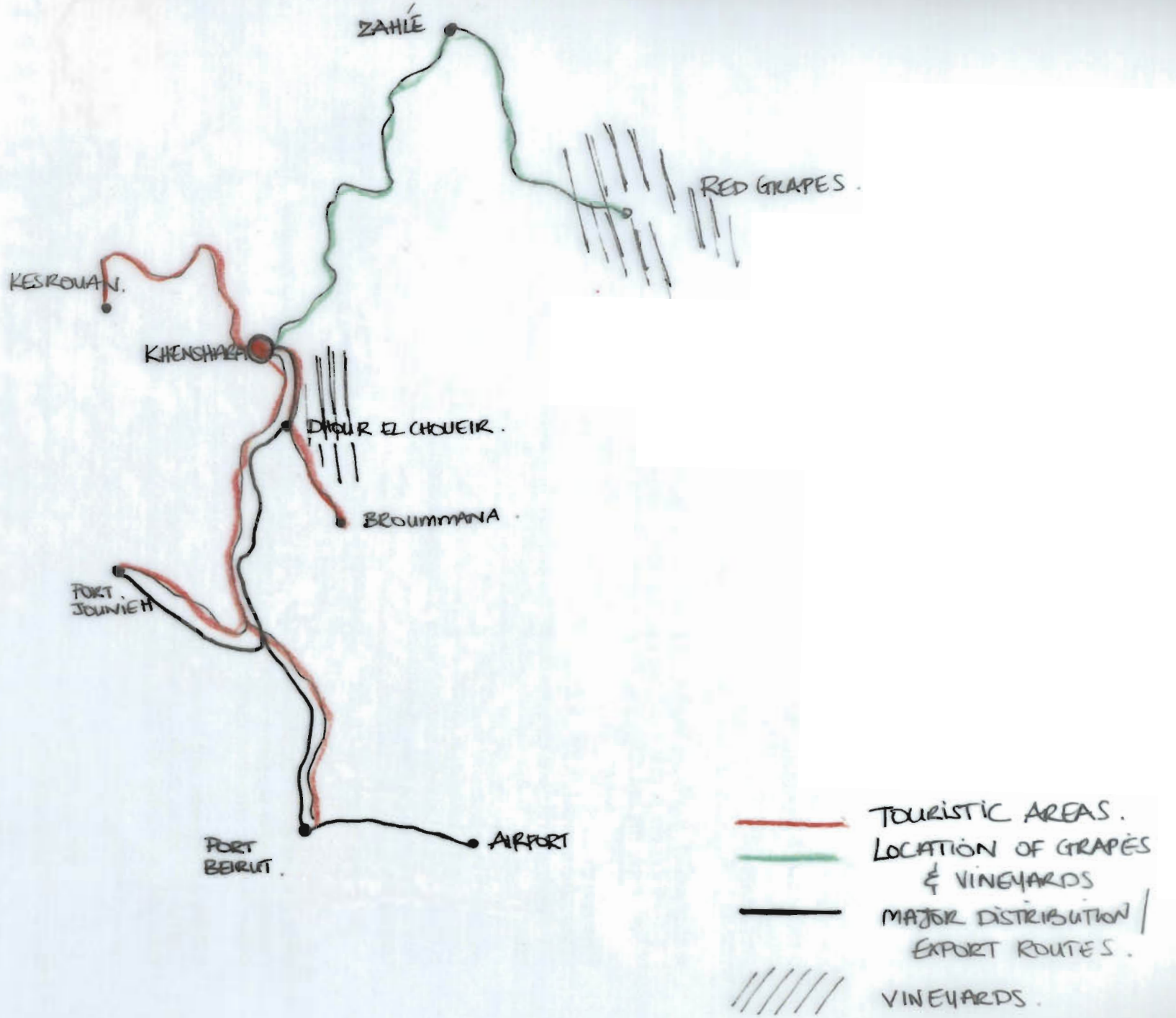
- It will be reinstating agricultural activity in an area where agriculture and especially viticulture has long since died out. This applies specifically to both the labor that will be needed for both the vineyard and the winery.
- It will act as a symbol of wine and winemaking in a region where this practice has diminished and in a country where people are still getting used to the idea of a winery being open to the public, and acting as a locale to visit and an activity to investigate.
- It will become a major tourist attraction in the area, since the village of Khenshara is in close proximity to major summer resorts such as Broummana, Bekfaya and Dhour el Choueir, becoming a part of the round of tourist and local patterns of movements with in the region. The volume of production of the winery will allow it to enter the local market alongside firms such as Kefraya and Chateau Musar.

- Will set and identify a certain approach to wine as a product, through an architecture that utilizes the individuality of the problem of winemaking and the 'glory' of the wine as it's base and not as a final layer to be placed for the benefit of visitors.

AREA ANALYSIS:

Khenshara is a village that lies in the area of Northern Metn, lying about one hour drive away from Ras Beirut. It's altitude is 1200m above sea level and it is considered a summer resort. It lies within a network of villages closely interlinked, culturaly and physically.
The road linking the Choueir to Khenshara is a secondary road serving only these 2 villages, while Choueir has a secondary access to Bikfaya. However, the road linking Bologna and Dhour El Choueir is a main one since it continues on to Zahle from Bologna and on to Baabdat (and Broummana) and Bikfaya from Dhour El Choueir. The winery will be located in a relatively quiet area though very close to main areas of activity.
Red grapes can be brought in from the vineyards surrounding Zahle on the road linking Zahle to Bologna while the white varietals of grapes will be grown on the site itself. Khenshara can be easily accessed from the neighboring summer resorts which also house tourists during the summer, such as Dhour El Choueir, Bikfaya, Brommana and Kesrouan. It is also easily accessible to the main cities of Beirut, Zahle and Jounieh, which accommodates the distribution of the wine (as well as the accessing of tourists.)




ZAHLÉ
RED GRAPES.
KESROUAN.
KHENCHARA
DHOUR EL CHOUEIR.
BROUMMANA
PORT JOUNIEH
PORT BEIRUT.
AIRPORT
TOURISTIC AREAS.
LOCATION OF GRAPES & VINEYARDS
MAJOR DISTRIBUTION / EXPORT ROUTES.
VINEYARDS.

BEYROUTH
Ras Beyrouth
Baie de St Georges
JOUNIÉ
Amchit
Jabal el Qaraif
Jabal el Laqloug
QARTABA
JABAL MOUSSA
CAZA KESROUÂ
Machrao Bou Jamous
Jrid
Hrajel
Mazraat Kfardibiane
QORNET EL HAMRA
JABAL ER ROUAISSE
JABAL SANNINE
JABAL KESROUÂ
CAZA METN
Bikfaiya
Broummana
Baabdat
Mtein
Aintoura
Zahlé
Ras el Metn
CAZA BAABDA
JABAL EL KNISSE
Hammana
Aley
CAZA ALEY
Bhamdoun
Chtaura
Aïn Dara
JABAL EL BAROUK
Barouk
Aïn Zhalta
Kfar Nabrakh
Majdel el Meouch
Damour
Baabda
Choueifat
Bchamoun
Aaramoun
Beit ed Dine
CHOUF
Deir el Qamar
Moukhtara
Barja
Khorbet Qanafar
Joub Jannine
Kamed el Laouz
CAZA
BEQAA
Majdel Aanjar
Qaraaoun
LAC DE QARAAOUN
SAHEL EL QARAAOUN
Jezzine
Dahr el Ahmar
Aïta el Foukhar
Haouch el Harime
Bar Elias
El Marj
Chhim
Gharife
Mazraat ech Chouf

SITE ANALYSIS AND FINDINGS:

The land lies on the outskirts of the village of Khenshara on the slope of the mountain facing the village of Choueir. The land bordering it to the north (continuing down into the valley)is private land that belongs to the monastery. The site is bordered by the road leading from Khenshara to Choueir and then onto Dhour El Choueir, and by a small secondary road. The land to it's south (further up on the mountain) is empty land containing a pine forest.

The site includes an old stone winery which is basically a room with a stone floor out of which small trenches were carved out to accommodate the crushing and pressing process which used to be done by foot. Also present on the uppermost part of the site is a source of natural water which is currently not being utilized and can be used for purposes of draining excess rainwater from the vineyard. . An old stone irrigation canal is also present on the site as well as old empty tombs which were abandoned on the site and which are estimated to be 200 years old.

These elements will be utilized within the winery or it's outdoor premises as a way of re-emphasizing the history of winemaking and viticulture that were present in the region. No documented history is available but several old abandoned wineries scattered around the village bear testimony to the established tradition of winemaking in the region.

The old winery will be kept as a tangible demonstration of these traditions, where grapes were deposited through the openings in the walls into the trenches of the stone floor, crushed by foot and later fermented to produce wine. The tombs will also be set up on the premises of the winery to re-emphasize the history of the region. The irrigation canal will be used for drainage purposes, namely the drainage of excess rainwater from the site.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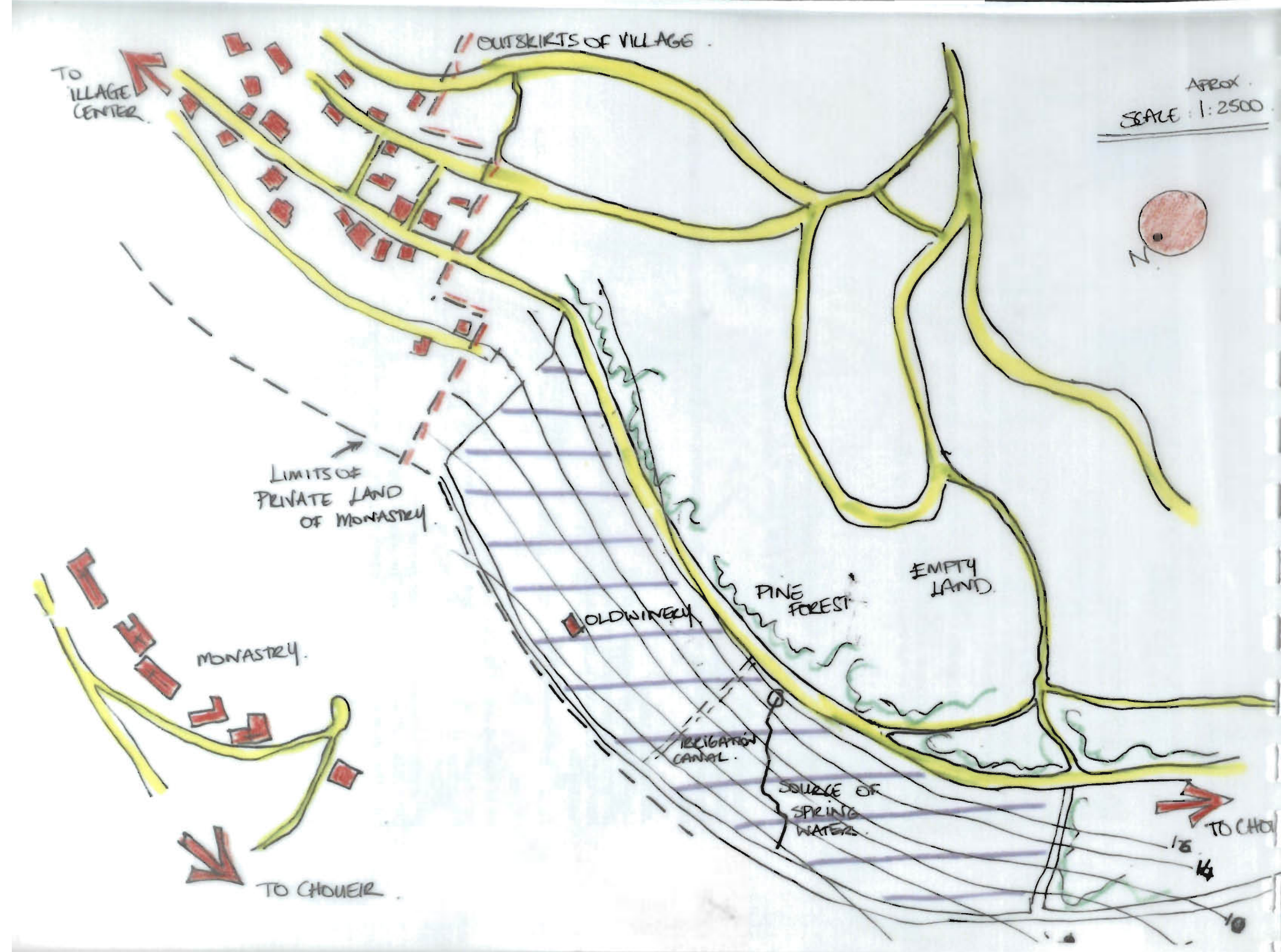
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N
LIMITS OF PRIVATE LAND OF MONASTRY
MONASTRY
OLDWINERY
PINE FOREST
EMPTY LAND
IRRIGATION CANAL
SOURCE OF SPRING WATER
TO CHOUEIR
TO CHOU
15
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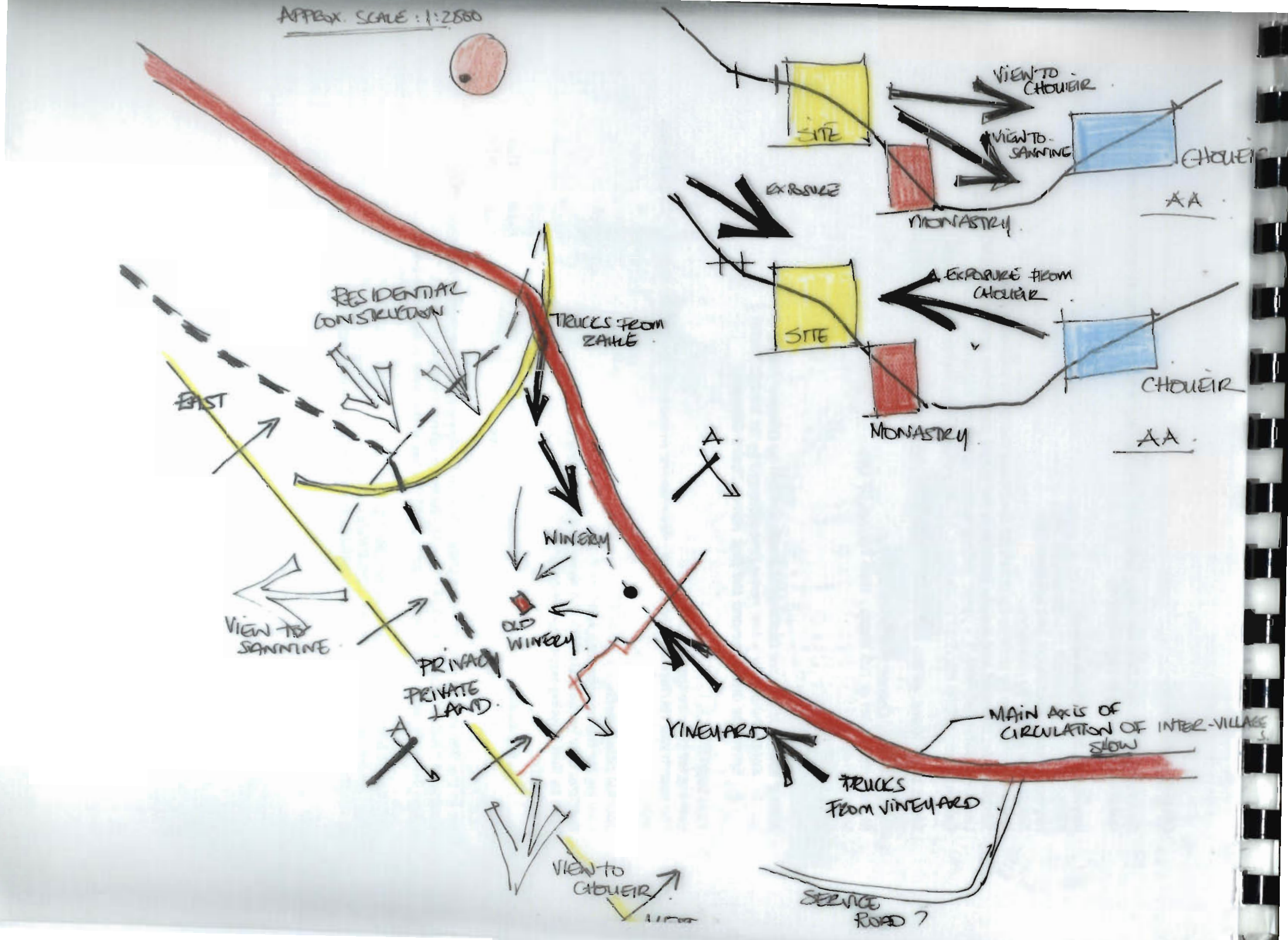
10


APPROX. SCALE : 1:2500
SITE
VIEW TO CHOUEIR
VIEW TO SANNINE
CHOUEIR
EXPOSURE
MONASTRY
AA
SITE
EXPOSURE FROM CHOUEIR
CHOUEIR
MONASTRY
AA
RESIDENTIAL CONSTRUCTION
TRUCKS FROM ZAHLE
EAST
WINERY
VIEW TO SANNINE
OLD WINERY
PRIVACY
PRIVATE LAND
VINEYARD
MAIN AXIS OF CIRCULATION OF INTER-VILLAGE SLOW
TRUCKS FROM VINEYARD
VIEW TO CHOUEIR
SERVICE ROAD ?

HISTORY OF WINE:

Paleontologists date the phenomenon of fermentation to the Mesozoic era, more than 100 million years ago. Humans are said to have appropriated wine long before there was any word for it. Many scholars now identify the origin of the word 'wine' in the Hittite script "wee-an" as the first 'wine word', recorded at approximately 1500 B.C. The word 'enology stems from the greek term "oinos logos" (wine knowledge).[1]
Modern anthropological discoveries indicate that humans have appreciated wine for at least 8000 years.[2] This seems plausible when one considers that wine is a natural beverage that requires no brewing or processing. Wine will, literally, make itself. The first vinters may have been cave people who discovered the "magic" of fermentation for a few days.
Throughout the history of wine, one notices a constant interlinking between the wine and the gods, religion, politics. The following is a brief look at the important stages in the history of wine:

There is some doubt whether the culture of the vine began in Egypt or in Mesopotamia. both were crucial centers of early civilization and early wine growing. Wine was cultivated about 6,000 years ago in the Tigris-Euphrates basin of Mesopotamia, in what is now known as Iraq. . According to the Bible, Noah landed his ark in these mountains, on Mount Ararat specifically, subsequently planting a vineyard and making wine. In Genesis 9:20-21 it is written that "Noah was the first tiller of the soil. He planted a vineyard; and he drank of the wine and became drunk."[3]

[1] History of Winemaking. May Andrews
[2] IBID
[3] The Bible

" One Persian poem rhapsodizes that "the wineskin is a kingdom to him who possesses it, and kingdom therein, though small, how great it is " Wine had its first religious application in the rites of the Persian god of light, Mithra : it was mixed with blood during the violent ceremonies of that cult.

Hebrew law went into detail about the selection and culture of the vine. Wine played both a ceremonial role in the Jewish religion and was an important part of everyday life. The Old Testament contains 155 direct references to wine, some richly descriptive and others giving practical advice about the best uses for wine. along with a warm appreciation for wine, there are powerful warnings about excessive drinking.
Celebrations of wine as God's gift to man can found in Joel 2:23:

> Be glad then, ye children of Zion, and rejoice in the Lord your God
> for he hath given you the former rain moderately...
> and the latter rain in the first month. And the
> floors shall be full of wheat, and the vats shall overflow
> with wine and oil.

Proverbs 23:21 contains a stern admonition against drinking wine to excess:

> Hear thou, my son, and be wise, and guide thine heart in the way.
> Be not among winebibbers; among riotous eaters of flesh : for the
> drunkard and the glutton shall come to poverty; and drowsiness
> shall clothe a man with rags."[4]

The ancient people of Egypt considered wine a gift from their God, Osiris, the son of Heaven and Earth. Hieroglyphic inscriptions portray Osiris as the "Lord of the vine in flower." Tombs of the pharaohs contain art treasures

[4] The History of Winemaking. May Andrews

that portray scenes of gathering grapes and winemaking in festivals of dancing and singing.
The importance of wine to the Egyptian monarchs is apparent by the numerous grape seeds that have been discovered in the crypts of the pyramids suggesting a desire for bountiful wine crops in the Afterlife.
The best wine were consumed by the pharoahs and the members of their households, along with their priests and soldiers. The common people of Egypt received grape wine only on special occasions.
The Egyptians reserved some wines for special purposes, such as the making wine-based perfumes used by their monarchs. According to Diodorus Siculus, Egyptian physicians often prescribed a compound of wine, stramony, and opium for treating colic and depression. A powder made from pulverized Memphis stone was mixed with wine or vinegar as a styptic for wound. Wine was used as a cleansing fluid in part of the embalming procedure before mummification.[1]

The Phoenician traders are credited with bringing both grapevines and wines across the eastern Mediterranean Sea from Egypt to Greece.
Homer relates that the crude wine made from the wild vines growing near the Cyclops was so bad that the monster preferred to wash down his meal of two of Odysseus' men with sheep's milk. The legend continues that Odysseus then gave Cyclops a Thracian wine from Ismarus, the birthplace of Dionysus, a wine properly made from cultivated vines. The beast found such great pleasure in this wine that he drank until he became drunk, giving Odysseus the opportunity to blind Cyclops' one eye.
The Hellenic wine masters buried their amphorae, which may have been an early technique to protect the wine from the destructive effects of exposure to air and high temperatures. This practice may also indicate that wine cellars did not exist in Homeric Greece. There is, however, some evidence that wine may have been made and stored in special rooms-this is particularly apparent in excavation of the ancient *agora* (marketplace) in Athens.
As in Mesopotamia and Egypt before, wine became the principal beverage of Greece and as the earliest forms of Greek civilization developed, wine took place of blood as a sacrifice to the gods. Homer points to this when he describes the meeting of King Agamemnon and Odysseus in the *Iliad* : "They drew wine from the bow in cups, and as they poured it on the ground they made their petition to the gods that have existed since time began."[2]
Dionysus, the wine god and son of the Greek paternal deity, Zeus, was an extremely important expression of Hellenic culture. Initial celebrations of the Dionysiac cult were drunken orgies, held under torchlights, that often became the scene of extreme violence. At one such celebration the mythic poet Orpheus was said to be dismembered for failing to honor Dionysus.
Eventually, The cult of Dionysus developed into seasonal reunions held four times a year, to celebrate the changing of the vine with the seasons and as a festival for the tasting of new wines.[3]
Many myths and legends are present in Greek mythology that tell stories of the various Greek gods and wine.

The Greeks were probably the first to publicly advertise wine, using images of Dionysus on their coins as the medium. Though most Grecian women were allowed to drink wine, the Spartans forbade this and were most stern in enforcing this precept,

> "the husband is the judge and censor of his wife; there is no appeal from his decision: if she has acted wrongfully he punishes her' if she has drunk wine or if she committed adultery, he kills her".

[1] Knowing and Making Wine. C.S. Ough

[2] The Myth of Dionysis. Sheryl Barret

[3] IBID

In bringing civilization to the inhabitants of the western Mediterranean, the Greeks and Roman realized that wine was one of their most effective allies. Wherever a colony was founded they would plant a vineyard. These were the seeds that grew to become today's vast European wine industry.

Following the conquest of Asia Minor by the Persian Cyrus in 546 B.C., more Greeks carried their culture westward and founded the port colonies of Monoikos (Monaco) and Kikai (Nice).

The first cultivated French vines were planted by the Greeks on the hillsides near their seaport of Marseilles. Trading stations were established on the shores of Marseilles and to the west toward Spain. But the further development of wine growing there was impeded lest the colonial wines offer too much competition to those grown in Greece itself. According to the historian Diodorus Siculus, the international currency was slaves, and the price of one amphora of wine was one young boy.[1]

Wine played as symbolic role in many religions centuries before the advent of the Christian faith; since earliest history, humans have associated the red color of blood and wine and have used wine in religious ceremonies to create an aura of mystery and reverence.

The Bible contains 165 direct reference to wine, 155 of which are in the Old Testament. Wine played an important part in the everyday lives of the people in Biblical times. One can find rich descriptions of wine drinking and wine imagery in the Bible, along with much advice about the best uses for wine.

There can be no doubt that the Bible considers wine God's gift to man. One illustration of this comes in the following passage from Psalms 104:15:

> He causeth the grass to grow for the cattle, and herb for the service of man; that he may bring forth food out of the earth; and wine that maketh glad the heart of man.

[1] IBID

According to St. Luke, Christ observed that : "No man having drunk old wine straightaway desireth new: for he saith, The old is better." We read in Timothy 5:23, the very famous quotation of St. Paul, who surely must have known the value of wine as an aid to digestion : "Drink no longer water, but use a little wine for thy stomach's sake and thine often infirmities."

Wine thus became a crucial part of the Christian ritual. wherever Christianity flourished, wine would become necessary.

Western civilization is indebted to the Christian monks for the continuance of winemaking during the period of history following the destruction of the Roman Empire. Their expertise in wine growing and making was unique. The monasteries were the only communities that had the resources for research and improvement of wine-growing skills.

The alliance between the monks and the peasants was a significant factor in the medieval economic structure. Many of the farmers gave up their land, including vineyards, to the monks in return for protection, recalling the sanctuary afforded the populace at Monte Cassino during St. Benedict's time. The peasants became Christians and learned the science and art of winegro-wing from the monks. However, the serf-tenants of the monasteries were required to pay rent plus a *dime*, or *zehnt*, which amounted to one-tenth of their wine production. This feudal title gave the monks an obvious advantage over the peasants in the marketing of wine.[2]

Wine continued developing as a drink, being concentrated in France and Germany and later developed in America.

In the winery at Khenshara, the history of winemaking will be emphasized through the old winery present on the site and which bears testimony to the regions' history and traditions of winemaking. The issue that will be expressed through the project and it's architecture is that although the

[2] IBID

vessels used for making wine have changed, the basic biological process that enables humans to make wine, or to assist in the process of wine *being* made is constant and is a biological one, dependent on the grape , the earth out of which it stems from and the climate in which it is grown in.

THE GRAPE, THE WINE, AN INTRODUCTION:

Wine is made from the vine, a plant which produces grapes. A grape berry basically consists of the skin, the pulp, and the seeds. Exposure of the grape leaves to sunlight increases the production of grape sugars. Generally, the quality or category of the wine produced is dependent on the level of sugar in the grape.
The basic approach to making wine is:
1) Grapes are pressed to extract the juice
2) The juice ferments into wine, where the sugar in the grape is converted into alcohol.
3) The wine is stored to be aged or is sold immediately.

The category of wine are:
- Red: made from red varietals of grapes
- White: made from red or white varietals of grapes
- Rose: made from red varietals

Wine may be Still or sparkling. A sparkling wine is one that has undergone several stages of fermentation and contains Co2. Furthermore, a wine may be categorized by it's level of sugar content, or lack of: a wine may be dry, medium or sweet.[1]

[1] Winemaking Basics. C.S. Ough.

The unique aspect to wine in general can be attributed to it's intense history, and relation to the gods and religion, as well as it's unique method of production, where the process can be said to be individual as regarding the wine itself, and to some extents, the vine.
The vine is one of the few plants that does not require irrigation. The vine itself will not start producing grapes until 2-3 years after it has been planted. It will reach it's maximum maturity at the age of 15 and will continue to yield a stable amount up to the age of 40. After that, it's production will slowly decline and it is advised that it be uprooted.[2]
After the vine is harvested in September, it needs to go dormant in order to survive the cold of the winter. In March, the vines are pruned. This is also referred to as "training" the vine. In May, the budding of the fruit occurs and between July and September, the ripening of the grapes takes place. Before the harvest, the grapes change color in a period of a fortnight. This final color and sugar content will define the character of the wine produced from this harvest.[3]
The process by which wine is produced, the fermentation, the eventual cutting short of biological action and allowing another one to occur is part of what gives wine it's unique quality. The conversion of the sugar in the grape to alcohol by action of bacteria in the grape. After bottling it, another biological process in the wine occurs, again by it's own. Two compounds, in the wine, which form a bond, each have a role to play in the character of the wine produced: 1) the Anthocyan compound is responsible for the development of the color and hue of the wine 2) the Tannins are responsible for the aging and eventual astringency in the wine. With time,

[2] Knowing and Making Wine. Emile Peynaud.
[3] IBID.

the bond between them is broken.[1] Thus, an active process is taking place in a wine bottle that remains stationary for years at a time.
Wine is often categorized by enologists and wine experts; often personified, as if one was talking about an actual being:
" They regard wine as a living being which evolves step by step from a chaotic boisterousness of youth to a lucid clarity and strength. In the process, when the ripening is over and the highest degree of excellence seems to have been achieved, the chaotic movement starts again, like a person who might relapse into puberty in order to pass through this phase of development once again to rise to an even nobler refinement. Some even believe that a mysterious sympathy exists among wines approaching maturity, and consider it rash to bring them into contact with one another indiscriminately, because the development of each wine can be furthered or deterred by the company it keeps."[2]
Enologists and vintners always seem to be trying to allocate a character to a certain wine, or categorizing wine in general. C.S. Ough, an enologist and author of "Winemaking Basics" tries to point out the qualities of wine. These, he specifies are not based on ranking or price:

"1st group: The 'wine-drink', swallowed without being tasted, without vice or virtue, drunk by force of habit.

2nd group: The 'sham quality wine' which may come from grand origins and be cultivated in best tradition and which therefore sometimes give illusions. It usually reveals defects of a technical nature; for a red wine: hardness, astringency, high fixed or volatile acidity, ethyl acetate....

3rd group: The 'quality wine': clean, well structured, smooth, straight forward, but pleasant and easy to drink; generally consumed young, fruit flavored, sometimes with a flowery base.

4th group: The '*great* wine,' a work of art, complex, with personality, rich in sapid and aromatic substances, defying description and therefore that much more fascinating to taste."

The unique process by which wine is produced is a major aspect to wine in general and to the way a winery should reflect the uniqueness of the process, eventually not just becoming a shelter which houses the process but which stems from it as well .

AN OVERVIEW OF LOCAL WINES AND METHODS OF WINEMAKING[3] :

GRAND SEIGNEUR:

A label that went down on the market in 1991 on a small local scale and which started expanding it's distribution only recently, concentrating mostly on the areas of Kesrouan and Jounieh. They started out by producing 'Arak Faqra' and later decided to expand into winemaking. They rent out a small

[1] IBID.
[2] The myth of Dionysis, p. 55, Sheryl Barret

[3] Information on the local wine production was obtained from site visits and from brochures given out at the respective wineries. For further information, refer to Appendix A.

winery in the Bekaa where the wine is fermented and bottled. Distribution and storage are done in Kferdebian, a village near Faqra.
There wines cover the basics, as they have not branched out into 'specializing':

Le Grand Seigneur Rouge
Le Grand Seigneur Rosato
Le Grand Seigneur Perla Bianca
Le Chateau du Grand Seigneur:

_ They seem to follow the basic procedures of winemaking with very little variation and have not expanded into several wines per category.

KSARA:

Probably one of the oldest wineries in Lebanon. Named 'Ksara' because it was a "Ksar" (fortress) at the times of the crusaders. It was taken over by the Jesuit fathers in 1857 who then began making wine out of the vineyards of the property. Underground tunnels, 2km long were dug out in 1910, and they now serve as storage spaces for aging wines. Ksara produces 1,500,000 bottles per year out of a total of 390 hectares of land located in Kefraya, Tanail, Kanafra; all in the Bekaa.

Their wines include:

Red:
Reserve du Couvent
Clos St Alphonse Rouge
Cuvet de Printemps

Rose:
Clos St Alphonse Rose
Gris de Gris:

White:
Blanc de Blanc
Clos St Alphonse Blanc

Chateau:
Chateau de Ksara 1998:

Arak:
Ksarak

_ They are basically producing different varieties of wine by experimenting with the basic process. The end product depends on the type of grape varietal used, period of maceration (rose), type of vatting and legnth of aging, if any. They produce two white wines; one out of white grapes and one out of red grapes.
They seem to have an unusual preoccupation with a certain "St. Alphonso" and seem to be inclined towards French names for their wines as well as propagating new, interesting -sounding names such as "gris de gris" and "Sunset".
Their character definitions are a bit worrying since all their wines seem to fall into two categories:
"fresh, lively and elegant" Vs "Robust, rich and complex"

KEFRAYA

Before the 1970's, Kefraya as a winery did not exist. The owners of the land used to supply grapes to Chateau Musar. In 1979, Kefraya started making wine. It currently produces 1 million bottles a year, 75% of which is red wine while the rest is rose and white wine. Unlike Ksara, it is basically a wine factory without any romantic underground caves, though plans are underway to construct some. Kefraya is known to have won many International wine prizes. It has 250 hectares of vines in the area of Kefraya, Bekaa.

Their wines include:

Red:
Kefraya Nouveau
Domaine de Kefraya Rouge

Rose:
La Rosee du Chateau:

white:
Domaine de Kefraya Blanc
Chateau Kefraya Blanc de Blanc
Blanc de Noirs

Chateau:
Chateau Kefraya:

Dessert Wines:
Lacrima D'oro
Nectar
Arak of Kefraya.

_The same kind of experimentation is undertaken at Kefraya as at Ksara, but in Kefraya there is a more clear cur strategy of table wines (no aging at all) Vs Chateau (a minimum of 5 years). Kefraya have only one rose, concentrating more on white wines. While Ksara chose to develop on Rose wines, Kefraya decided to expand into dessert wines, though they admit they are not selling very well.[1]
The labeling is also predominantly French, with more straight forward names; mostly consisting of 'Chateau Kefraya'. It seems that they are vying for a more traditional seat, emphasizing that they have a 'domain'.

CHATEAU MUSAR:

The winery is located in Ghazir, Kesrouan and was originally a Serail.
It sells only 3% of it's production in Lebanon while exporting the rest to France, England and the United States. Usually releases it's very old wines (1933-)
to Sotheby's and Christies.

It's wines include:
Chateau Musar
Chateau Musar Rouge
Chateau Musar Blanc
Chateau Musar Rose
Arak de Musar

[1] Manhal Nakouzi. Marketing Manager of Beverages at 'Fattal Group'

One Striking factor about all four wineries is that all their wines are made from vineyards located in the Bekaa valley. Their wines reflect the soil and the climate of the Bekaa region in general and all of them are made from foreign, imported grape varietals. Despite the fact that the varietal used makes a difference in the character of the wine, the climate conditions and soil play a bigger role in defining it's character. They seem slightly oblivious to local grape varietals that were traditionally used to produce wine in this region of the world, the bulk of which was white. This leads to a local market saturated with wines made from foreign varietals, most of them being fairly similar in character and taste due to their common origin of soil and climate.

MARKET INFORMATION AND TRENDS:

The wine on the market can be divided into two categories: Imports Vs Local. The total local production of wine in Lebanon comes up to 3 million bottles per year[1] while foreign brands make up 25% of the market[2]
The wine imported into Lebanon comes from France, the United States (mostly Californian wines), Italy and Morocco. Italian and Moroccan wine are relatively cheap. Most of the demand for foreign wines is for French wines. Imported wines are usually more expensive than local wines because they have a 110% custom duty tax placed on them. Despite this, there is a high demand for foreign wines. Another item demanded is sparkling wine, mostly Moet et Chandon and Dom Perignon. Certain firms in Lebanon specialize in the distribution of foreign wine, such as Bacchus and Enoteca.

[1] IBID
[2] Andre Hadji-Thomas. general director of Enoteca

Arak is the alcoholic beverage with one of the highest consumption. reaching up to 450,000 cases per year.
In general, Chateau Musar exports most of it's production (97%), mostly to the United States and England.
Ksara accounts for the bulk of production in Lebanon, producing an average of 1,500,000 bottles a year, exporting about 25% .
Kefraya produces about 1 million bottles a year, exporting 34% of their production.[3] 75% of their production is red wine, while the rest is rose and white.

Demand for wine in Lebanon is leaning towards local production, as their quality is being recognized.[4] Ksara dominates 50% of the local market while Kefraya dominates 35%. Most of the demand for wine is for red wines while rose wines are not doing very well. The type of wine consumed and demanded usually depends on the type of social life and level of education on wine. A certain evolution of habits is taking place where people are heading away from the image of drinking red wine only in the winter, while the consumption of white wine has risen from 10% to 25% in the last 2 years.[5]
Most of the wineries are trying to influence this behavior by 'educating' the consumer. This mostly shows in their brochures where they advise them on what kind of food to eat with a certain wine, the reccommended length of aging of the wine, etc..
In 1949, the number of wine producing firms were 35 firms, with a production of 570 tons, mostly distributing on a respectively local basis. In 1955, distribution started to increase, but the amount of wineries decreased

[3] Figures and information were taken from L'Orient Express Nov. 1996
[4] IBID
[5] IBID

to 10 firms, employing a greater average number of people.[1] No exact information on the exact number of wineries in 1996 is available, but the ones that actually distribute on the market are Ksara, Kefraya, Chateau Musar and Grand Seigneur. A tentative conclusion would be that the number of wineries are decreeing while distribution and production are increasing. It can be said that the approach to making wine has evolved from a family based practice, with a narrow distribution area to a larger, industrial process, consisting of several private owners (Finnish ambassador, Fattal Group, Walid Joumblatt, etc..) which is using contemporary marketing and advertising techniques that are based on the original 'mom and pops' winery set up as it's base for advertising.

Most of the wine being produced in Lebanon is made from vineyards in the Bekaa, even though some of the best wines are produced on hills and mountains of higher altitudes and a cooler climate[2]. This is probably due to the wider expanse of relatively flat land in the Bekaa where the harvesting of grapes is easier(machinery can be used) as well as the proximity of the wineries themselves. Grapes that grow on the mountain slope in dry soil contain more sugar and become riper than those growing in moist land.

Another factor missing in Lebanon is the production of wine made from local varietals of grapes (such as Obeidy, Mariami, Bakhoury) to complement the imported European varietals.

The winery designed in Khenshara will be taking advantage of these factors and will produce a wine emphasizing local trends of soil varietals and climate. In this case, the concentration will be mostly on white wines since only white grapes grow in the mountains, while the red wine will be made from grapes growing in vineyards in the Bekaa.

The initial projected production for the winery is 600,000 bottles per year, of which 40% will be red wine, 10% will be rose and 50% will be white wine. The winery however, will be designed with the same proportion of wines in mind, but with the possibility of accommodating a production of 1 million bottles per year (for expected expansion). The overall approach to the product will be that of emphasizing the 'localness' of the wine (especially the white variety) as opposed to the existing trend of relating to French methodologies ("Chateau" and French labeling and methods of production).

THE IDENTITY OF THE WINE AS A PRODUCT:

So far, the identity of wine as a product by itself is fixed in the minds of most people. Most of this is due to the process of representing the wine as a product to the consumer. This process takes on many forms:

-The label
-The brochure
-The winery
-Society and Surroundings

[1] Figures extracted from 'The Wine and Arak Industry in Lebanon', a thesis by Riyad Majeed Shams. 1970

[2] 'Knowing and Making Wine', Emile Peynaud

THE LABELLING usually works in two ways:

1)Introduce and reinforce the name of the firm that produces the wine. This may sometimes be the name of the wine itself [1].

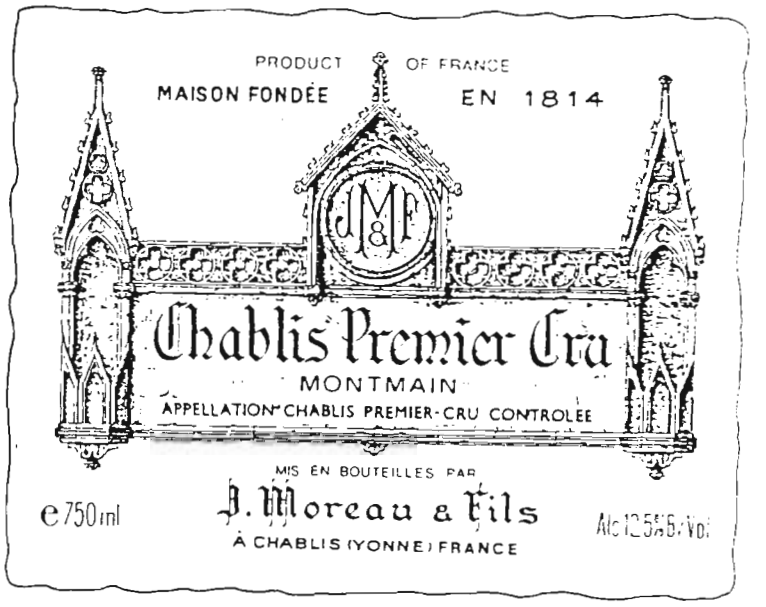
2)Reflects an image of the wine/firm, usually with an emphasis on the past, mostly by images of a stone Chateau with allusions to french connections/ancestry.

THE BROCHURES that are presented to the consumer (usually at fairs/exhibitions or at the winery itself) concentrate on the following issues:

1)They present the winery, it's location, history and dedication to the "tradition of winemaking". The word tradition by itself suggests an adherence to the past and to old ways of winemaking, in which case, there is the implicit suggestion that the process/methods of making wine are ones that have been used for a long time and are the best ways to make wine. The notion of time is very important in this context, where the aging of the wines is emphasized as well as the idea that wine is produced by old methods, acting as a novelty to a culture where advances in technology and methods of production are taken for granted as a fact of life. This makes the wine stand out as a product that is different.

2)Presenting the wines they produce, sometimes explaining the process of production and giving each a character: "elegant and vivacious" . Here, the wine is personified and individualized.

[1] The very fact that the wine has to have a name is interesting by itself: why not indicate the name of the firm, along with: "Red wine. Cabernet Sauvignon varietal. vatted for 18 days. aged for 3 years"
This information is usually replaced by "Clos St Alphonse"



KSARA

Réserve du Couvent

This wine combines elegance with a lingering fragrance. It is made from a selection of the most noble Cinsault and Grenache grape varietals, with a touch of Cabernet Sauvignon and Syrah cultivated in cask wood oak barrels. Réserve du Couvent goes very well with red meat and game and can be bottled for many years.

Gris de Gris

A fresh and intense wine with a Carignan and a Grenache base, Gris de Gris is obtained by tapping after a short period of maceration. It goes very well with first courses, white meat, and can even be served as a thirst quencher. Better drink it young in order to preserve all its qualities.

Clos St. Alphonse Blanc

This wine is made of Clairette, Muscat and Ugni Blanc, separately vinified at a low temperature and vatted before being blended and bottled. A light and fruity wine with a delicate Muscat touch, excellent with vegetables, Lebanese mezze (appetizers) and fishes.

Clos St. Alphonse Rosé

Made of Cinsault, Grenache and Carignan, this fresh and crisp wine is obtained by tapping and characterized by its typical salmon-pink color. Ideal with Lebanese cuisine, as well as with pizzas, vegetables, fish and cold meat.

Clos St. Alphonse Rouge

A wine based mainly on well-ripened Cinsault, Grenache and Carignan and characterized by its brick-red color, its suppleness, lightness and well-blended tannins. It is the classic accompaniment to good home cooking as it brings a touch of conviviality at the dining table.

Chateau Blanc de Blancs

Chardonnay, Sauvignon and Sémillon are the base of this elegant and subtle wine. These noble grape varietals are vinified at a low temperature, then separately vatted for several months in barrels made from French cask wood oak and finally bottled.
Chateau Blanc de Blancs can be served as an aperitif with delicate fresh fish or shellfish.

Chateau Ksara 1984

A selection of noble grape varietals, such as Cabernet-Sauvignon, Syrah, Mourvèdre, and Grenache, as well as a touch of Cinsault, all chosen from the best vineyards, go to the making of this vintage wine. Its bouquet is a clever blend of vanilla, liquorice and cedar wood; when aerated, it develops notes of leather and roasted coffee. Excellent with game, meat prepared with sauces and spicy meals.

Chateau Ksara 1988

This is the pre-eminently best keeping wine. Vinified with a Cabernet Sauvignon, Syrah and Carignan basis and cultivated in barrels during 18 months.
It is endowed with a red ruby color and a fruity nose of raspberry and black currant. It has a robust freshness, a typical fullness in the mouth and an elegant, well-blended tannins finish. It is a very good companion for game, red meat, dressed meals, as well as for fishes cooked with red wine.

Rosé Sunset

A very well balanced and generous wine with a remarkable spicy flavor due to its vinification based on a Cabernet Sauvignon, Syrah and Carignan blend. It has a unique slightly pungent aroma of red berries and is the ideal accompaniment to spicy meals.
To be served cool.

Ksarak

The KSARA estate has kept up the traditional distillation methods for this typical Lebanese production. KSARAK is solely based on unrectified vinic alcohol and green aniseed.

Produced from the very heart of the distillate and aged for 18 months in earthenware jars, it is bottled to provide Arak lovers with great delight.

Cuvée de Printemps

Syrah and Carignan are the basic grape varietals of this wine, produced by carbonic semi-maceration, then cold-vinified. Its vinification and short cultivation period endow this wine with a bright red color, supple tannins and a very aromatic nose of violets. To be drunk cool but not chilled with cold meat, Lebanese mezze or delicatessen.

1986
Silver Medal at Vinexpo Bordeaux in 1993.
Certificate of Merit at Montreal Canada in 1994.

1987
Certificate of Merit at Montreal Canada in 1994.

1988
Bronze Medal at Vinexpo Bordeaux in 1993.
Bronze Medal at the International Competition in Brussels in 1994.

The Château Kefraya specials 1985-1986 1987-1988-1991

These are the wines which require the utmost care. Selections taken from the best plots of vines and best grape varieties : Cabernet-Sauvignon, Cinsaut, Grenache (1985-1986-1987) and in addition, since 1988, Syrah and Mourvèdre. Aged in the vat for two or three winters, they are then bottled but will not be put on the market for another two years. During ageing, they gradually lose their aromas of fresh fruit (blackcurrants, raspberry, red currant) and evolve towards aromas of ripe fruit and even jam (1991).

Some floral tones appear : euvalyptus and cloves (1986-1991), spices and white pepper (1986), coffee and cocoa (1985-1986-1988). Toasty at first, the bouquet develops smoky roasted overtones (1985-1987-1988), liquorice, resin, spices and white pepper (1986-1988-1991), coffee and cocoa (1988-1991), tobacco (1984-1985-1986-1988). Château Kefraya 1988 also has a specially pleasing aspect which coats the mouth, yet remains silky and feminine.

The tannins, the wine's backbone, blend in as ageing continues, and already after five or six years the wines exhale this palette of savours and scents which is specific to the Kefraya terroir. Their tannic structure can rival some of the great French appellations in the Rhone-valley. These are very powerful wines, aromatic, very intense, wines of the sun expressing an authentic terroir unique in the world.

In short, Château Kefraya wines are generous, they attack the mouth without aggressivity, they have character and finesse with always the same hints of cigar-box, roast coffee and undergrowth.

THE WINERY itself is usually split into 2 parts:

1)The 'Ambience'[1]: This usually takes over the main entrance of the winery, the tasting rooms and the cellars. The main entrance usually takes on the appearance of a Swiss chalet, with old oak barrels and old wine pressing machines exhibited for the visitors. In this case, the visitors are immediately placed within the context of the 'past' and the traditions of winemaking. This introductory image is meant to stay with them as the final image/identity of wine even though the next stage of the tour takes them through the 'factory'. The cellar can be said to provide the 'climax' of the tour and makes up the main part of the winery for it is here that man's intervention is over and that the wine is left by itself to age, and this implies that it takes on the form of an individual, independent of any machines or other manipulations. The isolation/privacy of the cellars further reinforce this image and gives the wine a greater 'glory'.
The tasting room can be said to be the place where the visitor recovers and partakes of the 'glory' that he has just witnessed.

2)The 'Factory':

This phase usually includes the crushing and destemming of the grapes, the fermentation, filtration and vatting of the wine. This is usually at odds with the image first given to the visitor because even though the primary process is still individualistic, it takes on an image of mass production, where the individual bunch of grapes or solitary bottle of wine can no longer be seen.
Furthermore, the machines used to control and monitor the process are highly contemporary and up to date. It is usually easier to let go of the wooden barrels and stone vaults at this stage of the process.

[1] For further information, refer to Appendix B.

SOCIETY AND SURROUNDINGS

Normal, day to day activities/actions reinforce the identity given to wine. In restaurants, the waitor will ask the customer to taste the wine first, where it's qualities have to be judged , it's bouquet, aftertaste etc.. This is due to the variety of wines available. Out of each harvest, several wines are produced, each with a different taste. At any one dinner, a consumer has a wide variety to choose from. He/she will also have to choose the wine that best complements the meal they are having. Coca-Cola and whiskey don't normally offer such constraints.

The above factors, and others present an image to consumers, branding a certain 'special' or 'different' image of wine on them even though they may not be aware of the individuality of the process, the aging, the history, it's affiliation with the gods or any other factor that makes wine as a drink, unique. Secondary influences are labelling, naming, which usually refer to the past, french ancestry etc..
So even though the wineries project a certain image through the wine, the consumer already has that image, and it is reinforced or he is reminded of it every time he is faced with it. If one was to exaggerate, it might be called a vicious circle where firms are unable to represent the wine or give it an identity which is separate from affiliations to the past.

THE PROCESS OF WINEMAKING ADOPTED AT THE WINERY IN KHENSHARA:

The categories of wine are:

Red
White
Rose

Sparkling
Still

Dry
Medium
Sweet

There is no simple process for wine making. It differs according to the variety of the grape being used and individual techniques developed by the enologist.

The basic aims are:
1) Convert sugar in the grape into alcohol by fermentation
2) Retain an optimum natural flavor in the wine
3) Produce a healthy, stable wine without faults.

The basic steps are:
1) Grapes are pressed to extract juice
2) The must is fermented into wine
3) The wine is bottled immediately or is stored to be aged.

HARVESTING:

The grapes are usually harvested in the month of September. This time period is not fixed and may stretch into mid October. It depends on the climate and level of maturity (ripeness) needed from the grape. The latter also varies in different grape varietals. The harvesting will usually be done by hand. Machinery cannot be used on steep slopes where individual selection of bunches is necessary, due to a more marked variation in the micro-climate producing different levels of maturity in the grapes. The grapes need to be crushed immediately after harvesting. They cannot be kept overnight unless they are in good condition or can be placed in a cool place. White varieties of grapes should be picked at night or on cool days.
The grapes are brought in by truck and placed in a slanted receiver which then deposits them (by gravity) into the destemmer/crusher.

DESTEMMING/CRUSHING:

Destemming involves separating the grape berries and taking the wood out of the bunches.
Crushing consists of breaking the grapes skin in such a way as to free the pulp and the juice out of the grape. This ought to be done without macerating the skins, squashing the seeds or ripping the stems. The residue of this process, the stems and seeds, are returned to the vineyard and are used as organic fertilizers for the soil.
The process of destemming and crushing is done by one machine.

Red Varietals of Grapes:

In the making of red wines, the immediate separation of the juice from the skins is unnecessary and the skins will be left throughout the fermentation process.

In the making of white wines, there has to be an immediate separation of the skins from the juice.
In the making of rose wines, there is no set time limit for the length of contact between the skin and the juice. They will be left in contact overnight.

White Varietals of Grapes:

The rapid separation of the juice from the skins and seeds is important since there are significant amounts of tannins in the skins and seeds that will remain in the finished product in high quantities if they remain in contact with each other.

- The separation of the juice from the skins is done in aluminum tanks that contain both the racking and draining equipment. Different tanks must be used for different varieties that will end up producing a certain kind of wine.

FERMENTATION:

The fermentation process involves the transformation of the sugar in the grapes to alcohol. This is done by the action of yeast already present in the grape . This is all done in aluminum vats at an average temperature of 25C for red wines and 15c for white wines. If the temperature in the vats rises above the desired rate, the vats are cooled down by spraying them with water. The average length of the fermentation is 20 days for white wine and 15 days for red wines. If the natural fermentation process does not proceed as required, yeast is added to it to aid in the transformation of sugar into alcohol.
With red wines, the skins are left through the fermentation process, and there has to be a mixage to ensure uniform contact between the skins and the juice. This is done by pumping over twice daily with about half the tank volume pumped over the cap of the tank each time. Rose wines are fermented as white wines as soon as they are drained (the skins are removed).

CLARIFICATION AND FINING OF WINES:

A filtering of the wine may be done at several points throughout the process; to remove sediments or residues such as yeast, bacteria and plant extracts. It is usually done at 3 stages:
1) After the fermentation to filter out the yeast
2) Out of the cold stabilization treatment
3) Just before bottling

SECONDARY FERMENTATION:

This is optional and depends on the winemaker.
Most white wines are relatively microbiologically inactive after being fermented to dryness. Red wines will undergo a second fermentation which involves the degradation of malic acid in the wine to lactic acid. This decreases the total acidity of the wine, making it less harsh on the tongue. After the first fermentation occurs, the wine remains in the tank to undergo the second fermentation, which is referred to as Malolactic fermentation. If a second fermentation is not desired, it can be prevented by cooling the temperature of the vats to 5C.

AGING:

White/rose wines:
White wines of the fresh and light category should have a minimum of aging. By the time they are clarified and stabilized, they are nearly ready to drink. A few months in the bottle held at low storage temperature is all that

is required. Bottling may start in the new year, finishing around April because white wines begin to age as soon as the yeast stops fermenting. These wines are usually good for a maximum of 2 years before they star to lose their flavor. More complex wines will benefit from a couple of months of aging. This is usually done in tanks or in oak barrels and will produce high quality wines sold at high prices.

Red:

After fermentation, the simple red wine will be bottled and sold immediately. This is usually referred to as 'cuvet' or table wines. Another more complex wine will be stored in concrete tanks coated with epoxy resin or in wooden barrels for an period of 1 year . After that, the wine is poured into glass bottles and will be aged according to the type and complexity of the wine, usually for a period of 3 years.

PRODUCTION:

The winery will be producing:
Red Wine:
Table wine: 100,000 bottles/year
Aged wine: 150,000 bottles/year

White wine:
Table wine: 100,000 bottles/year
Aged wine: 200,000 bottles/year
Rose Wine: 50,000 bottles/year

A total of 600,000 bottles of wine will be produced per year.

TERMINOLOGY:

-Enologist: a trained professional who specializes in the production of wine
-Lactic acid: an acid present in the grape which is transformed by the lactic bacteria into the lactic acid found in the wine and CO2.
-Malic acid: does not exist originally in the grape but is formed during the fermentation process and is later transformed into lactic acid found in the wine.
-Must: the juice extracted out of the grape immediately after crushing.
-Racking: A process by which the mixture is moved around in order to eliminate the yeast still present in the wine.
-Tannins: Phenol-based components that are present in the skins and seeds of the grapes. The percentage of alcohol present in the wine, as well as the amount of tannin present, in part determine the character of the wine.
-Yeast: Bacteria present in the grapes and that are sometimes added to aid in the fermentation process. Some forms of yeast have to be gotten rid of since they can destroy the wine.

PROCESS THROUGH THE MACHINERY :

After the grapes are unloaded into the receiver, they pass through, by gravity, into a PVC pipe to the Destemmer/Crusher. To transfer the grapes from the D/C to the 'Pressoire' (in the case of white wines), they are passed through the pump (fixed in place) into the pressoire. Another pump (fixed in place) is provided at the outlet of the pressoire transferring the grapes from the pressoire to the main pipe of the white fermentation vats out of which secondary pipes branch out of and connect to the different vats. Control valves are placed at the intersection of each secondary pipe to control the flow of the wine into each vat or to close off a vat if it is not going to be used.

The same system applies to the transfer of the wine from the D/C to the red fermentation tanks.

The network of pipes needs to be placed at a level higher than that of the vats themselves so that the wine will be released by gravity from the pipes into the vats. A series of platforms on the levels of the pipes and the tops of the vats needs to be provided for the workers to regulate the work on that level and to provide easy maintenance of the pipes and vats.

The same system of primary and secondary pipes applies to transferring the wine from the red fermentation tanks to the vats in the vatting space. The overhead platforms needs to continue from the red fermentation space into the vatting space. Mobile pumps may be utilized to pump over the wine within the same vat for mixage purposes. This process applies to

1- The moving of the wine from the vatting area to the bottling equipment in the distribution area.

2- The moving of the white wines from the fermentation vats to the cold stabilization vats.

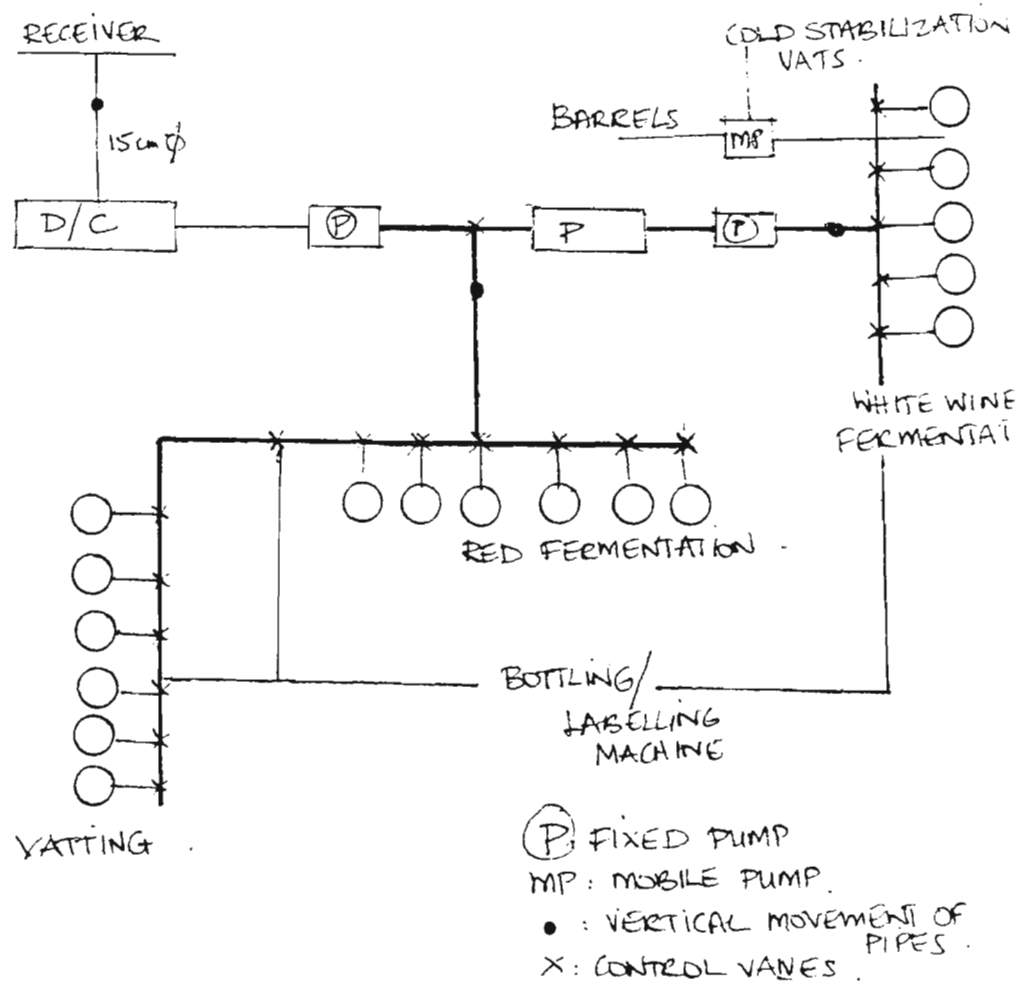
3- From the vats into the oak barrels.

4- From the barrels into the cold stabilization vats.

The filters used are mobile (unless they are present within the vat) and are a transition point between the vat and the pump.

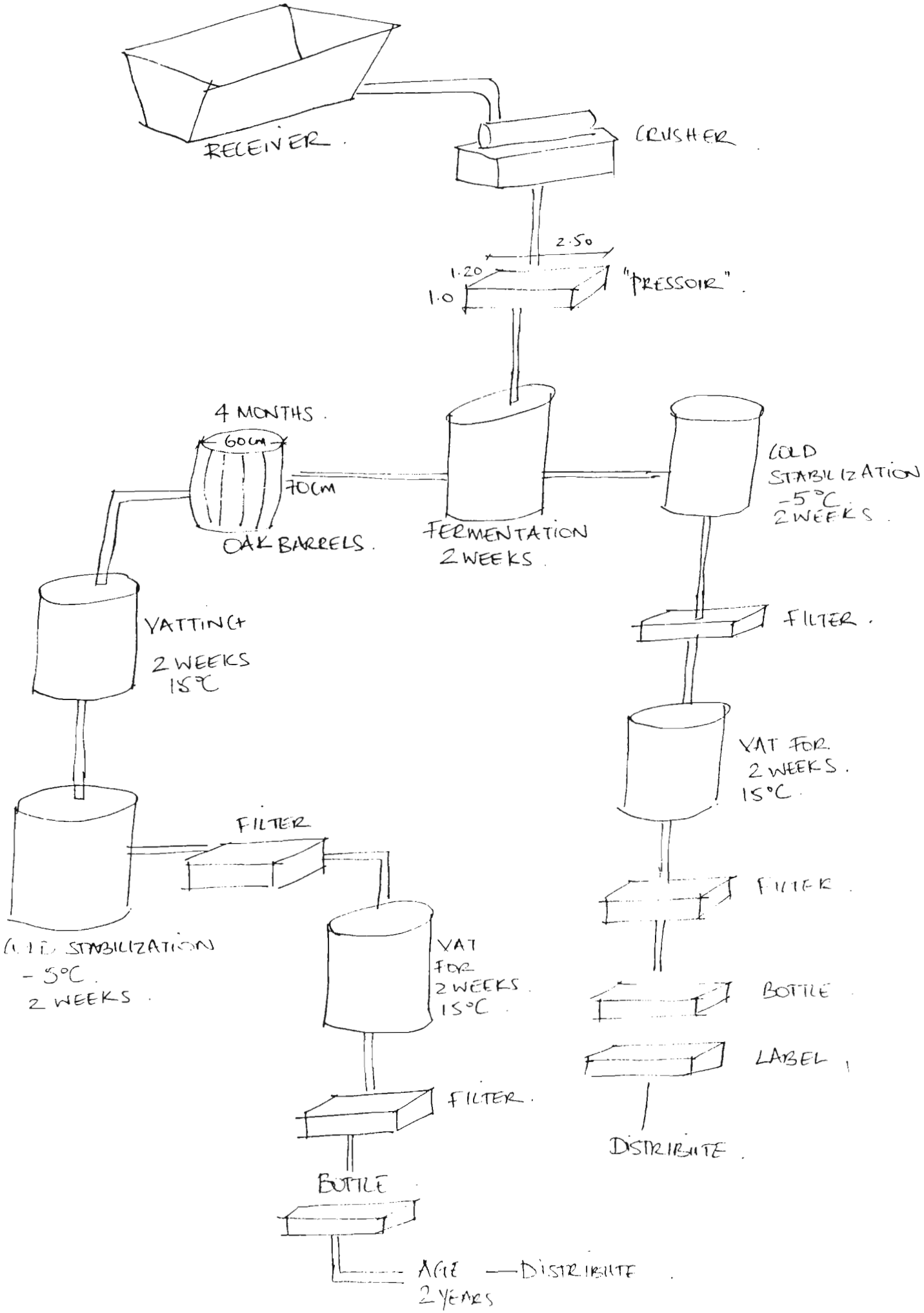
All pipes measure 7 cm in diameter unless indicated otherwise.

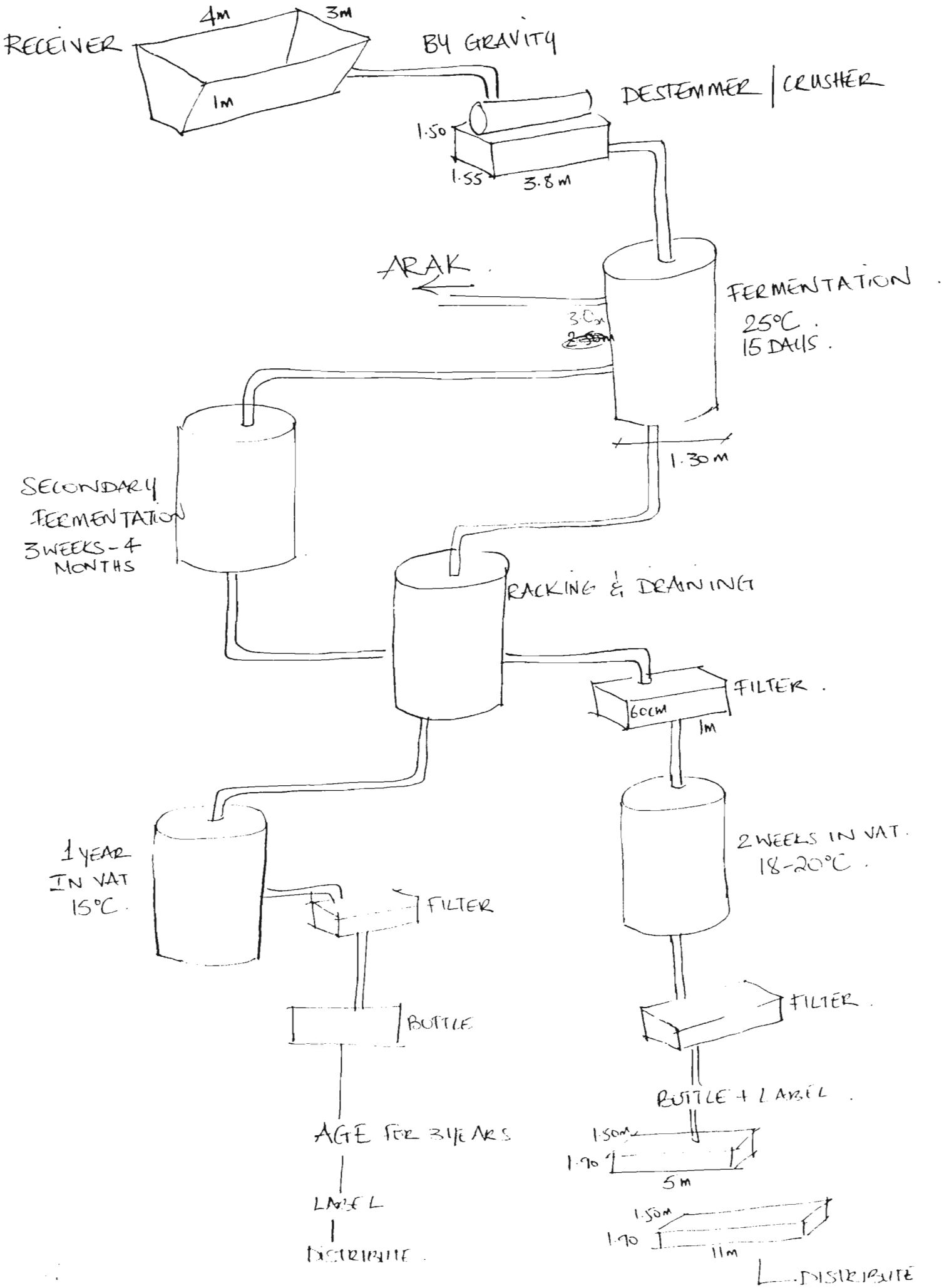
The architectural implications of the above are indicated in the program.



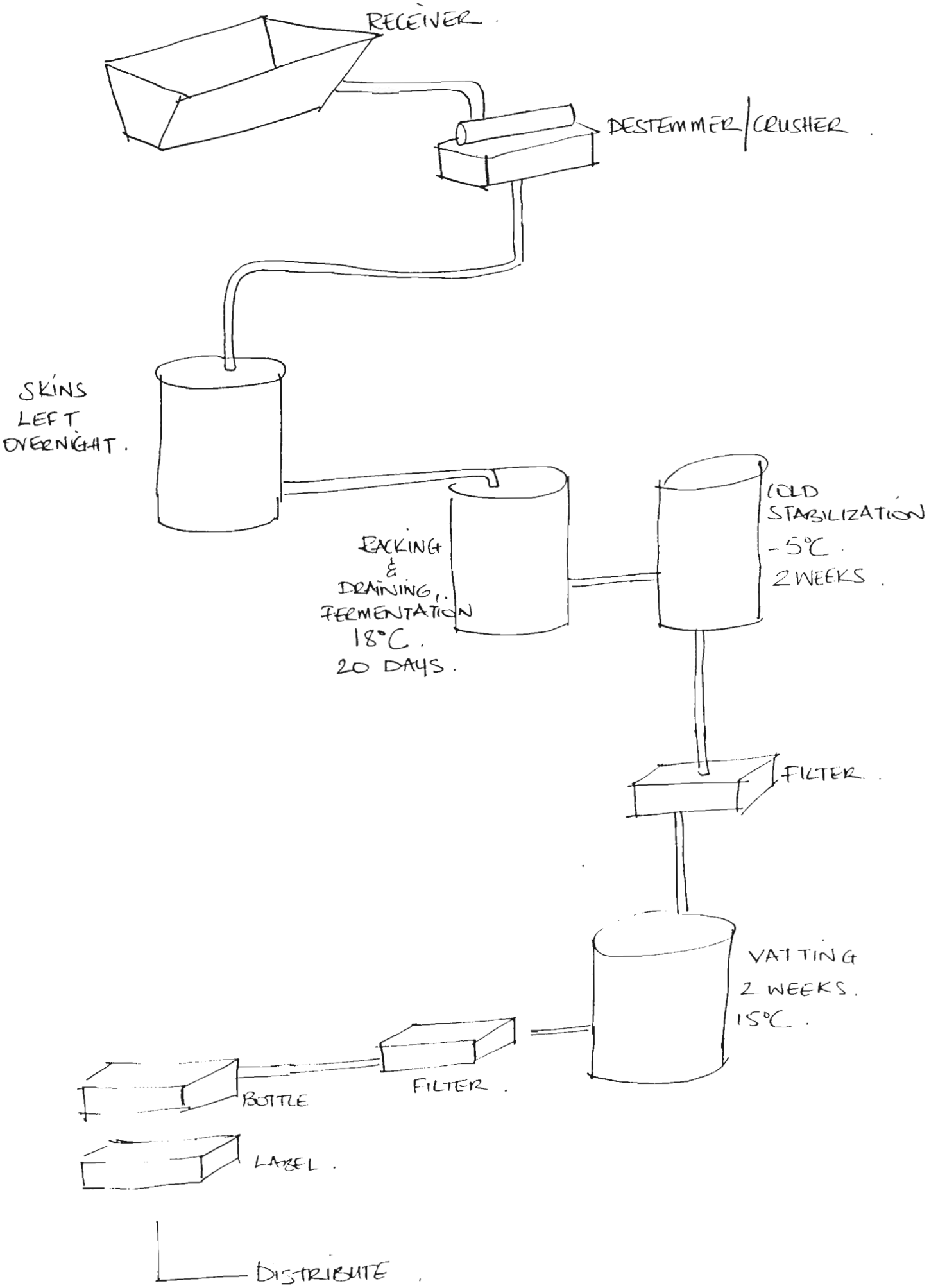
PLAN OF PIPES & MACHINERY

WINE


RECEIVER
CRUSHER
2.50
1.20
1.0
"PRESSOIR"
4 MONTHS
60cm
70cm
OAK BARRELS
FERMENTATION
2 WEEKS
COLD
STABILIZATION
-5°C
2 WEEKS
VATTING
2 WEEKS
15°C
FILTER
VAT FOR
2 WEEKS
15°C
FILTER
FILTER
COLD STABILIZATION
-5°C
2 WEEKS
VAT
FOR
2 WEEKS
15°C
FILTER
BOTTLE
LABEL
DISTRIBUTE
BOTTLE
AGE — DISTRIBUTE
2 YEARS


RECEIVER
4M
3M
1M
BY GRAVITY
DESTEMMER | CRUSHER
1.50
1.55
3.8M
ARAK
FERMENTATION
25°C
15 DAYS
1.30M
SECONDARY FERMENTATION
3 WEEKS - 4 MONTHS
RACKING & DRAINING
FILTER
60CM
1M
1 YEAR IN VAT
15°C
2 WEEKS IN VAT
18-20°C
FILTER
BOTTLE
FILTER
BOTTLE + LABEL
AGE FOR 3½ ARS
1.50M
1.90
5M
LABEL
DISTRIBUTE
1.50M
1.90
11M
DISTRIBUTE

ROSÉ WINE


RECEIVER.
DESTEMMER/CRUSHER.
SKINS LEFT OVERNIGHT.
RACKING & DRAINING, FERMENTATION 18°C. 20 DAYS.
COLD STABILIZATION -5°C. 2 WEEKS.
FILTER.
VATTING 2 WEEKS. 15°C.
FILTER.
BOTTLE
LABEL.
DISTRIBUTE.

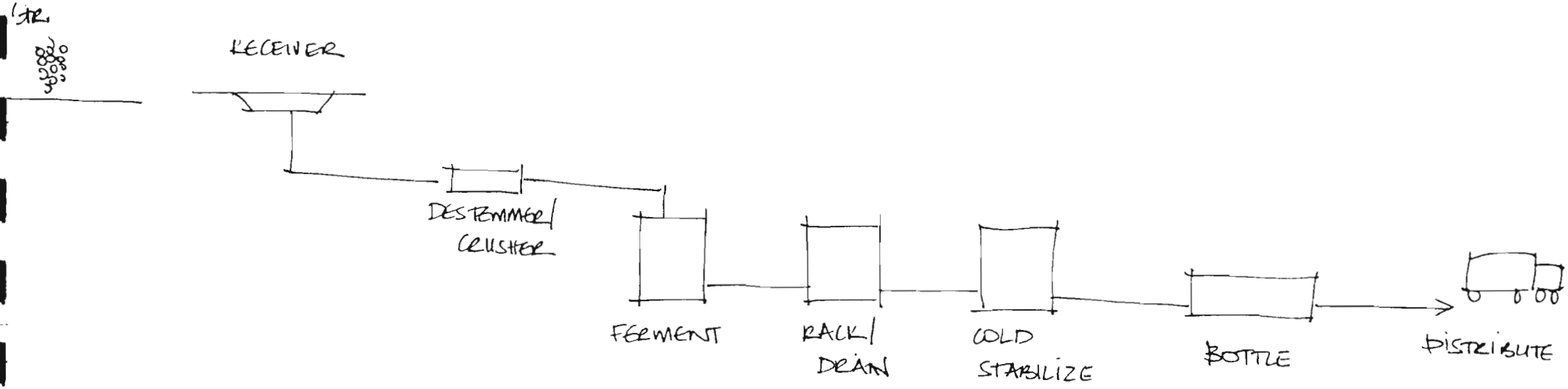
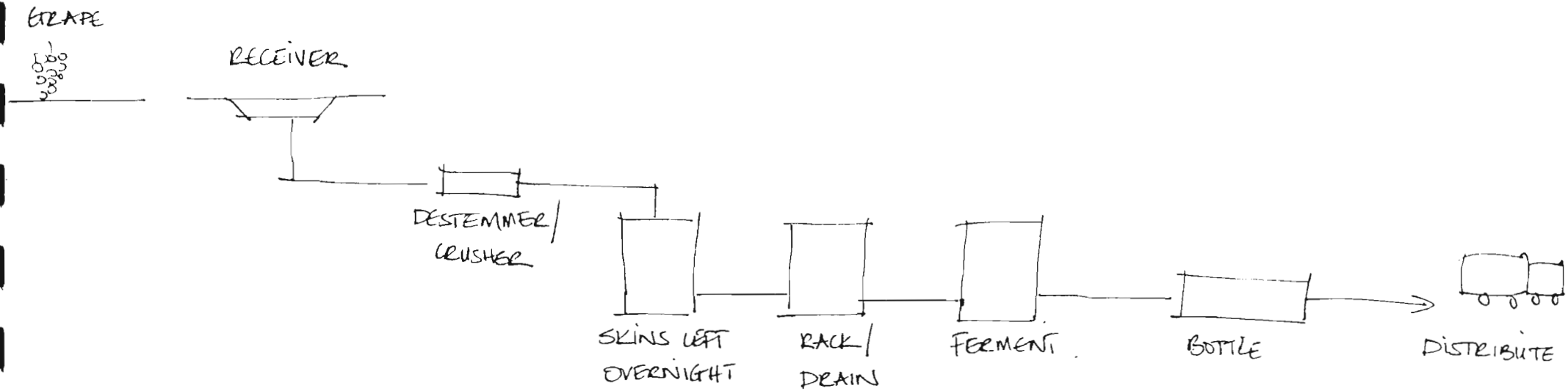
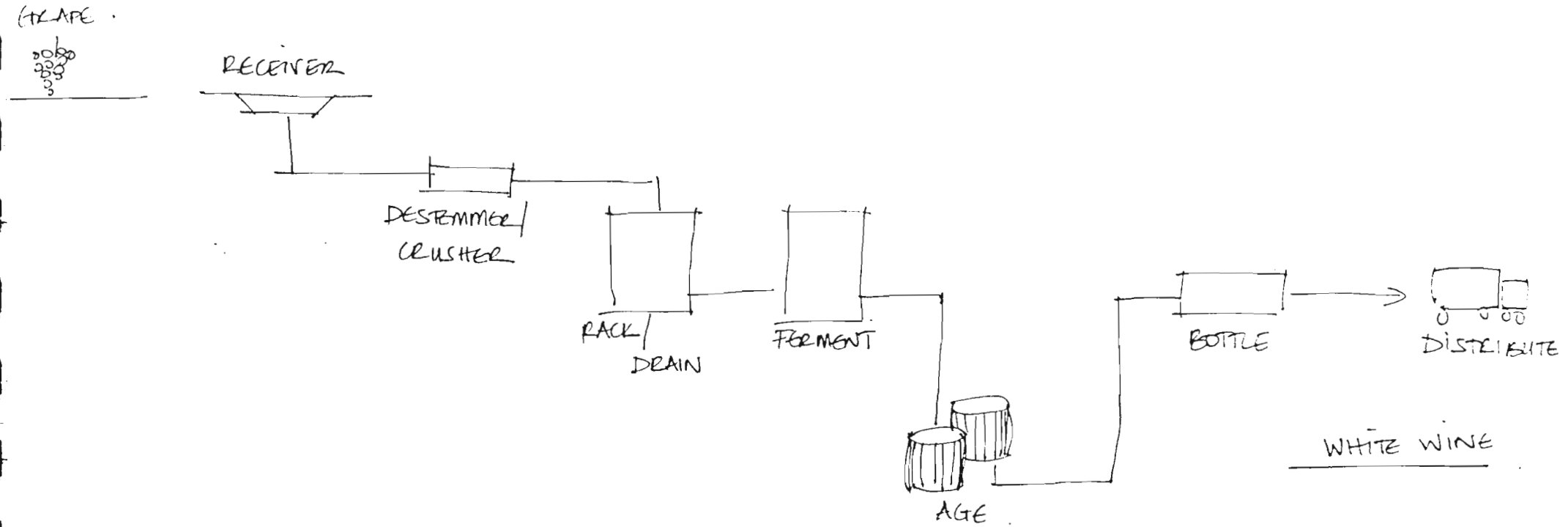
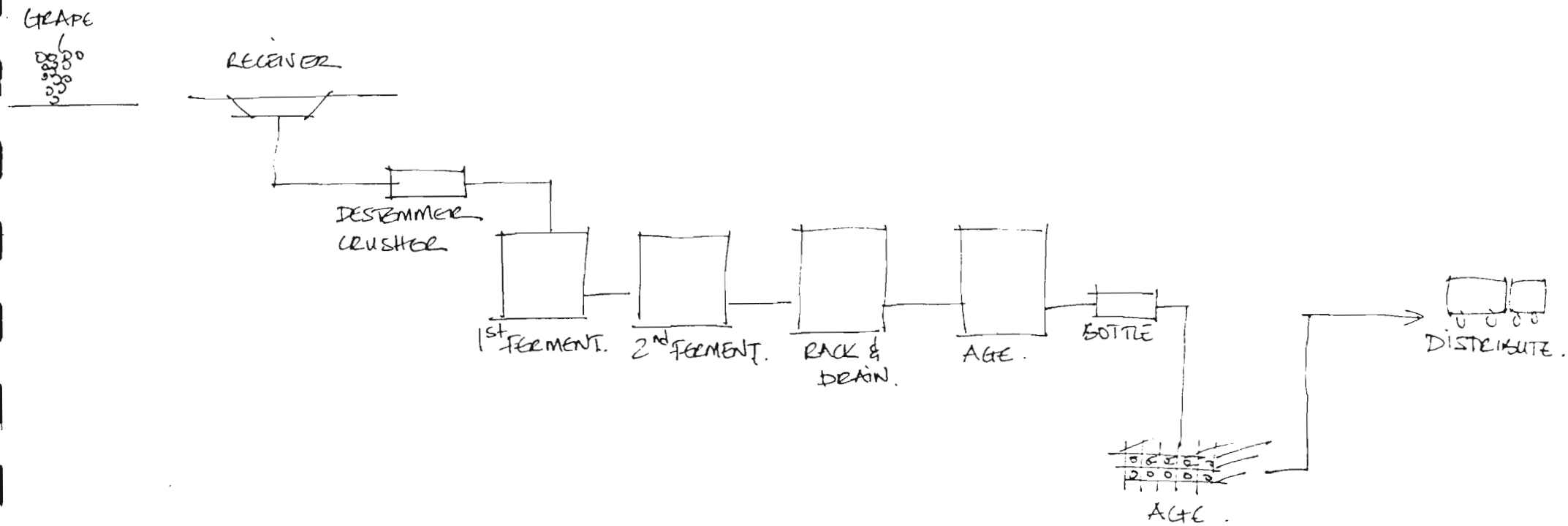


TABLE WINE



ROSÉ WINE


GRAPE
RECEIVER
DESTEMMER/
CRUSHER
RACK/
DRAIN
FERMENT
AGE
BOTTLE
DISTRIBUTE
WHITE WINE


GRAPE
RECEIVER
DESTEMMER
CRUSHER
1st FERMENT.
2nd FERMENT.
RACK &
DRAIN.
AGE.
BOTTLE
AGE.
DISTRIBUTE.
CHATEAU.

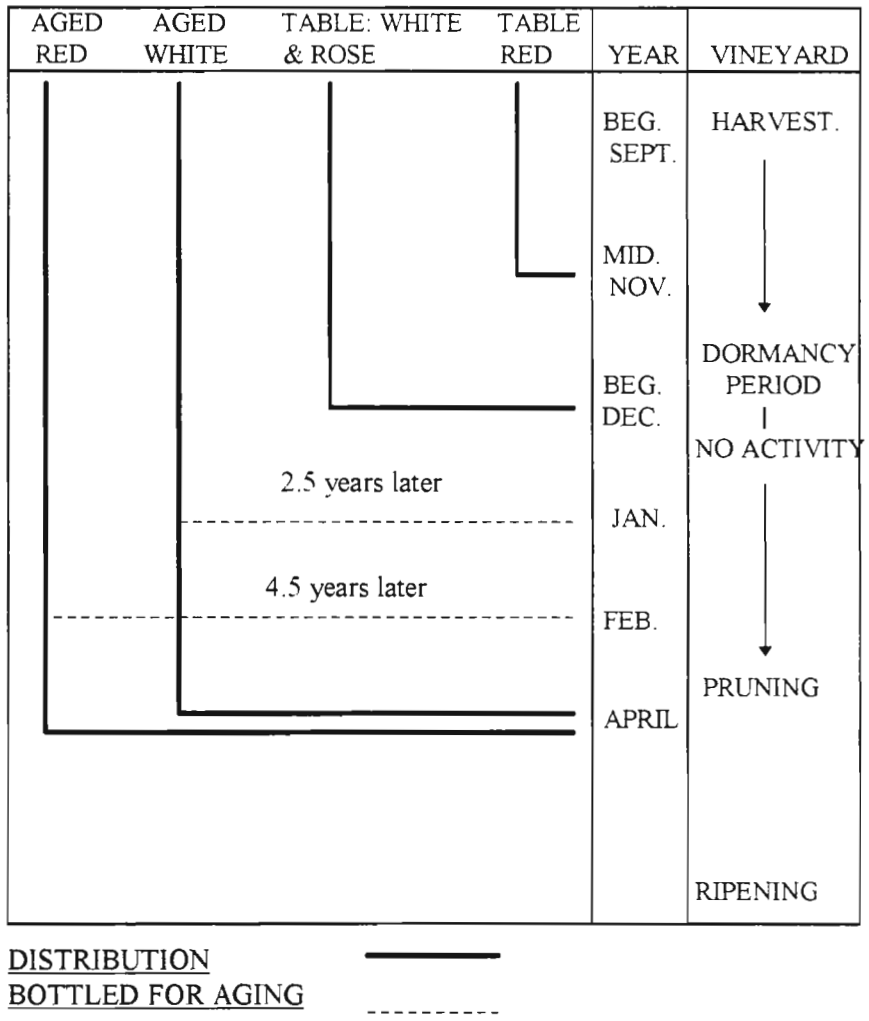
MOVEMENT/TIME/LIGHT CONCLUSIONS:

1) The process of the red table wine and the white/rose wine are compatible in terms of vertical and horizontal displacement, even though there is a slight difference in the time factor (Rose/white wine take 5 more days to ferment) but eventually, the distribution will occur at the same time.

2)The process of the white wine (which is aged) and the Chateau are compatible but there is an overlap in the time the Chateau spends above ground (2 years). The white wine gets distributed at the time the Chateau is bottled to be aged further.

3)The exposure of the various interior parts of the winery to natural light are subservient to the process that is occurring since there are changes in temperature, sometimes very abrupt, to consider in each wine. Eventually, the needs of the men/women working there come second to the priorities of the wine.

MAIN CONCENTRATION OF ACTIVITIES:



MOVEMENT/TIME/LIGHT CONCLUSIONS:

1) The process of the red table wine and the white/rose wine are compatible in terms of vertical and horizontal displacement, even though there is a slight difference in the time factor (Rose/white wine take 5 more days to ferment) but eventually, the distribution will occur at the same time.

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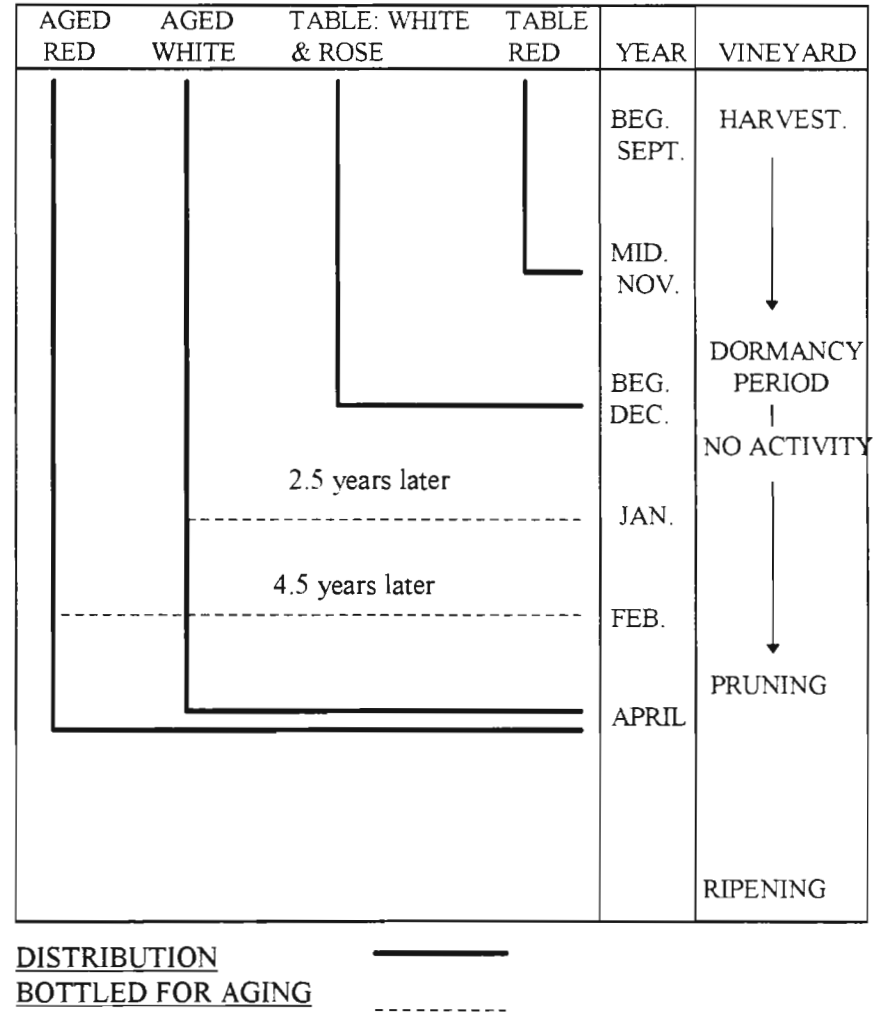
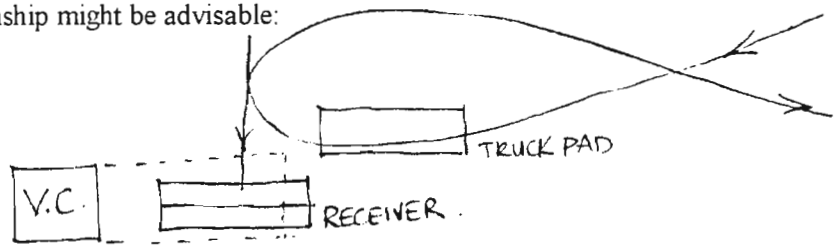


PROGRAM AND AREA CALCULATIONS:

TRUCK PAD:

This is the area were the truck unloads the grapes into the receiver. The truck is first weighed on a pad to estimate the weight of the grapes brought in. The pad is a rectangular surface 7 by 4 meters embedded into the ground so that it is flush with the surface of the ground.
The truck is the kind used for harvesting and its dim are 6.8x2.4m with a minimum turning radius of 9.2 m.
The truck then backs up to the longitudinal side of the receiver and unloads the grapes into it. It is therefore undesirable for the receiver and pad to be placed side by side (longitudinally or transversally). This kind of relationship might be advisable:



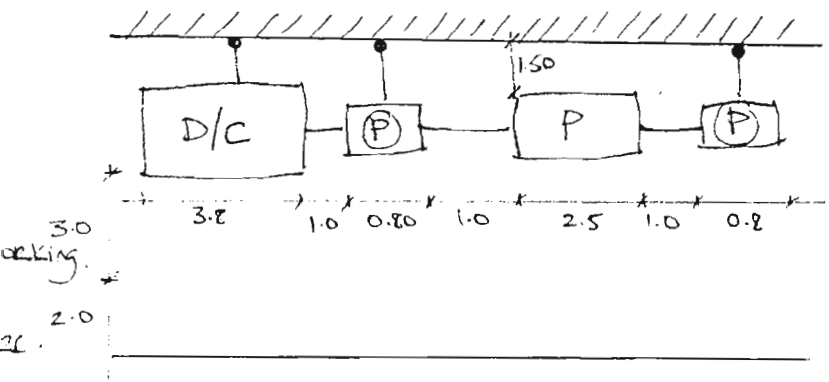
The dimensions of the receiver are (4x3)x1m
The truck pad needs no cover and will be placed in outdoor conditions, but the receiver itself needs a roof to provide some form of protection from the weather to the men working in that area. The grapes are passed to the destemmer / crusher by gravity. Some form of vertical circulation is needed between these two areas in the form of an elevator and a staircase.
Three men will be working in this area excluding the truck driver, one overseeing the activities and two to manipulate the grapes into the receiver.

INTERMEDIATE AREA:

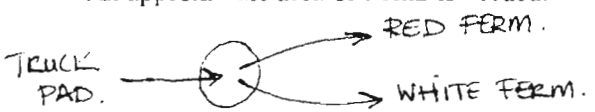
This is the area common to all kinds of grapes and the wines into which they will develop. The grapes are destemmed for fermentation in the destemmer/crusher and are pressed in the pressoire in the case of white wines only.
A maximum of five workers will be working in the space.
1- Supervising the D/C
2- Operating the pump and its connections to the pressoire.
3- Operating the output of the pressoire.
4- Controlling the flow of the grapes from the pressoire to the white fermentation tanks.
5- Connection of pump from D/C to red fermentation tanks.

The workers in charge of activities 4 and 5 will be operating in both the intermediate area and in the white fermentation and red fermentation spaces respectively, operating the control valves. The latter activities will be performed on the elevated platforms on the level of the top of the valves.
The machinery present in this room are:
1- A destemmer crusher: (1.55 x 3.8) x 1.5m .
2- A pressoire (2x2.5)x1m
3- Two fixed pumps (.8x.4)x.5m

A linear space is desirable where most of the controlling would be done on one side of the machines and where the pipes from the pumps could run a short distance to the wall and would travel vertically to be fixed to the underside of the platforms. The space needs a minimum height of 4 meters to accommodate the platforms and the machines. It can afford direct sunlight but not on the machinery itself.

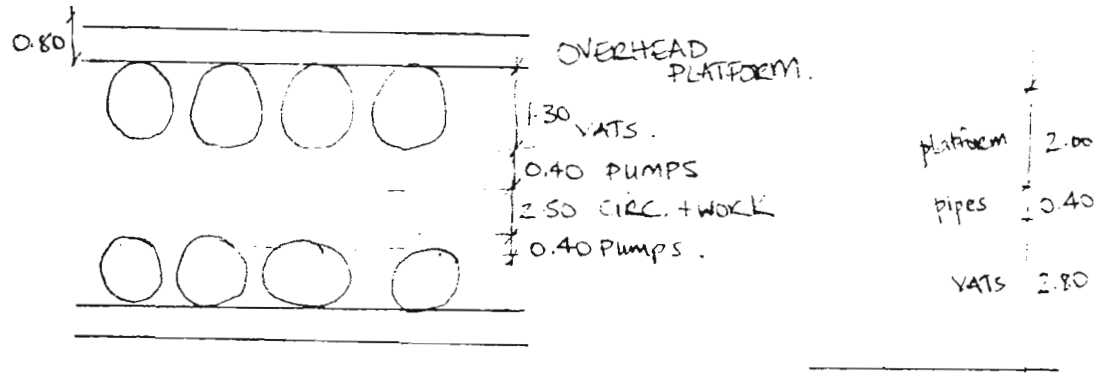


This space should also lead to the red fermentation space and the white fermentation area through one outlet to ease the flow of workers between this area and the other two.
This space is therefore a node from which different activities spring from.
An approximate area of 50m2 is needed.



RED AND ROSE FERMENTATION:

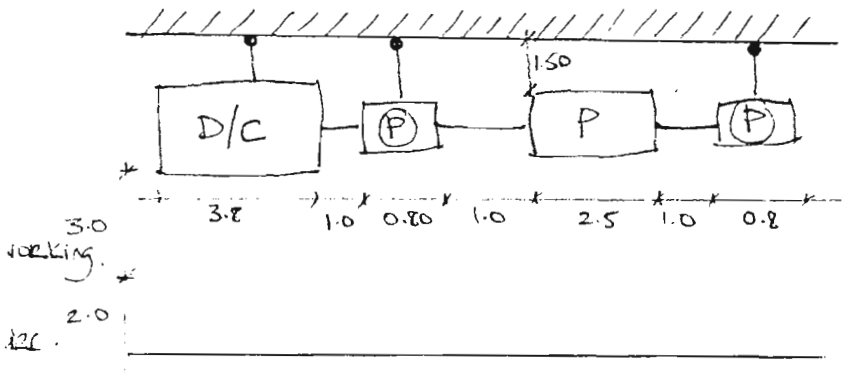
This area accommodates the fermentation process of the red and rose wines and contains 12 aluminum vats.
An average of 5 men will be working in this area, monitoring the vats, controlling their temperature and the movement of the wine from primary pipes to secondary pipes to vats.
A vat has a diameter of 1.30m and a height of 2.80m.
Space has to be provided in front of the vats for mobile pumps that will be used for pumping over the wine.



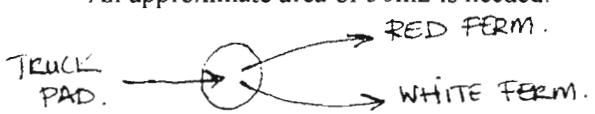
A minimum area of 80m2 is necessary with a minimum height of (2.80 + 2.20) :5.40m.
In this case, indirect lighting is necessary as the vats should be subjected to a minimum amount of light to maximize temperature control of the wine in the vats.
All of the vats in the spaces should be accessible from the elevated platforms.
This space should have easy and direct access to the vatting area since workers will be working in both areas intermittently.

VATTING SPACE:

In this space, the red wine is left for extended periods of time (up to one year).
15 vats have to be accommodated in this space. The concentration of workers per unit of time is less than the fermentation area, though the area and height dimensions are the same. 5 workers will be also working in this area.
The total area required is 100m2.
Minimal light is required: artificial light is preferable.
A network of pipes links this area to the bottling and distribution area and a direct relationship is unnecessary since the flow of wine is more methodical and requires less control.



This space should also lead to the red fermentation space and the white fermentation area through one outlet to ease the flow of workers between this area and the other two.
This space is therefore a node from which different activities spring from.
An approximate area of 50m2 is needed.



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This area accommodates the fermentation process of the red and rose wines and contains 12 aluminum vats.
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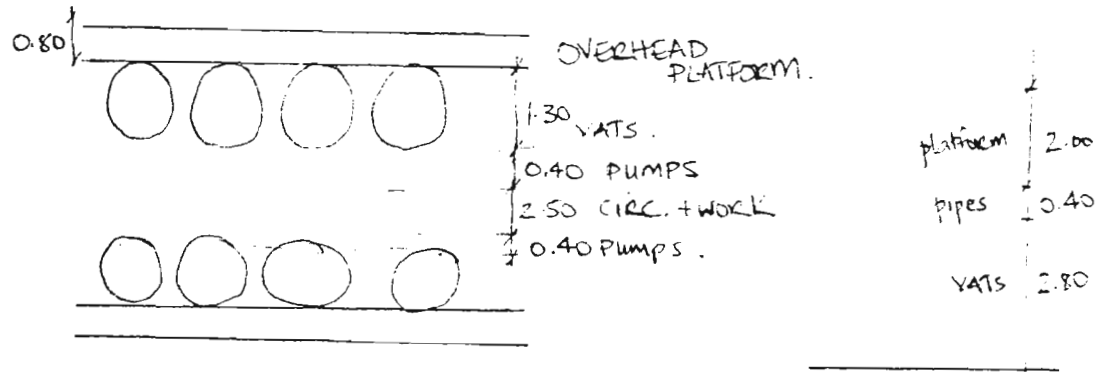

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In this case, indirect lighting is necessary as the vats should be subjected to a minimum amount of light to maximize temperature control of the wine in the vats.
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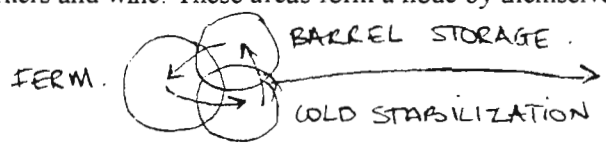
The total area required is 100m2.
Minimal light is required; artificial light is preferable.
A network of pipes links this area to the bottling and distribution area and a direct relationship is unnecessary since the flow of wine is more methodical and requires less control.

WHITE WINE FERMENTATION:

This is the area where the fermentation and vatting of the white wine occurs. The three spaces of barrel storage, white wine vatting and fermentation and cold stabilization are closely interlinked as to movement of workers and wine. These areas form a node by themselves.



The fermentation area will contain 10 aluminum vats. The same distance clearance and space requirements apply as to vats, overhead platforms and mobile pumps.
A steady number of approximately 4 workers will be occupying this space, controlling temperatures of vats, and transferring the wine by pumps to the cold stabilization vats and the oak barrels. The quality of the connection of this space to the barrel storage room and the cold stabilization room should allow for the constant movement in and out of these spaces intermittently.
A total area of 120m2 is needed with a minimum height of 5.4m.

COLD STABILIZATION ROOM:

This room contains the insulated vats used for the stabilization of the white and rose wines.
An average amount of 2 workers will occupy this space for the time periods when the wine is moved in and out of the vats.
No platform is required in this room since the wine is transported by pump and not by pipes.
8 vats are to be accommodated since both white wine and rose wine are to be stored in the vats at approximately the same period of time.
A minimum height of 3.2m is required.
An average area of 50m2 is required.
The amount of light admitted into this room should be minimal because although the vats are insulated, their temperature would be harder to control if they were exposed to strong light due to the type of insulation used.

BARREL STORAGE:

This space contains the oak barrels in which the white wines will be stored in. An average number of 5 workers will be present in this room working the pumps from the fermentation room, stacking them and emptying them. 200 barrels will be accommodated . They can be stacked over each other (a maximum of 2 rows).
An average area of 200m2 will be needed.
No light should enter this room since it is hard to control the temperature of wine in oak barrels.

BARREL WASHING:

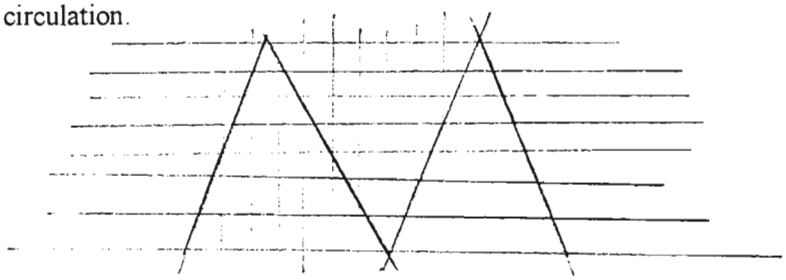
A space leading from the barrel storage room is needed for washing of the barrels after they have been used. This space should either open to the outside or should have proper drainage facilities.
An area of 80m2 is needed to accommodate 1o barrels being washed at the same time.

MECHANICAL ROOM:

This is needed for basic storage of tools and minor equipment for maintenance of the machinery.
An area of 20m2 is needed.
It should be situated near the main fermentation and vatting spaces.

CELLARS:

This is the space with the least activity in the winery (if we were to discount the biological one.) It's main purpose is to shelter the wine which is being aged. For pragmatic and symbolic reasons, the red wine will be stored in one space and the white wine in another. The main concentration of activity occurs when the wine is being brought into the cellar for storage and when it is taken out for labeling and distribution. Other types of activities that occur are the tours for visitors that reach a partial end in these spaces (before being taken to the old winery and the cafe). Therefore, two kinds of spaces are needed : one accommodating a cluster of activity; namely a group of people standing in one space or workers handling crates and another housing the stacks and rows of wine bottles.
Wine bottles are stacked one over the other, on long horizontal shelves so that they fit in inverse positions.
200,000 bottles of white wine and 150,000 bottles of red wine will be stored.
If the bottles are stacked in rows of 25 bottles over each other, then the area needed to store the white wine is approximately 400 m2 , and 350 m2 is needed to store the red wine. This is not including the areas needed for circulation.



Absolutely no light should be admitted into this space to enable total temperature control.

They should both have a direct connection with the distribution area (usually vertical circulation; an elevator is necessary).

DISTRIBUTION AREA:

This area accommodates 3 activities:
The bottling of the wine
The cleaning and labeling of the bottles and the storage
The storage of the crates of wine until they are distributed
A maximum number of 15 workers can be found working within this space, on both the stacking and unloading of the crates and the labeling and bottling.
The dimensions of the machine for the bottling of the wines are: (5x1.5) x1.90 m.
The dimensions of the machine for cleaning and labeling the bottles are: (11x1.5)x1.90m.
A crate of wine has several dimensions. If it holds 3 bottles of wine, then it measures 35x25 cm.
An average area of 70m2 is needed for the machines, since they have to accommodate the possibility of extended surfaces.
Most of the area needed is for the storage. A maximum of 150,000 bottles will be accommodated in this space since some bottles are kept for further aging or are brought up earlier. This indicates that 700m2 are needed for the storage of the crates.(a maximum of 25 crates can be stacked over each other.) A minimum of 3m of circulation space is needed for ease of movement and utilization of ladders, etc..
Normal light can be admitted into this space.
A service road needs to reach this space and a 3x2.5m 'door' into it should be provided.

An average area of 10m2 has been added to each space to account for visitors to the winery.

WINE TASTING AND CAFE:

A combination space for the tasting of the wine and cafe will be provided, to accommodate a maximum number of 50 people. It will be situated near the old winery but will not be physically linked to it. This space should be an 'end' to the tour, which signifies a need for a connection with the cellars and should be accessible to the parking for people leaving the tour and for visitors that do not wish to visit all of the winery.
sitting area: 100m2
Kitchens 40m2
w/c: 25m2

OLD WINERY:

The old winery will be an example of the old methods of making wine and will be kept as is.

SACROPHAGUS:

The old tombs will be kept on the site and will be integrated into the area of the cafe and the old winery.

Both the above 'spaces' must be accessible to the general public since they are both part of the heritage of the region and not privatized elements.

ADMINISTRATION:

The administration supervises the work of the winery as a whole: marketing sales etc.. and is closely involved in the work being done in the winery as a whole.
The administration houses the following personnel:
Six main offices are needed:
Head manager: 20m2
Secretary: 10m2
Conference room 25 m2
Head enologist 15m2
Accountant 15m2
Head of sales and distribution 15m2
Laboratory accommodating two workers: 30m2
W/C's :15m2

A lobby for receiving visitors at the start of the tour is also needed, with a space for a receptionist: 50m2

PARKING :

A parking for 50 cars is needed to accommodate visitors and the people working in the winery.

SPACE AND AREA TABULATIONS

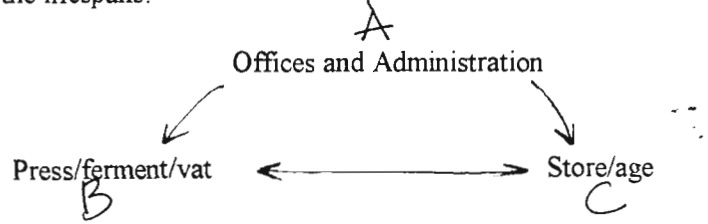
NAME OF SPACE	AREA REQUIRED (in m2)
TRUCK PAD	70
INTERMEDIATE SPACE	50
RED AND ROSE FERMENTATION	80
VATTING SPACE	100
WHITE WINE FERMENTATION	120
COLD STABILIZATION	50
BARREL STORAGE	200
BARREL WASHING	80
MECHANICAL ROOM	20
CELLARS: RED WINE	350
WHITE WINE	400
DISTRIBUTION	700
BOTTLING & LABELLING	70
WINE TASTING & CAFE	165
OLD WINERY	35
ADMINISTRATION: PARKING	195
TOTAL AREA:	2535 +20 % circulation = 3000m2.
TOTAL AREA OF SITE & VINEYARD	80,000m2

DESIGN CONCEPTS AND APPROACH:

The basic goal of the winery at Khenshara would be to express the uniqueness and independence of the process of winemaking and the locale in which they are being produced in. This will be done in the following ways:

THE PROCESS:

1) Not just concentrating on the difference in the product, but on the lifespan and the whole process. This may lead to a process of converging and diverging systems that meet at different points.
-differentiation in the fermentation spaces. Different fermentation tanks, each kept at a certain temperature and operating within a certain time frame.
-differentiated storage areas for the aged red and white wines: they are stored for different amounts of time : re-emphasizing the individuality of their character.
-Same labeling/distribution areas.
Creating a hierarchy of treatment of the spaces 'belonging' to the different wines , by form, approach and material used.
On a broader level: Possible separation of buildings reflecting different parts of the lifespans:



A will have direct access to both B and C.

B and C will be linked as a path but will be expressed as different volumes; terracing on the site helps. Emphasizing the cutting short of one biological process and the start of another one, happening **within** the wine.
The different factors on the site call for a design that reacts to these different elements and respond to them : the old winery, the entrance from the vineyard, the sacrophagus, the view and overhang etc..

2)Origins to maturity:
a- Lifespan of the vine:
Birth, life, death: symbolic relation to earth
Might affect the placing of the vines on the site and their observation by visitors
The relationship between the vineyard and the winery:
a flow, a continuing relationship rather than a clear cut.
Relation of wine and vine to the earth (it's origin). This concept will be emphasized to bring across the point of the independence of the wine from any human factor.
Reflection in the architecture: rooted and **entrenched** in the land.
Representation and treatment of the forms and volumes of the winery ; strong relationship with the earth.]

b- Lifespan of the wine:
Linear process implying spatial movement that remains stationary in some areas.
Representation of movement Vs stillness/time compression
A play on forms and relationships:
Flowing lines from one space to another, implying a change/transformation Vs compression in others
Common elements throughout the design that reinforce the unity of the process while independent volumes emphasize the difference in processes.

Representing the process as a continuos element

Reflection on the nature of the lifespan:

_play of light: natural and artificial: less light into the process, gradual darkness into cellar, more light emerging from cellar

_play of scale: symbolism of the function, may want to emphasize a certain part of the process (fermentation and cellars) or may want to decrease the scale of certain events to visitors if the scale of the activity is too big.

Differentiation between the process and the visitors path:

treatment of the line of the process as an independent element, continuously flowing: re-emphasizing it's individuality. This may lead to visitors observing the process from a different level (play of height) or difference in the treatment of paths by materials, planes etc..

LOCALE:

Khenshara

This is a winery which will be built in a region which has produced wine for a long time, using certain varieties of grapes

Climate: Affecting the architecture

Reflection on materials used: a possible abstraction of the methods of construction

Use of the old winery on the site as an explanation of how wine used to be made in the region. This will be integrated into the winery, probably near the tasting room and cafe.

COLOR

SIMILAR EXAMPLES:

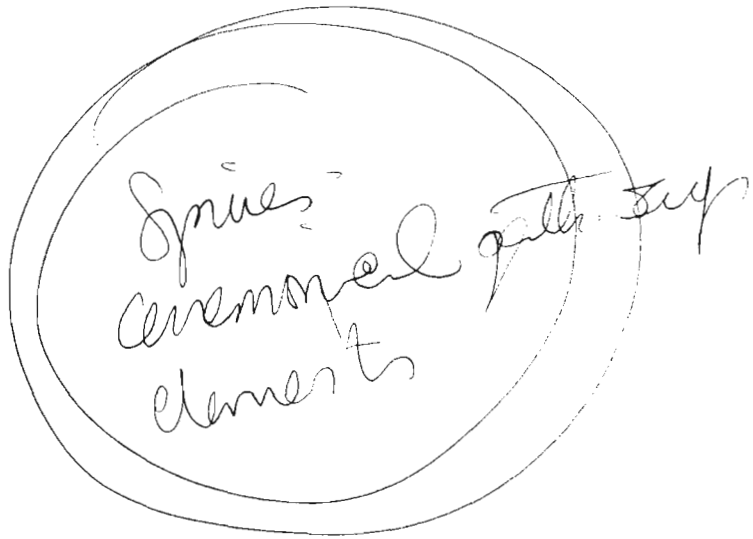
PIPERS BROOK WINERY, Tasmania

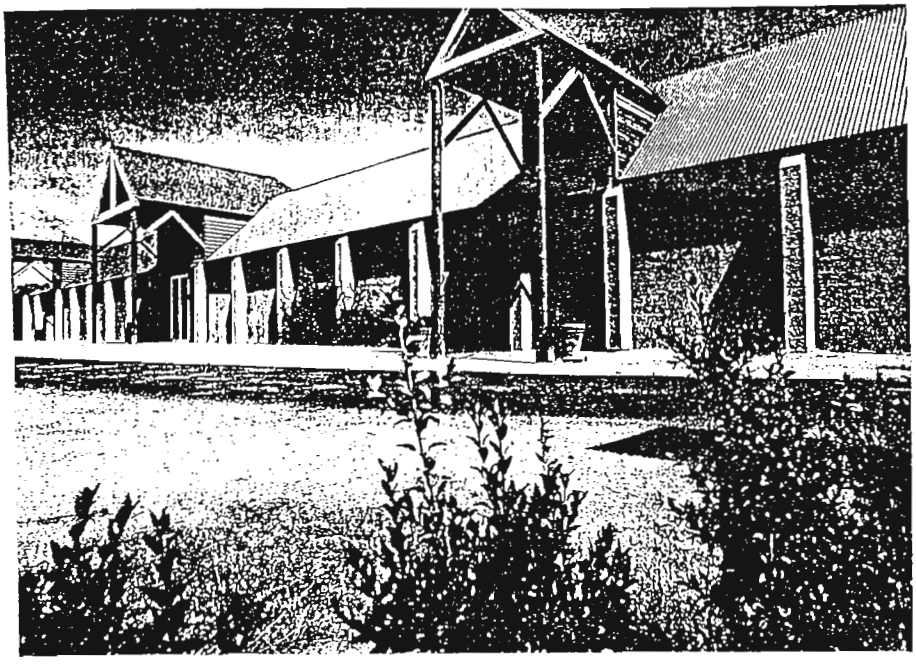
-There is a clear duality between the wine and the architecture:
The symbolism through the forms and materials used: recalling European farm building complexes in the pitched roofs, the use of wood, the ceremonial entrance to the winery. A layer has been placed in representing the winery which is not the wine itself.

There is a use of different spaces and volumes which is a clear distinction for the process of the wine. Yet most of the different spaces and volumes are all treated with the same architectural language and no distinction is made for the qualities of the different spaces or their needs.
The exceptions to this are some emphasized features such as the almost ceremonial pathway under the fermentation tanks and the volumes of the clearly exposed fermentation tanks seen from the exterior of the winery.

The winery also has a strong relationship with the 'outdoors' brought about by a constant exposure to courtyards dispersed around the building.

The winery gives off the expression of a 'stockade' through the buttressed walls and blank facades as if protecting what is inside it from the exterior and giving priority to winemaking as an industry.





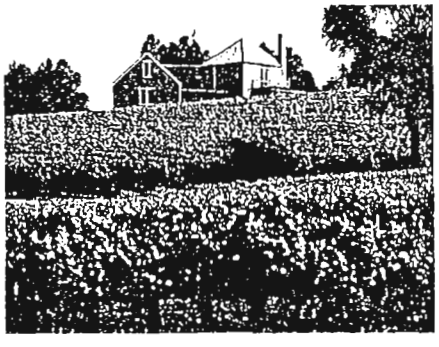
architect is unusual when it comes to the enlarging of Australian wineries.

"Mostly, architects and vineyard owners have not seen eye to eye the second time around," he says. "It is a tribute to Robert's skill as a designer and his affinity with our vision for Pipers Brook that we are working together again, this time on the expansion programme."

By 1999 the winery's annual crushing capacity will be increased from the present 500 tonnes to 1000 tonnes. Other production facilities will also be greatly expanded and later this year visitors will have improved opportunities for wine tasting and the supply of meals.

The approach to Pipers Brook winery is unforgettable. The building is set 2 kilometres off the main highway, along a private dirt road. Close-planted vineyard rows comb a gentle upward slope to the right. Around a bend and in the middle distance, framed by an avenue of golden poplars, is the famous compound of the winery, the unmistakable logo facade of Pipers Brook.

Signs of weathering are apparent at the winery; stains on the ochre oxide of the bagged masonry walling: the patina of rural production. One recalls the villas of Italy or France where pristine facades are unknown (and would be considered false).

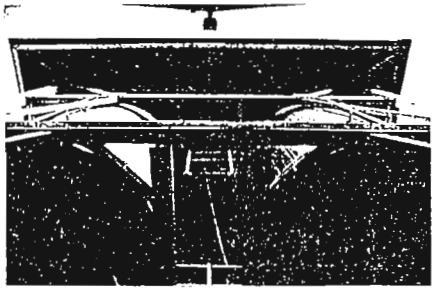


The building has softened, assuming a timeless air. An ornamental vine now completely covers the gable wall to the left. In the logo line drawing, spare and devoid of texture or decoration, the facade is depicted in stark symmetry. The icon is much more romantic these days with the formality undermined.

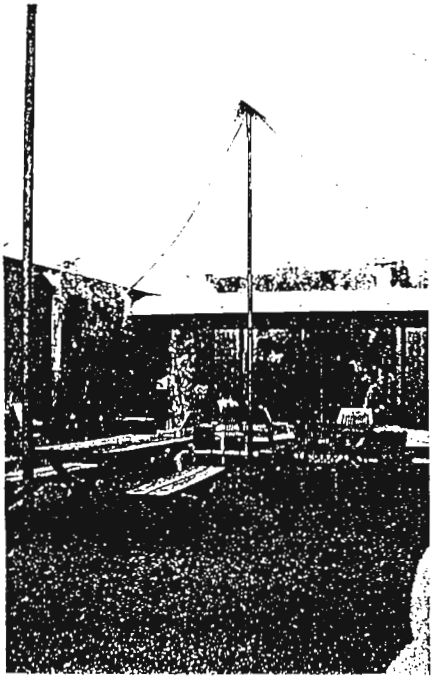
The tops of trees poke up above a courtyard wall. A marquee form sits amongst the array of steeply raking pitched roofs, obvious but not dominant.

The dramatic components of the front facade haven't changed: the glazed verticality of the entrance portico is still the sole element of transparency within the composition. Behind and above, the pyramidal roof of the central fermenting tower remains as the building's focal point.

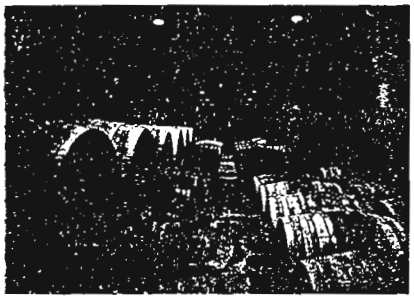
Below the pyramid but above all other roofs, a clear view of the tower's fermentation tanks locates the architecture in the 20th century. The design decision to expose the winery's most sophisticated hi-tech production equipment (it could easily have been concealed) on the building's signature facade is a deliberate challenge to the architectural purity of the historical reference.



There was a clear danger that the winery's obvious debt to the 19th century farmhouse vernacular could have reduced it to repro architecture. The vision of suspended stainless steel tanks and the exaggerated verticality of



e entrance glazing are the devices
ployed to ensure that accusations of
storicism are unwarranted. The Pipers
ook winery has evolved authentic
agery of the most persuasive kind,
aple, striking, uncompromised and
nistakable.



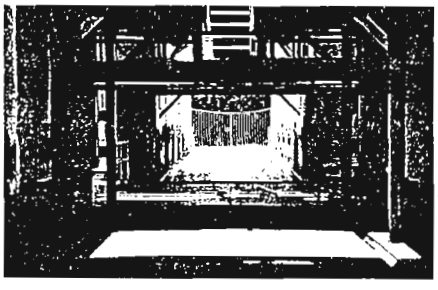
It is curious to note that the
rmentation tower, the visual heart of
e winery, is missing from the Pipers
rook logo drawing where the
tenuated entrance shaft provides the
cessary central verticality. The logo
awing is based on Morris-Nunn's
iginal concept sketch for the winery.
he intention for marketing purposes
as been to keep the image
ncomplicated. Post-modern layering
he juxtaposing of old and new) is thus
cknowledged as being a purely
rchitectural strategy, perhaps
ompromising to the impact of a logo.

Inside the winery, the compound's
xternal form transforms into a series of
nterconnected spaces, some covered
ome open, but all functional and
ccessible to the visitor.

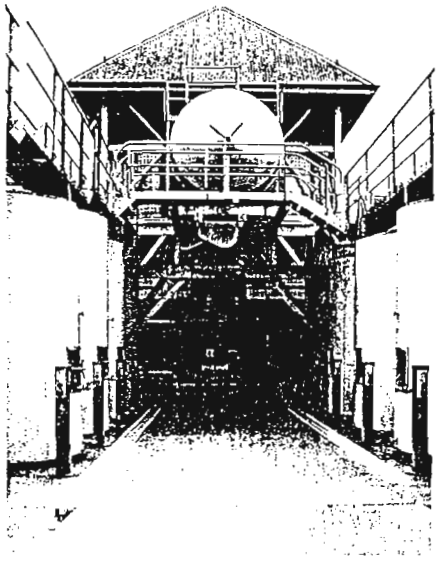
Moving through the exaggerated
erticality of the entrance decorated by
Tom Samek mural running the full
eight of one wall, one is drawn within
he vista along an almost ceremonial
ankway towards a distant gate opening.

Halfway down the tankway you pass
eneath the suspended red wine
ermentation tanks of the central tower.
On either side are courtyards, one
quipped with tables and a white
narquee, the other also containing
tables but in secluded alcoves within a
garden setting. Gentle jazz, piped from
somewhere amongst the fermentation
tanks, heightens the sense of well being.
It is an inner sanctum dedicated to the
finer things in life. The architecture has
become ephemeral.

All around, the separate buildings
housing the specific needs of a winery,
cask aging, pressing facilities, bottle
labelling and storage, dispatch, the
office, tasting and bottle sales, are
interconnected, joined by screen walls
toform internal faces of the compound.
Andrew Pirie describes the complex as
'a stockade'.



Whilst there is no need for the
winery to literally defend itself against



marauders, the analogy of a stockade is
appropriate figuratively. Within, one is
protected against the commonplace of
the world outside.

There is no reason to suggest that
the expanded winery will seek to
change the successful Pipers Brook
philosophy.

John Archer is a lecturer in the University of Tasmania's Department of Urban Design.

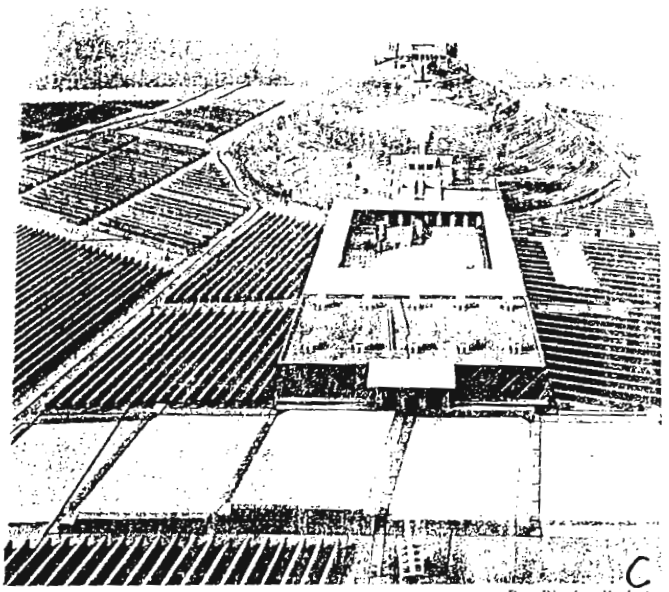
CLOS PEGASE WINERY, Napa Valley
Competition Entries:

Mark Mack, Peter Saari: (A)
A very formalistic break between aging cellars and the rest of the winery. Not interested with the different stages of winemaking but with the image and expression of the winery as a whole.

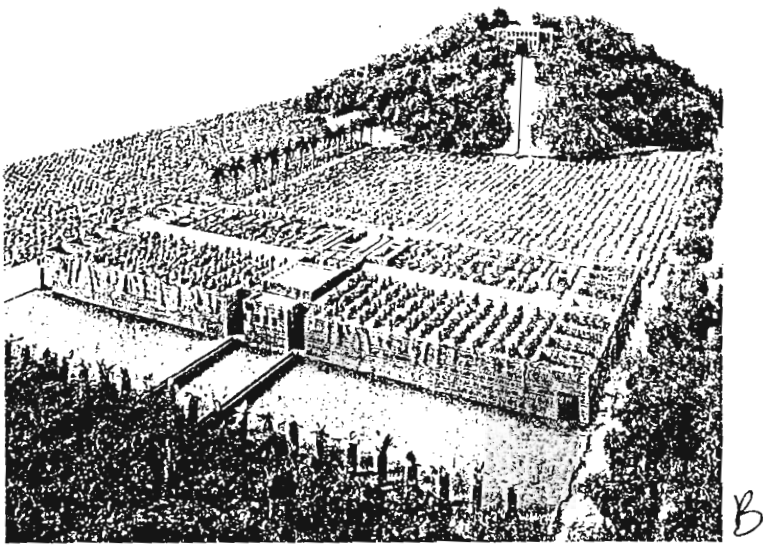
Ed Carpenter: (B)
The winery is engulfed by the vineyard in some effort to integrate both, but it does not work on the level of the users of the winery since the 'vineyard' is on the roof and cannot be seen or reached. Again, pure symbolism for the benefit of the as an image.

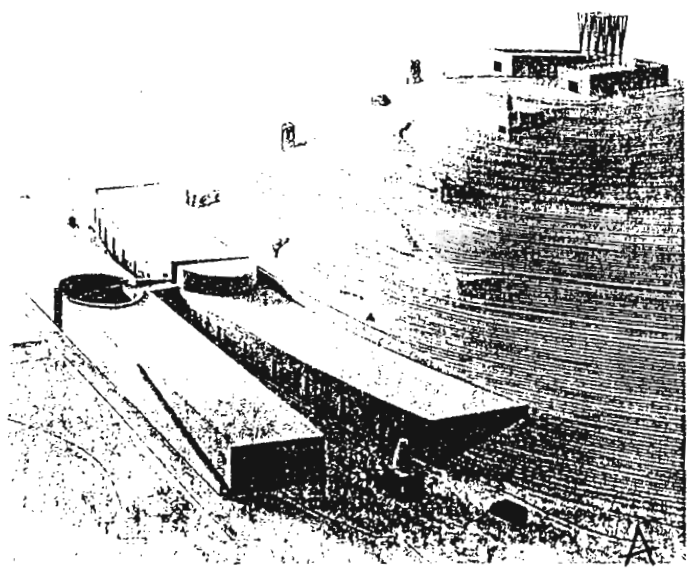
Mangurian and James: (C)
Interesting directionality of vineyards towards winery though they do not continue into it. A clear break between both.

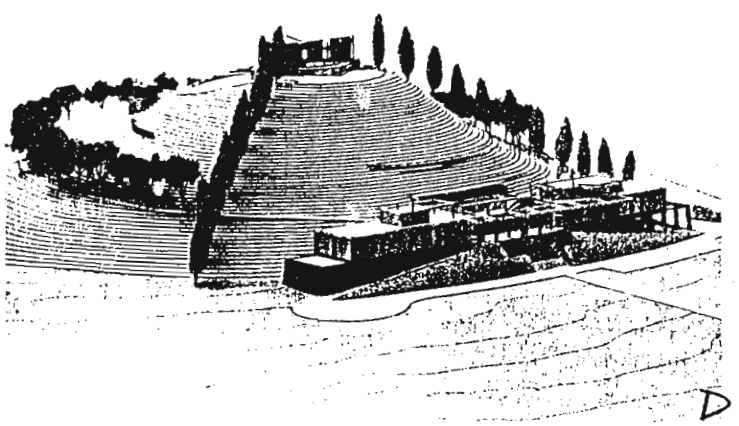
None of the entries were concerned with the development of the process of winemaking, creating an architecture responding to factors of light, time etc..All of them concentrated on the use of broad, formalistic gestures to form a sculpture or an object that stands in for a winery.
Furthermore, none of them seem to relate to the locality of the winery in any way.



Ben Blackwell photos







nner-up proposals

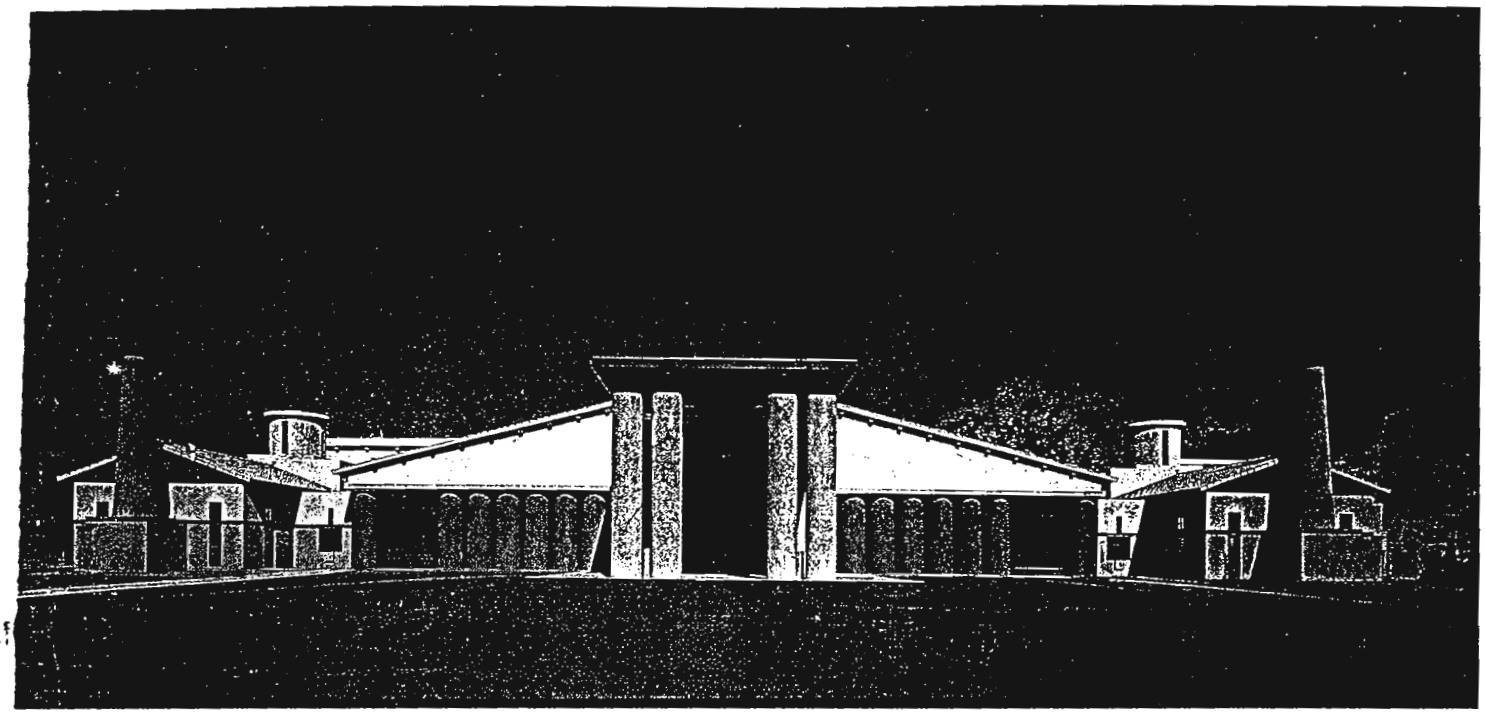
plan set forth by the team of ert Mangurian and James reli (top left) called for a bold ral axis that forms a ressional pathway ascending the from the winery to the dence. Spare masonry buildings both phases of the complex are around large open courtyards. ording to the team, the natural scape and light are used as ces for metaphysical rience; the knoll is marked by n elements of discovery, while nels in the hillside would channel during the spring and fall noxes up to rooms in the house. scheme by Andrew Batey, k Mack, and Peter Saari (above left) features a prominent switchback path whose turns are defined by such architectural follies as a sculpture pavilion, grotto, and tented wine-tasting room. Set at the base of the hill, the winery consists of two long buildings connected by an elevated walkway and entered through an open rotunda. The two wings of the house enclose a central courtyard that is bordered by interior art galleries. A trellised tower crowns the residence. The team of Dan Solomon, Ricardo Bofill, Patrick Dillon, Barbara Stauffacher Solomon, and Ed Carpenter proposed a highly contextual scheme (top right) that includes a low rectangular winery with colonnaded wings on either side and a rooftop sculpture garden emerging directly from surrounding aerating ponds.

Unique among the entries in its distinct separation of winery from residence, this proposal exhibits a lavish use of leaded glass, particularly in the winery, where a two-level pedestrian and vehicular street is crowned by a glass skylight of geometric forms. The house is a classical villa with French doors opening onto terraces. The entry of Stanley Saitowitz, Toby Levy, Pat O'Brien, and Elyn Zimmerman (above right) treated the knoll as a circular form with a wedge removed; unlike their colleagues, this team utilized the back side of the hill as the setting for the winter garden and pottery studio. A skirt of trees that both delineates the base of the hill and encloses a sculpture garden is completed by a rectilinear winery building. A circular copper-roofed residence has a wedge-shaped courtyard that aligns with two rows of poplars descending the slope.

In order to show the collaborative nature of each competition entry, the San Francisco Museum of Modern Art will feature all five finalist projects in an exhibition entitled "art + architecture + landscape," scheduled for June of this year. Curated by Helene Fried, the exhibit will be accompanied by a catalog and is being planned to coincide with the national convention of the American Institute of Architects. *P. M. S.*

CLOS PEGASE WINERY, Napa Valley,
Michal Graves

The architecture readily responds to changes in light and temperature. This helps create a gradual sense of changing spaces and areas.
There is a close and direct relationship of the inside of the winery to the exterior by constant exposure to the courtyards along the spaces.
There is a definite path through the winery with a hierarchy of spaces, events and responses to changes in light. It acts as a showpiece for visitors.
There is a use of distinct, articulated volumes, perhaps representing different spaces and events, however the constant symmetry of the building belies it.
An intense formalism and imagery is used in that it bears resemblance to roman temples, and the use of some of the volumes express industrial forms.



winery, and other features. The winery's open, stepped rotunda, which would have been planted with cypresses and lined on the inside with Edward Schmidt's murals of winemaking (the focus of the required artist/architect collaboration) has been axed, disrupting the formal and symbolic link to the fermentation shed. Even the sculpture of Pegasus, symbol of the winery, which was to have crowned the entrance, was shelved. How come?

The competition jury found the Graves/Schmidt site development plan "a brilliant and powerful piece of work," and the most responsive of the five finalists' schemes to the stated design requirements. Further statements released by the San Francisco Museum of Modern Art indicated that the competition's sponsors, including client Shrem, were well pleased with the results. Yet behind these happy scenes, another scenario was unfolding.

Even before the competition had concluded, Jan Shrem had submitted preliminary plans to the Napa County planning commission for a winery and residence, designed by Valley Architects (who had nothing to do with the competition). There was no provision for a sculpture garden; perhaps Shrem, aware that his property was zoned for agricultural use only, knew that including it would only exacerbate local tensions over congestion in the area. The preliminary program for the competition, published in May 1984, had stated: "The Napa Valley enjoys an influx of a talented, cultured, cosmopolitan group of leaders brimming with energy, who can develop the valley into a center for the arts." In fact, local residents were not enjoying the influx of people, never mind who they were.

Predictably, the commission and residents took a dim view of the winning scheme. Although a conditional use permit was granted in October 1984, it came with a warning against any programmatic changes in the submitted (Valley Architects) plan, which effectively wiped out a good deal of Graves's design.

The winery's east side (top) is where grapes are delivered, under the overscaled portico of the fermentation shed, with its engaged columns and blank pe ment. The chimney at the north end vents the mechanical syst From a distance (above), the w ery can be seen in relation to t residence of the owners, on th hill above the winery. The mo (facing page, top) of Michael Graves's competition-winning design shows the winery and dence, as well as the sculptur terrace, stepped rotunda, wa course, amphitheater, and la scaping that were part of Gra scheme, but which were not

aced with opposition, Shrem retreated on all
saying that he had never intended to build
than what was shown on the permit. When
stioned at a press conference around the time
he winery's opening, he asserted that Graves's
n was much too costly, and implied the archi-
ad let his imagination run wild. So much for
union of art and architecture.

s built, the residence follows Graves's design,
he interiors have been painted a most un-
esian white throughout, and the architect's
sical landscape design for the entrance court
been scrapped for a Japanese garden. (Shrem
lso kept professional photographers away
the house.)

he winery complex is faithful to Graves's
me, except for the replacement of the barrel-
ed storage section of the building with caves
l into the hillside, an alteration requested by
ew winemaker at Clos Pegase. However,
ves's strong architectural composition now ap-
s overexposed. While a row of poplar trees
ventually screen the east side of the site from
oad, the owner's replacement of two groves
es at the corner of the site with parking lots
pens the setting by recalling a shopping center.
may change, but one cannot help concluding
at least as much violence was done to Graves's
me by insensitive landscaping, here and else-
e in the complex, as by the amputation of
e parts.

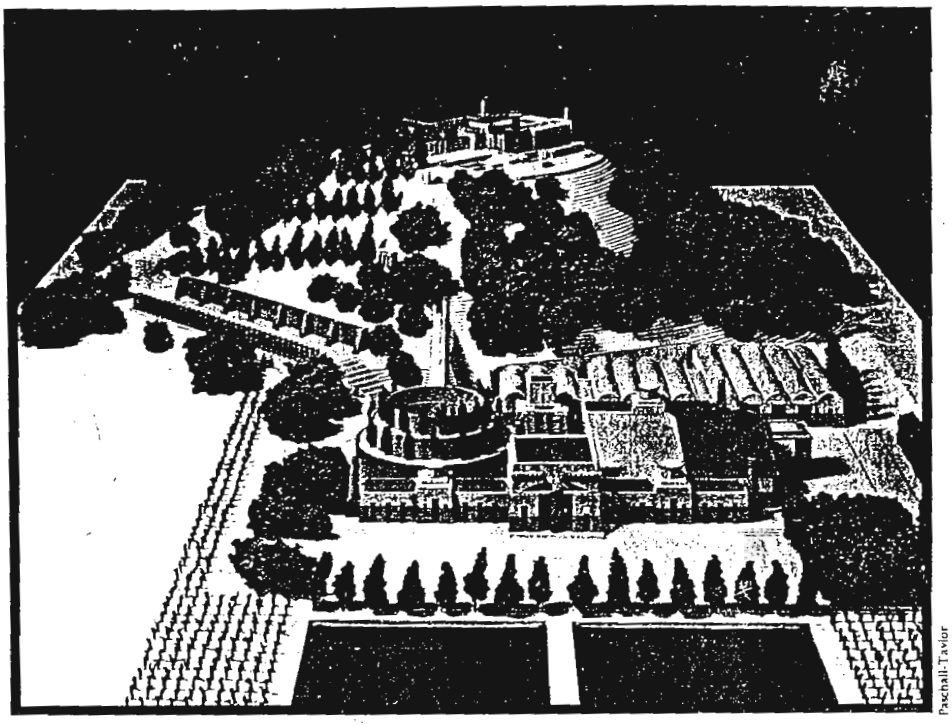
om the parking lots, not one but two monu-
tal entrances are visible. The most command-
ne, however, is for grapes, not people. Ani-
d by use for only a short time during the
est, the portico recalls the great central doors
thedrals, which are only opened for the high-
casions.

e public entrance to the winery is a more hu-
y scaled composition. Poplars were to have
a terrace beyond which two square ponds
to have defined an axis to the single Tuscan
ns centered in the openings framing the
n. Even without the introductory landscap-
he great square atrium, open to the sky and
rted by four square piers, provides a thrill.
visitors pause to take in the sense of open
nd splendid, framed views across the valley.

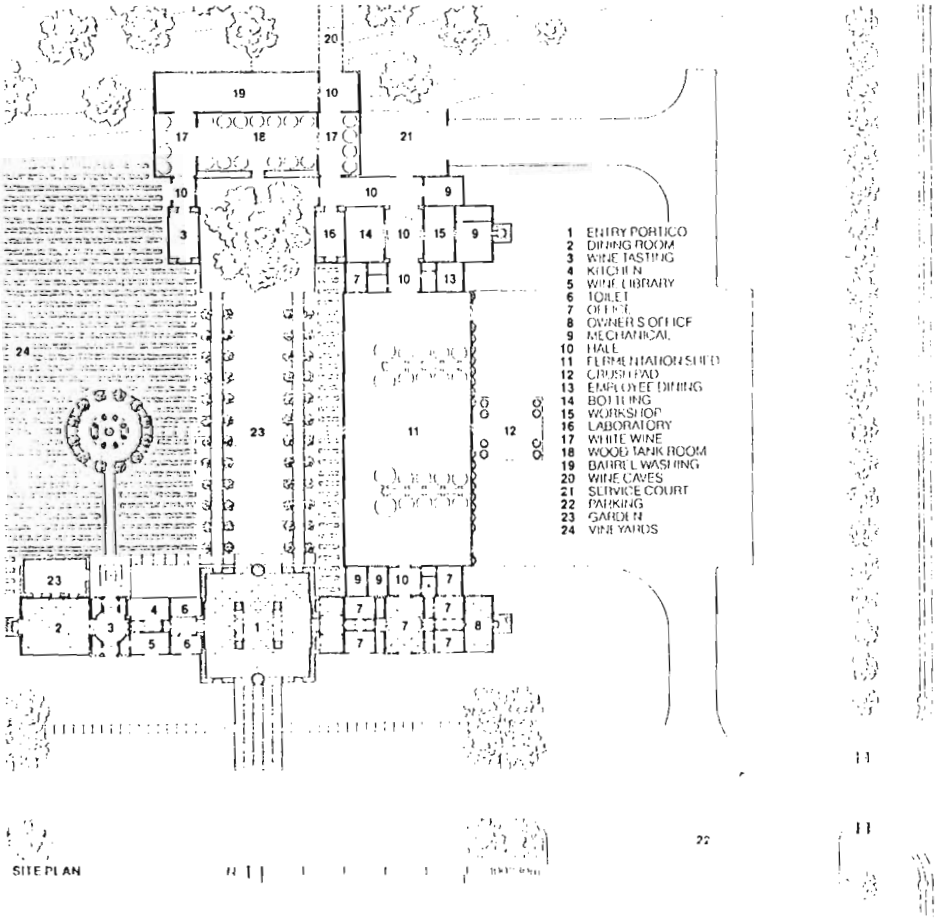
e interiors of the offices and public rooms are
arrow, high, and airy spaces that Graves
s, and cupolas dramatize their spatial se-
e. The mahogany window frames and the
, simple light fixtures designed by Graves
e reception wing provide craftsmanlike notes
erwise simple interiors. While the window
also enrich the exterior, they do not com-
te there for a general lack of scale-giving de-
ch detail would also have given a greater
of materiality to the elevations, and would
einforced the monumentality implied in the
but only fully realized in the atrium.

strong colors of the winery, while counter-
e banal landscaping, are not convincing
to maintain the feeling of masonry
ted by the building's simple forms and hori-
divisions. Only when the full force of sun-
rikes the walls do the colors lose their inten-
allow the building to "give back" the light
inspired Graves when he first visited the
How the colors will age, or whether they
allowed to mellow, is difficult to predict.
critics have faulted Graves's personal
of Classical styles at Clos Pegase. Ledoux
in garb, as it were—for its lack of modesty.
stone and wooden buildings that recede
ther than stand out from their settings are

(continued on page 88)

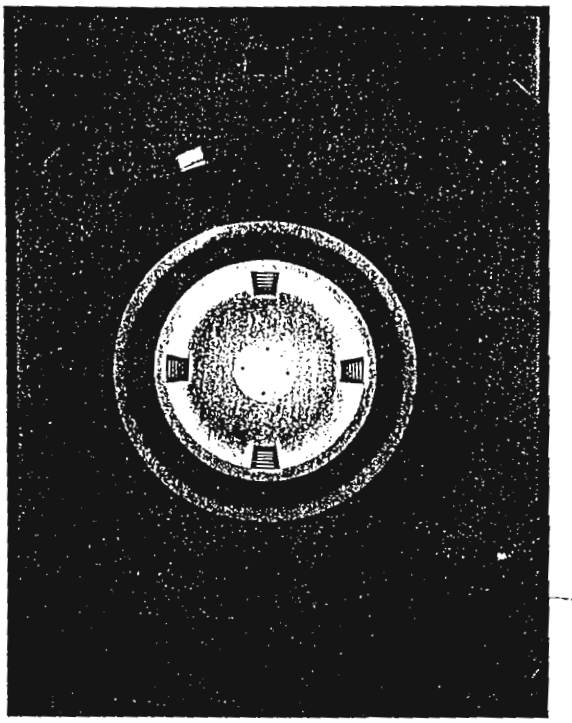


Paschall-Taylor



SITE PLAN

Clos Pegase Winery



Photos: Jaime Ardiles-Arce

Project: Clos Pegase Winery, Calistoga, Calif.
Architect: Michael Graves, Architect, Princeton, N.J. (Michael Graves, project architect; Terence Smith, associate in charge; Juliet Richardson-Smith, job captain; Ronald Berlin, project manager; Peter Hague Neilson, Alexey Grigorieff, Lesley Mason, assista
Client: Clos Pegase, Calistoga, Calif.
Site: agricultural valley, with e ing old live oak tree preserved.
Program: 25,500 sq ft of win production, office, and visitors' facilities (caves not included).
Structural system: wood fram construction; reinforced concre slabs, foundation walls, and fo
Major materials: wood; stuc terra cotta roof and floor tiles trim, cast concrete; oak floori gypsum board; redwood ceili Building Materials, p. 156)
Mechanical system: heat p and condensing units; gas-fi furnaces; ducted supply and distribution.
Consultants: Robert Lawso tural; Marion Cerbatos and mechanical; Beta Associate Michael Graves, Architect;
General contractor: Frie Company, Inc.
Costs: unavailable.
Photos: Otto Baitz, excep noted.

(continued from page 85)

seen to be more appropriate. Yet the architectural history in the valley is one of a tabula rasa on which people were free to project their visions of somewhere else.

The 1860s Napa Soda Springs resort had white Roman temples set against a hillside; the 1880s wineries offered images of the Rhineland. Recent decades have produced wineries in every style you can name, and some you can't.

Graves won the competition by projecting a picturesque vision of buildings and landscape that captivated the jury. Contemplating the completed fragment of that vision, it seems less urgent to question Graves's motives than to wonder about competitions that are rooted more in illusion than reality.

Sally B. Woodbridge ■

The west rotundo (t right), adorned with designed light fixtu the dining room (ab the architects also c ture and lighting (e chandelier, which purchase). Mahogo window frames, ar wood fireplace (de further richness to tall, elegant propo doors and windo phasized on the e rotunda (facing p

DOMAIN CHANDON WINERY, Napa Valley

A distinct separation of the visitors center (sales, tasting and restaurant) from the main building. There is a buffer zone in the main winery for visitors before they are taken on a tour and then taken out again to the center. As a result, the main building is more protected.
Responsive to changes in level of light in the different spaces but this is not expressed volumetrically.
Longitudinal vaults suggest a directionality towards an end, implying a movement, yet the 'end' (the cellars) is not expressed volumetrically as a distinct volume. The vaguely distinct volumes mighty suggest differentiating activities yet they do not represent the process through the architecture. A sense of stability is reached despite the vaults.
An exaggerated architectural scale which dominates the human within the winery and makes it difficult to achieve a balanced relationship with the vineyard around it.

Modern technology and traditional forms combine to create new California winery

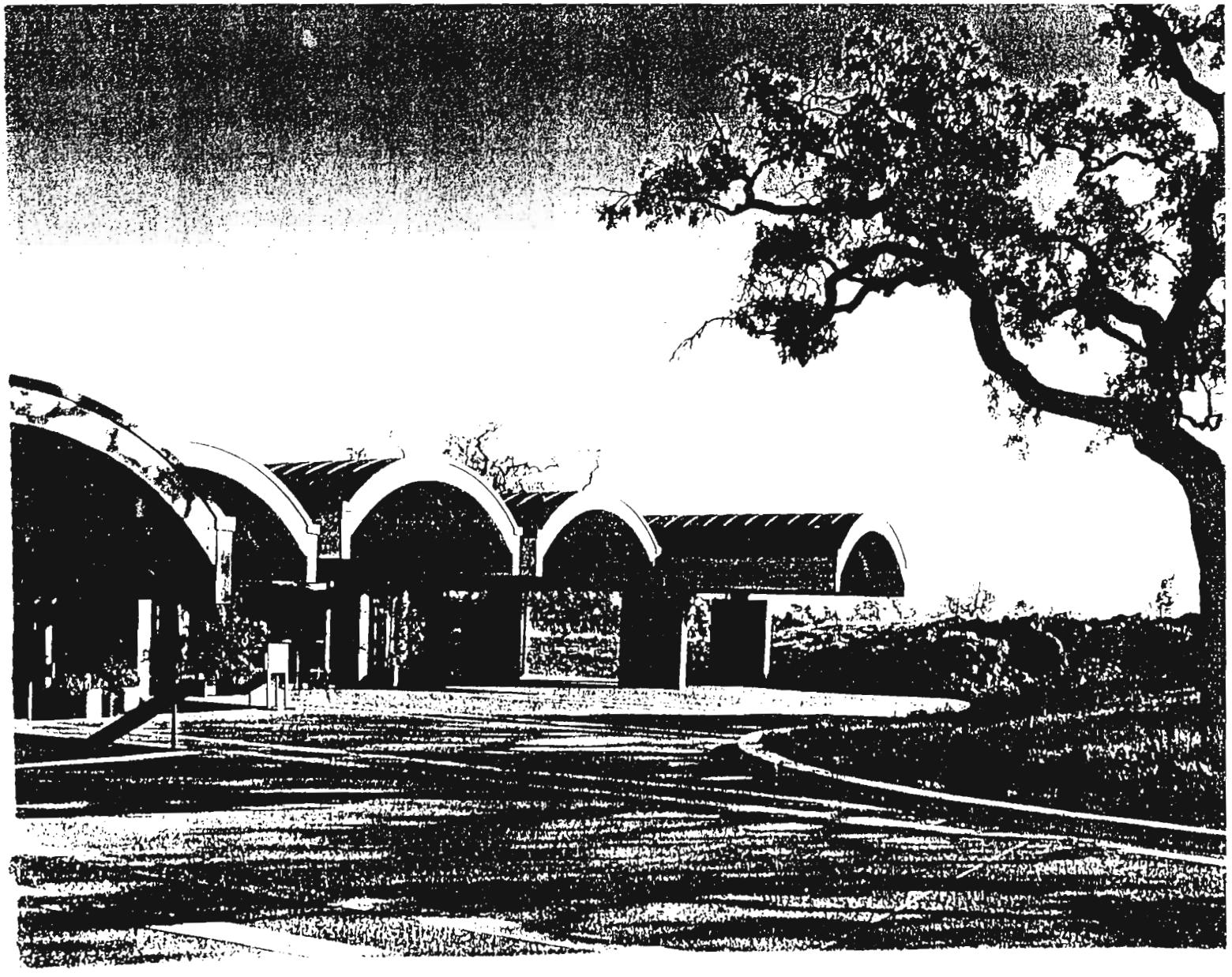
The first American venture of the French wine-producing corporation Moët-Hennessy is also the newest winery in the Napa Valley region of northern California. The new winery, Domaine Chandon, was designed with a sophistication that reflects a Western regional architecture and yet carries forth many of the traditional forms of older European wineries—all combined in a modern technological approach to the production of sparkling wines.

The owner is M & H Vineyards, the United States subsidiary of Moët-Hennessy. The firm's decision to expand to the U.S. was a solution to the unavailability of sufficient land in the Champagne Region in France for large new plantings, and the increasing demand for wine in this country. The Napa Valley (90 miles northeast of San Francisco) was chosen over other locations because of its unique soil and climatic conditions.

The client desired a special image—one that reflected the architectural traditions of France but which also stressed modern technology. To this end, extensive research—including study in France by some members of the design team—was conducted. Great vaulted caves, rubble masonry walls and wood-beamed ceilings are typical of the French wineries, and it was these forms and materials that were implemented at Domaine Chandon.

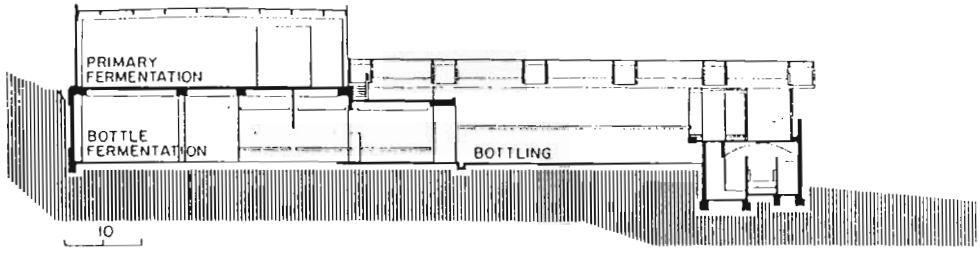
The buildings' striking form is a result of a series of vaulted roofs transversing the 88-acre site. The visual impact, however, was minimized by burrowing the structure into the contoured hillside. (This solution also satisfied citizen concern from the nearby small

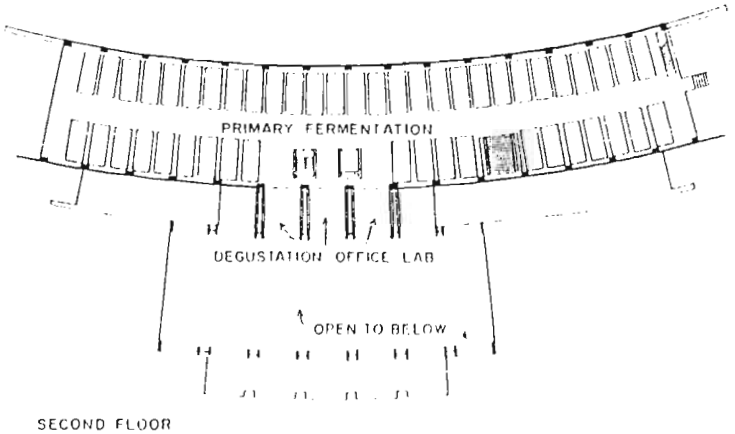
Feinwald photos



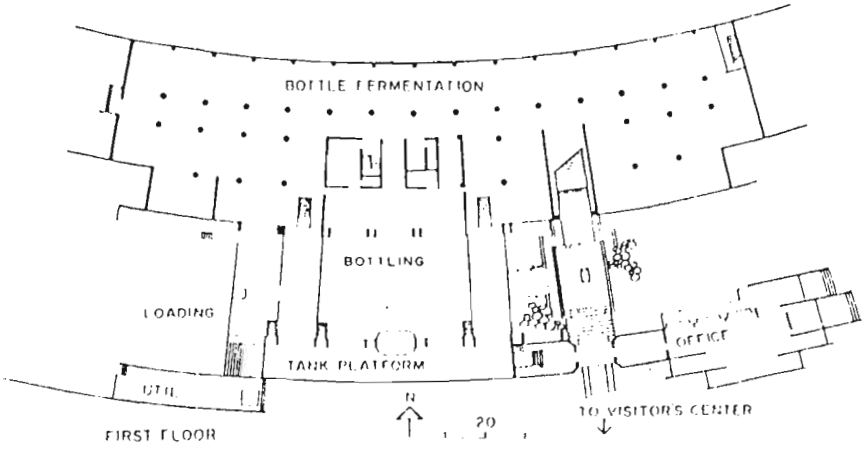
The processing building is 350 feet long, arc-shaped and set into the base of the hill. Upon entering, a grand staircase leads up to the primary fermentation area (bottom left) containing 44 stainless steel tanks which store the first grape pressings. Because of the method selected to produce sparkling wines, the "methode champenoise," there is also a need for a large, temperature-controlled cellar where the wine ferments in the bottle. The bottling room (bottom middle) is one of the most interesting spaces with open, two-story-high vaulted ceilings. Necessary offices and labs were glass-enclosed and positioned overlooking the bottling area. Fluorescent lighting was designed to fit into arc-shaped beams, maintaining the design character of the vault. The west end of this wing is demountable to accommodate future growth and additions can be made with minimal disruption to existing operations.

DOMAINE CHANDON WINERY, Yountville, California. Owner: *M & H Vineyards, Inc.—John Wright, president; Charles Bouril, field representative.* Architects: *ROMA Architects—Robert C. Mountjoy, principal-in-charge; Jerry R. Gabriel, project manager; Richard E. Quinn, project designer; LeRoy J. Pardini, project captain.* Engineers: *Hirsch & Gray (structural); Converse Davis & Associates (soils); Paul E. Rosenthal and Charles & Braun (mechanical); Cammisa & Wipf (electrical); Cassayre & Associates (civil).* Landscape architects: *Royston Hanamoto Beck & Abey.* Interior design: *ROMA Architects.* Consultants: *Susan Roach & Associates (graphics); The Marshall Associates (food service).* General contractor: *Christensen & Foster.*

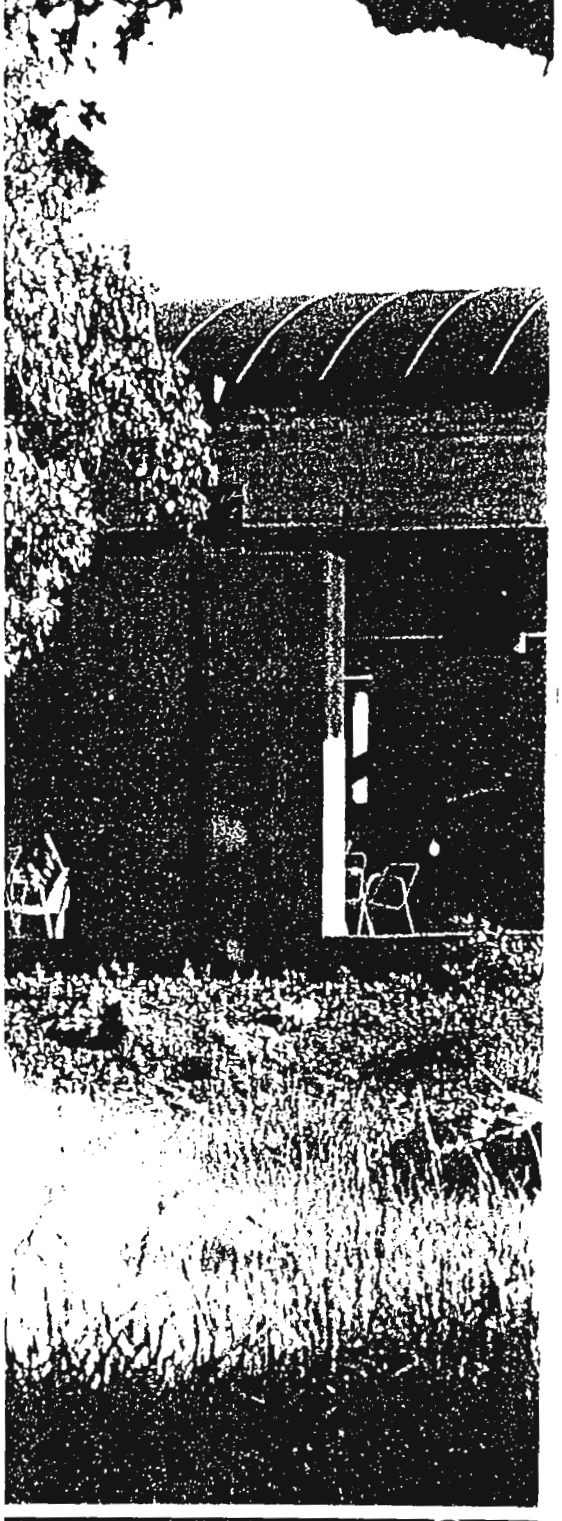


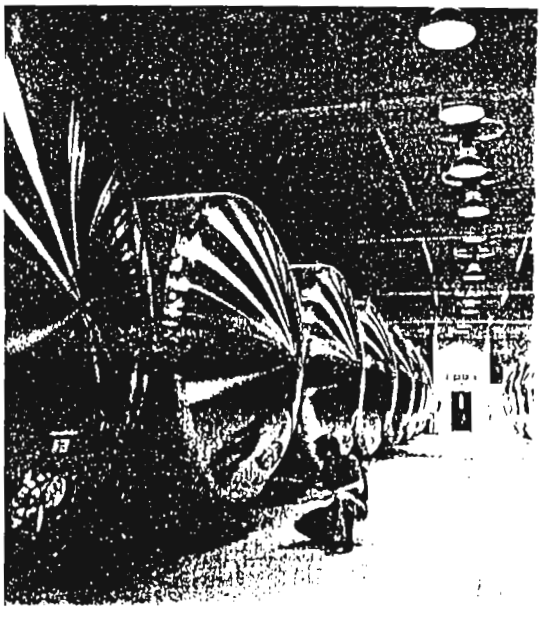


SECOND FLOOR



FIRST FLOOR





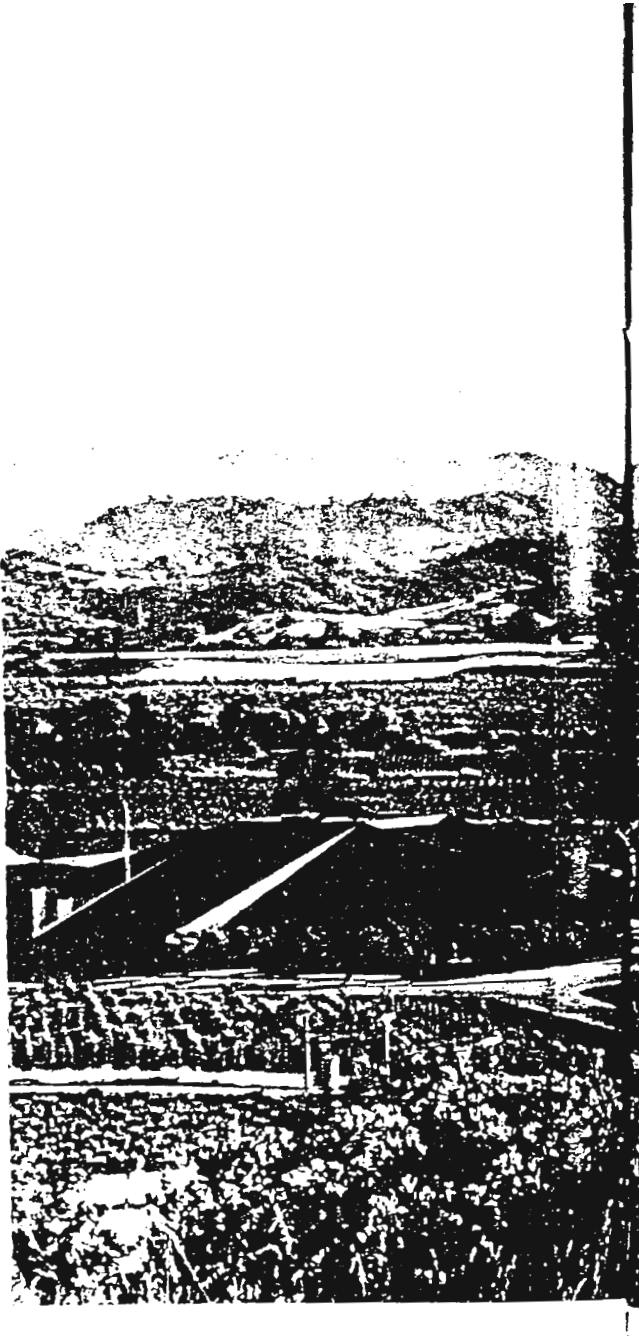
WINDSOR WINERY , Sonoma Vineyards

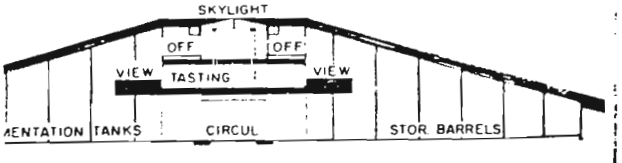
No differentiation of the different stages of the process. All the functions are housed under one roof. There are no changes in the architecture due to temperature control, change in light quality or quality of spaces due to different activities. There is no apparent natural lighting except for the skylight over the offices. The grouping of the whole process together has limited their options. It resulted in a limited contact between the visitors of the winery and the winery itself.

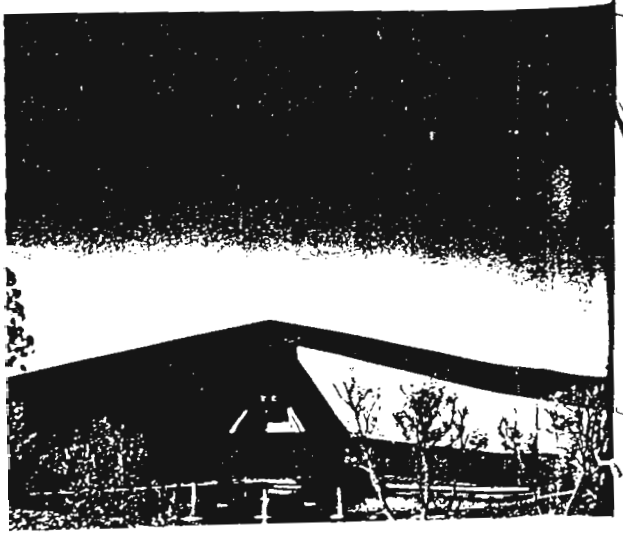
The process is overlooked as one entity instead of a succession of parts and the most basic and necessary hierarchy of functions dominates the architecture:

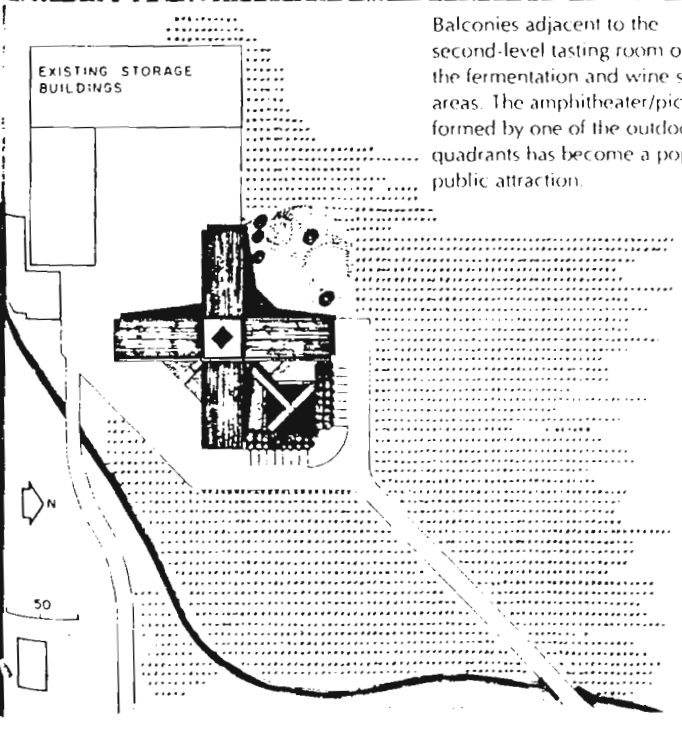
-offices controls visitors and process
-visitors overlook the process
-the process is overlooked.

A rhythmic relationship with the outdoors (the four quadrants carved out) is a product of the formalistic gesture that is the winery itself.







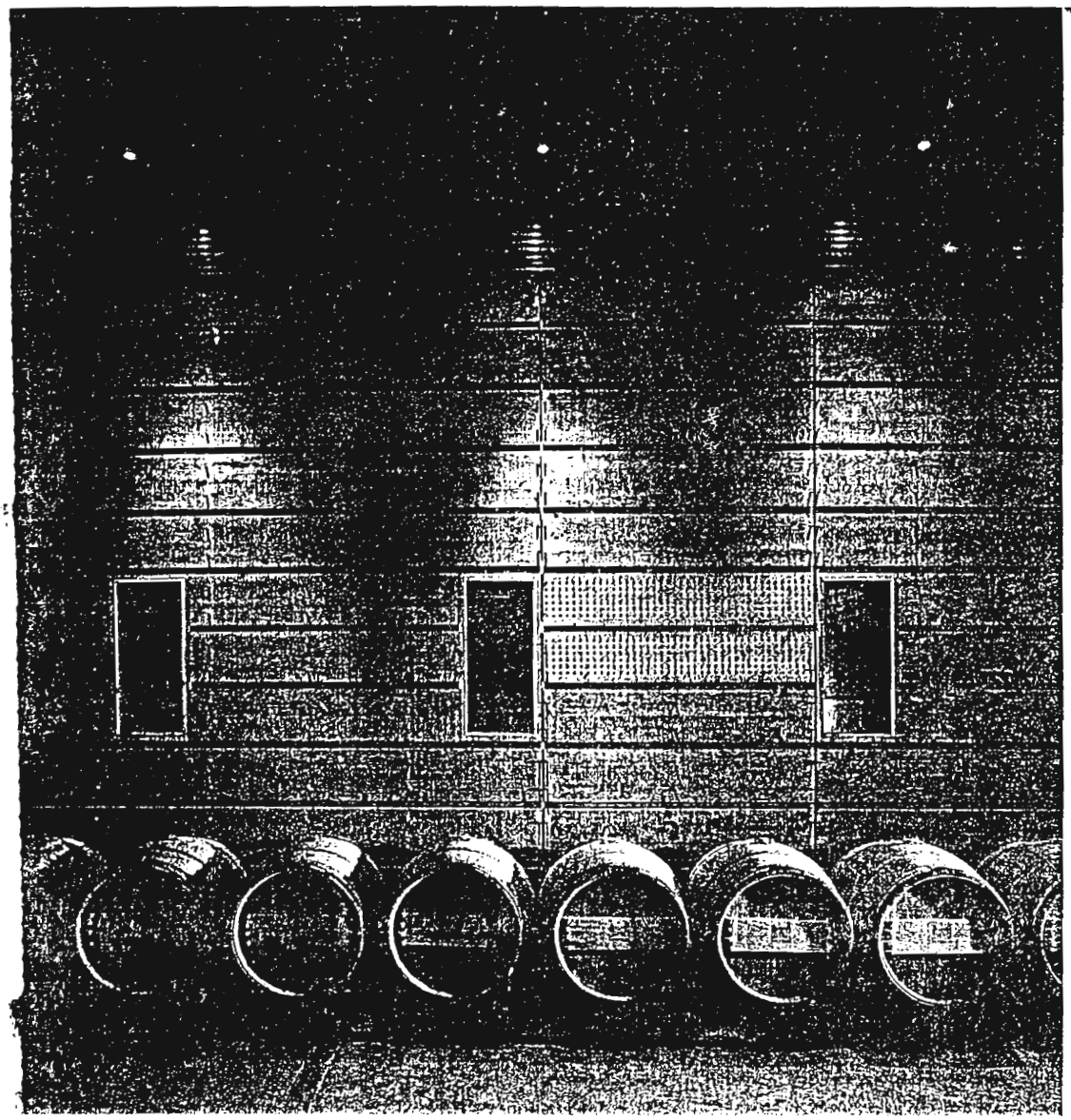


Balconies adjacent to the second-level tasting room overlook the fermentation and wine storage areas. The amphitheater/picnic area formed by one of the outdoor quadrants has become a popular public attraction.

CHATEAU LEOVILLE, Medoc, France

Well defined path, functions and volumes.
Dissociation of the main office building from the workspace by a main circulation spine.
A play of forms, volumes and directionality though still using local materials and expressions such as pitched roofs and wood.
Expressions of movement from one space to another or differentiation of one space from another by a deflection from the modules set down: structural, circulation and lighting.

CHAI DANS LE MÉDOC



Un chai, autant qu'un château est capable de porter l'image d'un grand cru du Médoc. Elle n'en est que plus dynamique. Telle a été l'option du maître d'ouvrage, occasion pour les architectes de traiter les espaces de vinification, du dedans, dans leur expression et leur vocation.

Le chai est intégré dans un ensemble de bâtiments agricoles : les bureaux, aménagés dans le corps de ferme de l'exploitation. Une galerie dissocie ce bâtiment du chai à demi enterré. Le chai au sol de béton avec agrégats de marbre vert, aux parois de pin, offre une gamme de matière qui réfèrent, sans pittoresque, à la nature et à la tradition du vin : bois de barriques, sol de graviers. Les bouteilles sont conservées dans un cellier de béton aux voûtes en plein cintre, coulées en place.

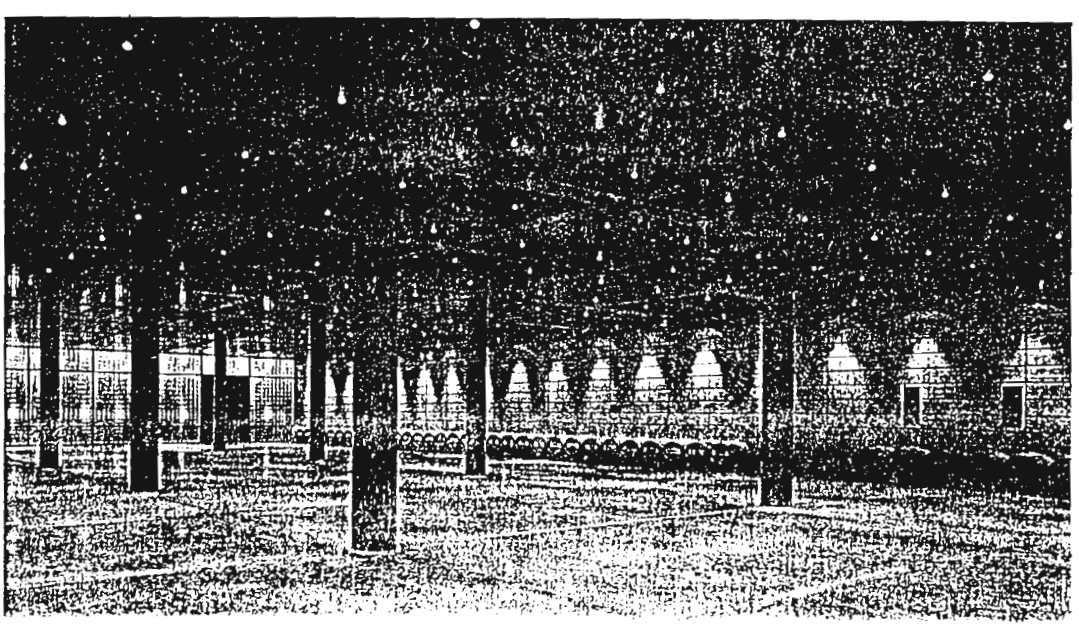
Cette simplicité s'accorde aux exigences modernes de la conservation et du travail des vins — le parement de bois abrite un réseau modulable de ventilation-climatisation qui peut compléter l'inertie thermique naturelle du dispositif. Une attitude fermement revendiquée par les architectes : « Nous sommes restés tapis en demi-sous-sol, derrière les façades sagement restaurées. Sans concéder au néoclassicisme façon Disneyland en vogue dans le Médoc, nous proposons un langage clair, un jeu de matières naturelles, un parcours de sensations qui ont à voir avec le monde du vin, tel qu'il peut être exprimé aujourd'hui. »

MCL

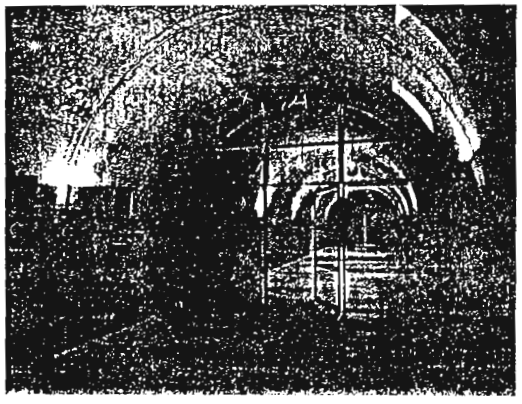
vinification,
bureaux
ien-de-Beychevelle,

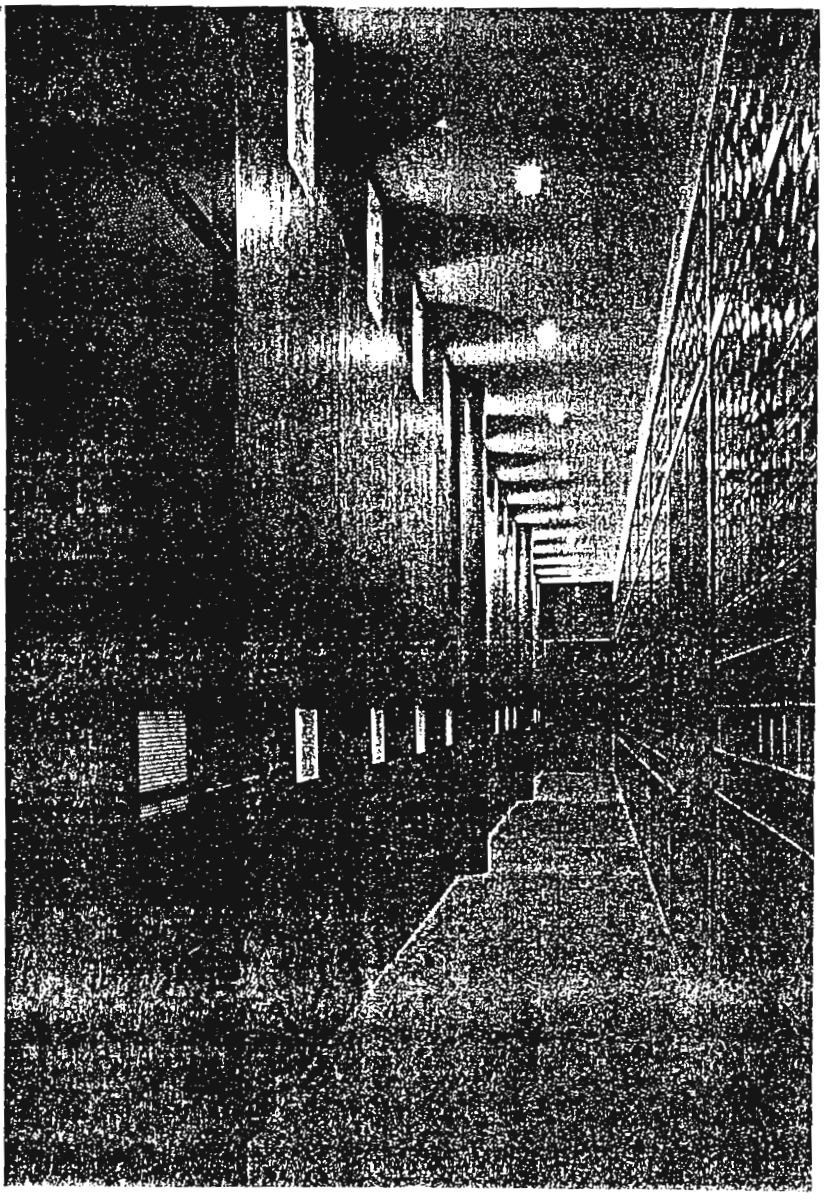
ivile fermière du
Léoville Poyferré,
ouvrage
Lajus, Pueyo,
es
Ferron,
e assistante

n : 1991
2300 m²



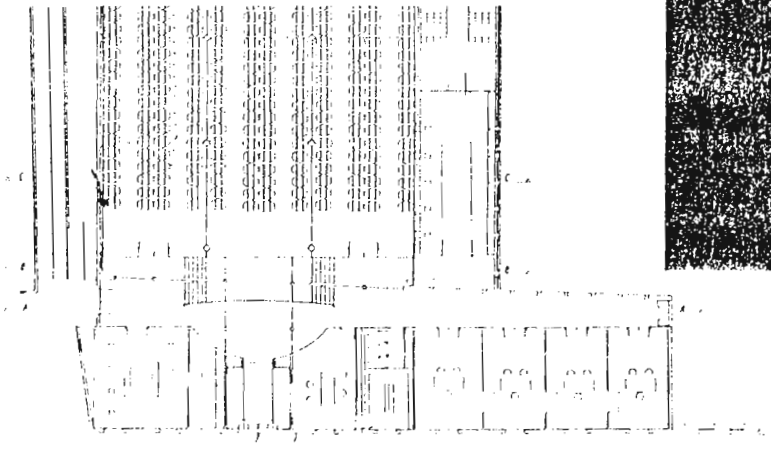
eloppé de panneaux de bois blond
es tourillons, référence aux cuves
ei masque pour des techniques
n moderne.



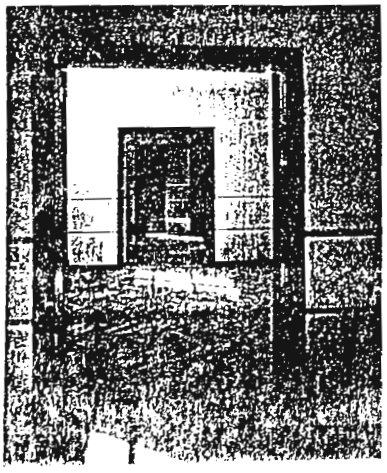


Circulation entre chai et bâtiment d'accueil.
Cellier: voûte en plein cintre en béton coulé.
Traitement contemporain d'un lieu de traditions.

Plan niveau chai.



Salles de dégustation.



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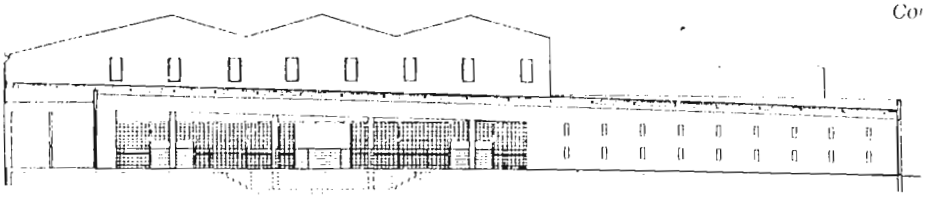


Coupe su

BIBLIOGRAPHY:

History of Winemaking, May Andrews
Knowing and Making Wine; Emile Peynaud,
The Encyclopedia of Wines and Winemaking; Claude Backer
The Guide to Wine and Winemaking; John Bartlett
The Myth of Dionysus; Sheryll Barret
The Wine and Arak Industry in Lebanon; Riyad Majeed Shams
Techniques et Architectures no. 404, 1992. Oct/Nov p.126,127
Domus no. 773 1991 Dec. p.1-3
Architectural Record vol. 180, no 5, May 1992, p94-101
Progrssive Architecture Feb.1998 p82-89
GA Jan 1988, p.64-71
L'Orient Express; 1996, p.26
20 Degrees South Nov/Dec 1996; p.42-46

Appendix A: Overview of local Methods of Winemaking and types of wine

***Overview of Local Varieties of wines produced*:**

The structure of the overview will include:

1- A brief history of each winery

2-Varieties of wine produced:

a- Red
b- Rose
c- White
d- Chateau

According to : - Type of grape varietal used
- Length of vatting/period of maceration
- Length/type of aging
- 'Character' of the wine, as described by the winery.

3- Apparent direction taken by winery.

GRAND SEIGNEUR

A label that went down on the market in 1991 on a small local scale and which started expanding it's distribution only recently, concentrating mostly on the areas of Kesrouan and Jounieh. They started out by producing 'Arak Faqra' and later decided to expand into winemaking. They rent out a small winery in the Bekaa where the wine is fermented and bottled. Distribution and storage are done in Kferdebian, a village near Faqra.

There wines cover the basics, as they have not branched out into 'specializing':

Le Grand Seigneur Rouge:

Made out of the Cinsaut, Carignan, Grenache and Syrah varietals.
Vatted for three years before distribution.
"elegant nose"

Le Grand Seigneur Rosato:

Made out of the Cinsaut and Carignan varietals.
Overnight maceration.
"fruity undertones"

Le Grand Seigneur Perla Bianca:

Made out of the Chardonnay, Clairette and Ugni Blanc varietals.
Maturing in Vats for 6 months.
"fresh and pleasant"

Le Chateau du Grand Seigneur:

Made out of the Cabernet-Sauvignon, Cinsaut, Mouvedre, Grenache and Syrah varietals.
6-7 years of aging
"supple and elegant"

_ They seem to follow the basic procedures of winemaking with very little variation and have not expanded into several wines per category.

KSARA:

Probably one of the oldest wineries in Lebanon. Named 'Ksara' because it was a "Ksar" (fortress) at the times of the crusaders. It was taken over by the Jesuit fathers in 1857 who then began making wine out of the vineyards of the property. Underground tunnels, 2km long were dug out in 1910, and they now serve as storage spaces for aging wines. Ksara produces 1,500,000 bottles per year out of a total of 390 hectares of land located in Kefraya, Tanail, Kanafra; all in the Bekaa.

Their wines include:

Red:

Reserve du Couvent:

Made out of the Cinsaut and Grenache varietals, with Cabernet-Sauvignon and Syrah varietals.
Matured in wood oak barrels for 18 months.
"legnth and persistence"

Clos St Alphonse Rouge

Made out of the Cinsaut varietal with a touch of Carignan and Grenache.
Matured in vats for 1-2 years.
"supple and easy flowing"

Cuvet de Printemps:

Made out of Gamay, Cabernet Franc and Syrah
Matured in vats for 6 months
Use of sulphides
"aromatic nose of violets and ripe fruit"

Rose:

Clos St Alphonse Rose:

Made out of the Cinsaut, Grenache and Carignan varietals.
Maceration of 8-12 hours.
"fresh and lively"

Gris de Gris:

Made out of the Carignan and Grenache varietals.
short period of maceration
"vivid, eleganr and harmonious"

Sunset:

Made out of the Cabernet-Sauvignon, Syrah and Carignan varietals.
10-14 hours of maceration
Aged for 2 years.
"fresh, robust wine"

White:

Blanc de Blanc

Made out of Chardonnay, Sauvignon and Semillon varietals
Matured in oak cases for several months
no aging is preferable.
"finesse, elegance and floral aroma"

Clos St Alphonse Blanc:

Made out of Clairette, Ugni Blanc, Muscat and Grenache Blanc varietal.
no maturing
1 year of aging is recommended.
"lightand fruity, vigorous and fresh"

Chateau:

Chateau de Ksara 1998:

Made out of Cabernet Sauvignon, Carignan, Grenache and Cinsaut.
Vatted for 14-20 days.
Maturing in oak cases for 18 months
Aged for 3 years.
"leather and spicy, complexity and richness"

Arak:

Ksarak

Aged for 18 months in earthen ware jars.

_ They are basically producing different varieties of wine by experimenting with the basic process. The end product depends on the type of grape varietal used, period of maceration (rose), type of vatting and legnth of aging, if any. They produce two white wines; one out of white grapes and one out of red grapes.
They seem to have an unusual preoccupation with a certain "St. Alphonso" and seem to be inclined towards French names for their wines as well as propagating new, interesting -sounding names such as "gris de gris" and "Sunset".
Their character definitions are a bit worrying since all their wines seem to fall into two categories:
"fresh, lively and elegant" Vs "Robust, rich and complex"

Kefraya:

Before the 1970's, Kefraya as a winery did not exist. The owners of the land used to supply grapes to Chateau Musar. In 1979, Kefraya started making wine. It currently produces 1 million bottles a year, 75% of which is red wine while the rest is rose and white wine. Unlike Ksara, it is

basically a wine factory without any romantic underground caves, though plans are underway to construct some. Kefraya is known to have won many International wine prizes. It has 250 hectares of vines in the area of Kefraya, Bekaa.

Their wines include:

Red:

Kefraya Nouveau:

Made out of the Cinsaut and Carignan varietals.
Bottled immediately after fermentation
not to be aged
"freshness, vivacity and well-textured"

Domaine de Kefraya Rouge:

Made from the Grenache, Cinsaut and Carignan varietals.
not to be aged
"typical wine of Kefraya"

Rose:

La Rosee du Chateau:

Made from the Cinsaut and Carignan Varietals
Maceration of 12 hours.
not to be aged
"the morning freshness of the Bekaa"

white:

Domaine de Kefraya Blanc:

Made from Ugni Blanc
Matured for 3 months
not to be aged
"refreshing wine, dry and light"

Chateau Kefraya Blanc de Blanc:

Made from Sauvignon, Clairette, Bourboulenc and Sainte Emillion
matured for 2-4 months
not to be aged
"fresh and exhilararing"

Blanc de Noirs:

Made from Ugni Blanc and Muscat
no maturing
6 months to 1 year of aging is reccommended.

Chateau:

Chateau Kefraya:

made from Cabernet-Sauvignon, Cinsaut, Grenache, Syrah and Mouvedre.

Vatted for 2-3 years

Aged for 2 years

"powerful, aromatic and intense."

Dessert Wines:

Lacrima D'oro:

Sweet fortified wine.

Nectar:

Addition of brandy to the must.

Arak of Kefraya.

The same kind of experimentation is undertaken at Kefraya as at Ksara, but in Kefraya there is a more clear cur strategy of table wines (no aging at all) Vs Chateau (a minimum of 5 years). Kefraya have only one rose, concentrating more on white wines. While Ksara chose to develop on Rose wines, Kefraya decided to expand into dessert wines, though they admit they are not selling very well.[1]

The labeling is also predominantly French, with more straight forward names; mostly consisting of 'Chateau Kefraya'. It seems that they are vying for a more traditional seat, emphasizing that they have a 'domain'.

[1] Manhal Nakouzi, Marketing Manager of Beverages at 'Fattal Group'

Chateau Musar:

The winery is located in Ghazir, Kesrouan and was originally a Serail.

It sells only 3% of it's production in Lebanon while exporting the rest to France, England and the United States. Usually releases it's very old wines (1933-)
to Sotheby's and Christies.

APPENDIX B: Observations on advertising of wine and wineries.

It is a battle of labels and marketing tactics. It is no longer the locale of the wine that determines it's quality . The label is considered the more important in the absence of any public education since it is the first item the consumer looks at. "The label has to represent the wine"[1] All of Ksara's labels for example were redesigned 2 years ago. "For the Cuvee de Printemps, we chose colors that recalled the fruity notes in the wine, the purple and the red for the taste of violets and ripe fruit. It is a feminine wine that is directed towards a feminine consumer."[2]

Each of Kefraya's new labels contain illustrations of Lebanese artists' paintings and the name of each wine is "the result of sophisticated research."[3]

There are no current regulations on the winery having to indicate it's amount of production of a certain vintage, identify the varietal of grape it is using as well as information concerning the addition of sulphites etc..

Each of the wineries has a slogan:

Ksara: "Le Vin du Liban"

Kefraya: "Un vin, une Vigne, un terroir"

Ksara aims at pushing the idea through to the consumer that it's wine is *the* wine of Lebanon, calling forward ideas of the humble greatness of Lebanon's rich and fertile land while Kefraya re-emphasizes the romance of the wine and redirects it towards it.

This whole marketing/advertising strategy of trying to reach through to the consumer is always directed at an emotional chord in him, where it re-emphasizes the romance of the wine, it's heritage and unique qualities even though most people don't know how wine is made in the first place. It's wine, after all. This strategy is seen through the labeling, the brochures and the winery. A winery looking like a cross between a castle and an old stone house is an absolute must. The aluminum vats should be hidden by all means possible while the oak barrels should be literally placed at the front door of the winery. Wooden rafters and a slanted roof are a necessity. Wine does not ferment without them. In a brochure, always re-emphasize the grapes and what the old poets and philosophers said about wine. Finally, everything has to be in French.

The process of presenting wine to the consumer in Lebanon (and possibly elsewhere judging from the examples of wineries I've seen) is so overloaded with layers of imagination, exaggerated traditions and romance, you can barely remember that the wine actually exists as a product by itself , with qualities that must be judged according to fixed and objective factors (as well as subjective) and that what makes wine today are sterile, ugly looking aluminum vats and concrete holes lined with epoxy-resin.

On the other hand, give someone a wine without the label. Would it appeal to him? Present a factory to the visitor and emphasize the way the wine ferments by itself and changes with time? Would that fully express the uniqueness of the process?

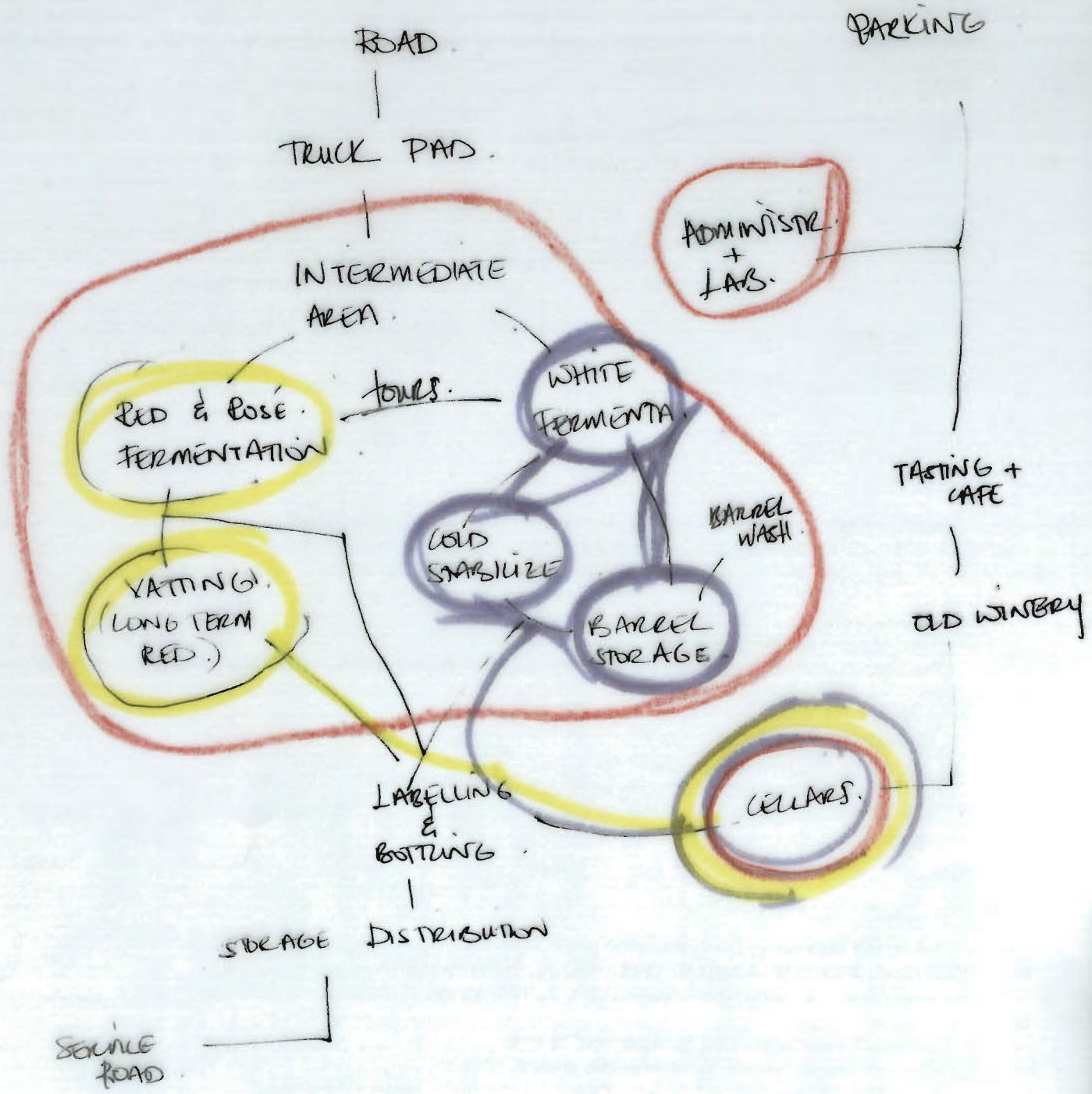
The uniqueness of the inherent process cannot be denied for it is probably one of the few things that is left that is still relatively self-creating. It was probably first discovered when a caveman left some grapes in a jar for a couple of months. This is what makes wine so unique, that it is still an individualistic process that occurs by itself with minimum interference from man. He just manipulates a little. And it is this manipulation and it's relationship to the fixed, unavoidable process that leads to the layering of the constraints of the architecture involved: light, temperature, movement, time and space compression, the relationship between the 'sacred' process and the visitors etc.. So the basic approach would be to strip away the layers of wooden rafters and front door barrels to create an architecture accommodating and expressive of the process while recognizing that we are

[1] Francois Mourad. general director of Ksara

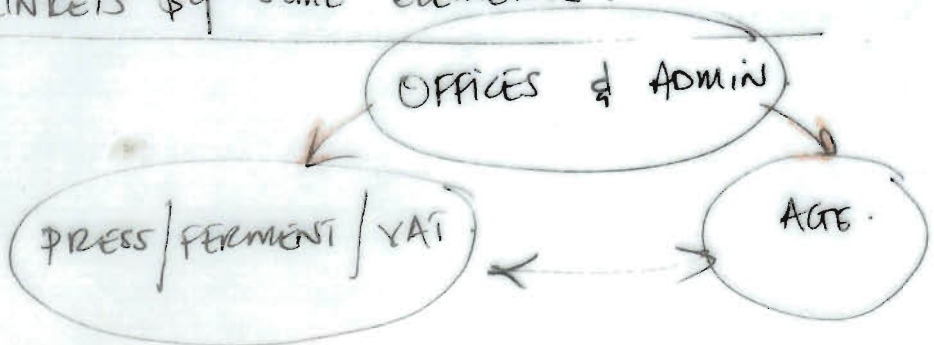
[2] IBID

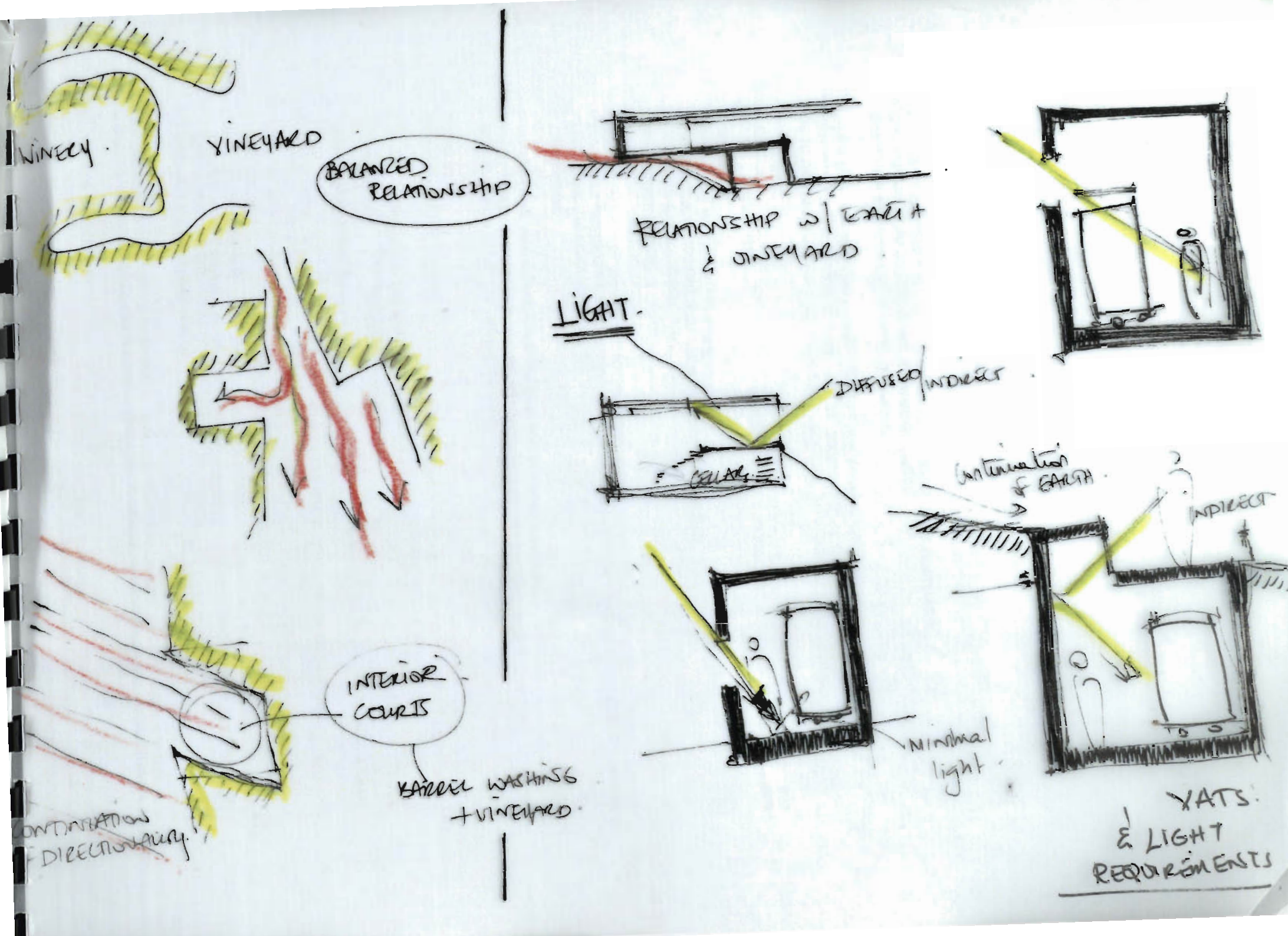
[3] Michel de Boustrous. general director of Kefraya

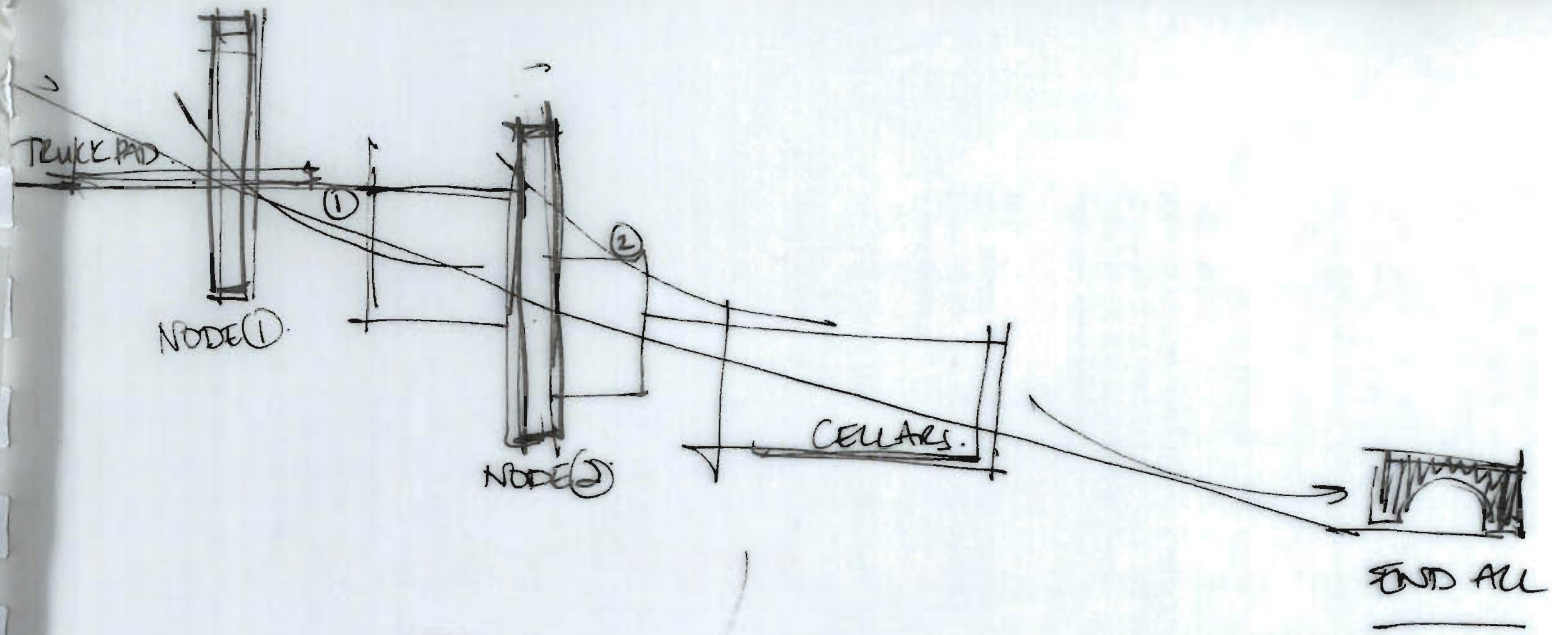
building a winery in the 20 C, not in Medieval France, and that this calls for an investigation of the relationship between the process and contemporary approaches and materials.

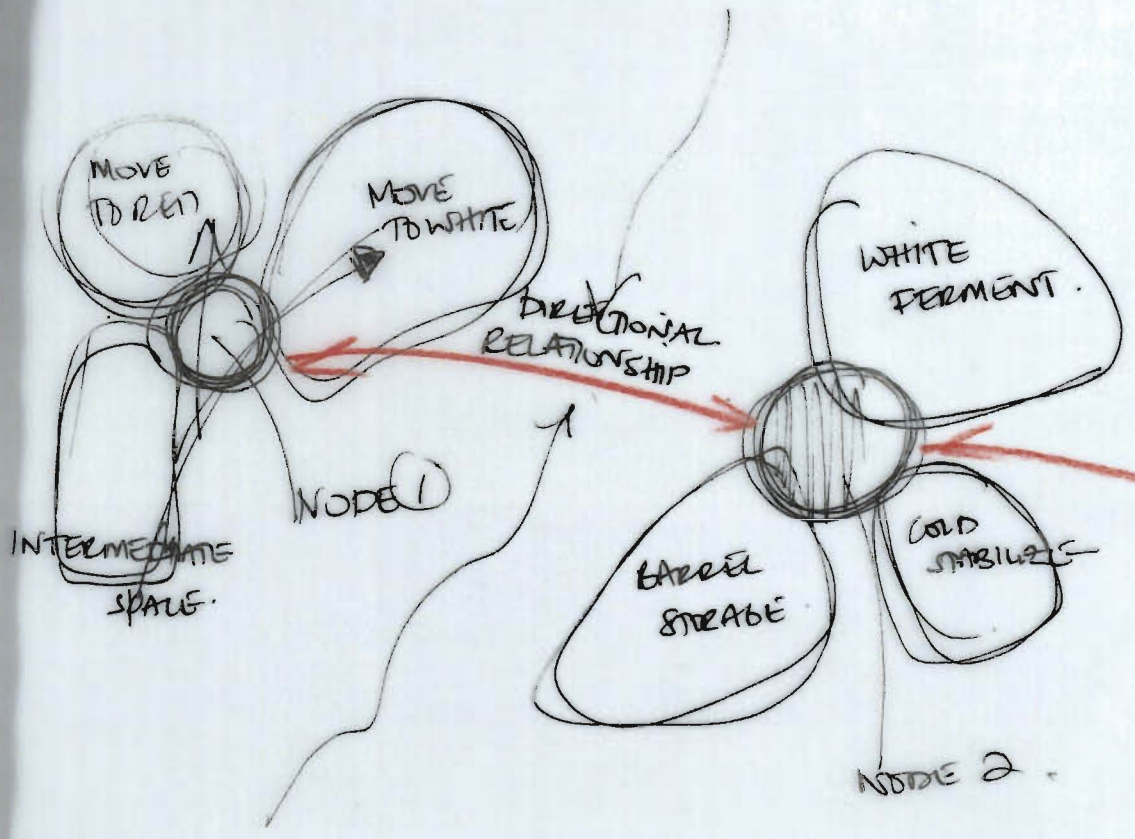


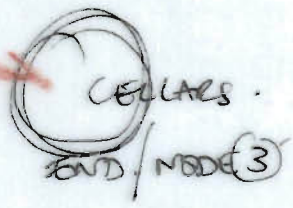
3. SEPARATE ENTITIES. COMPRISED OF DIFFERENT MOVEMENTS (SMALLER NODES) LINKED BY SOME ELEMENTS.

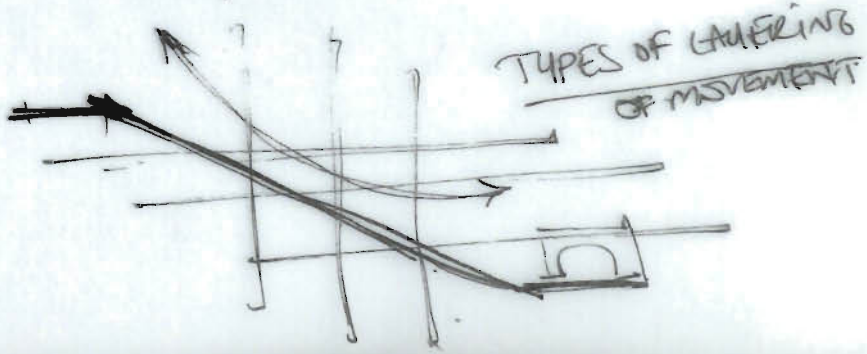


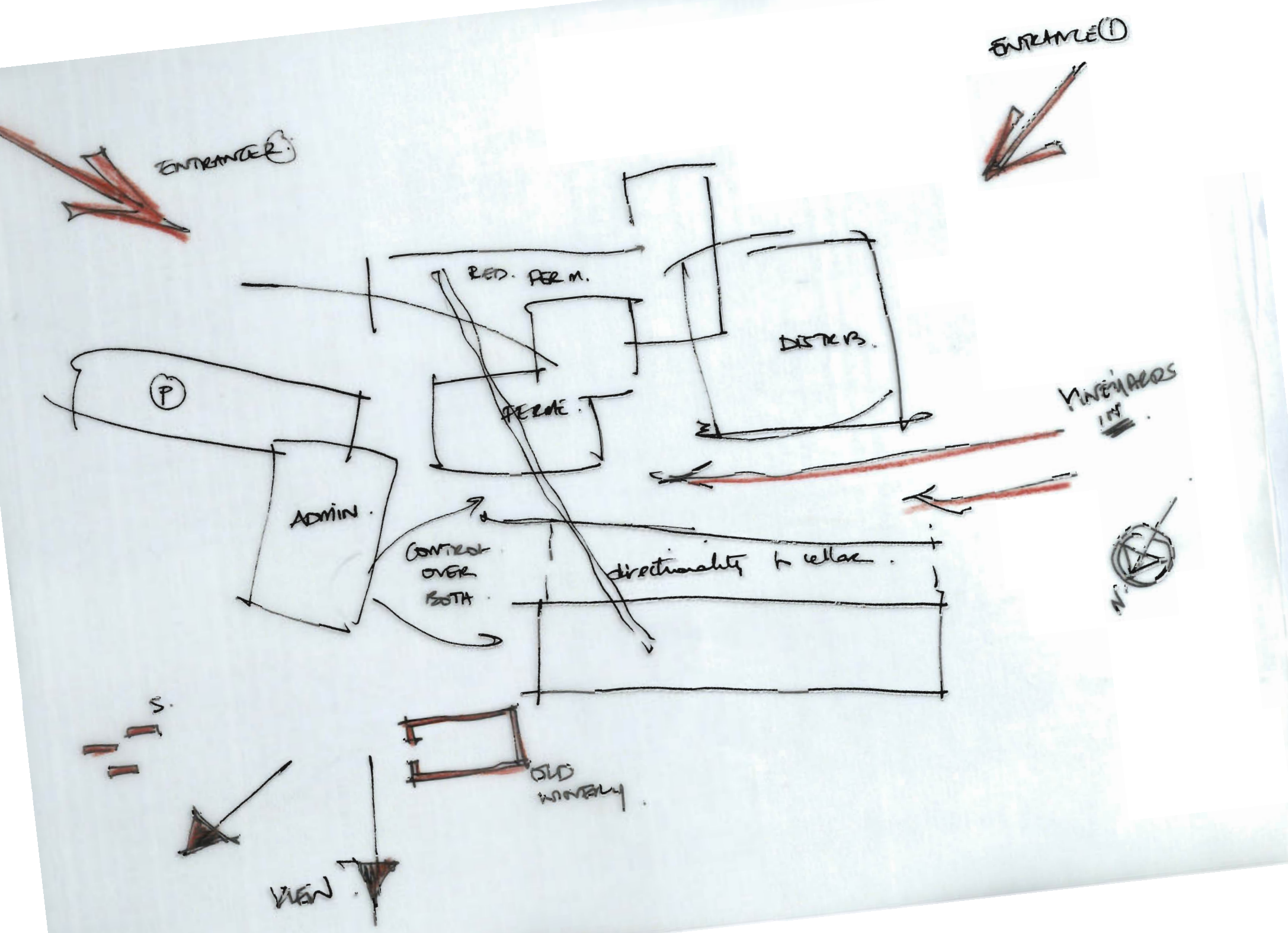

WINERY
VINEYARD
BALANCED RELATIONSHIP
RELATIONSHIP W/ EARTH & VINEYARD
LIGHT
DIFFUSED/INDIRECT
INTERIOR COURTS
BARREL WASHING + VINEYARD
CONTINUATION OF DIRECTIONALITY
CONTINUATION OF EARTH
INDIRECT
MINIMAL LIGHT
VATS & LIGHT REQUIREMENTS

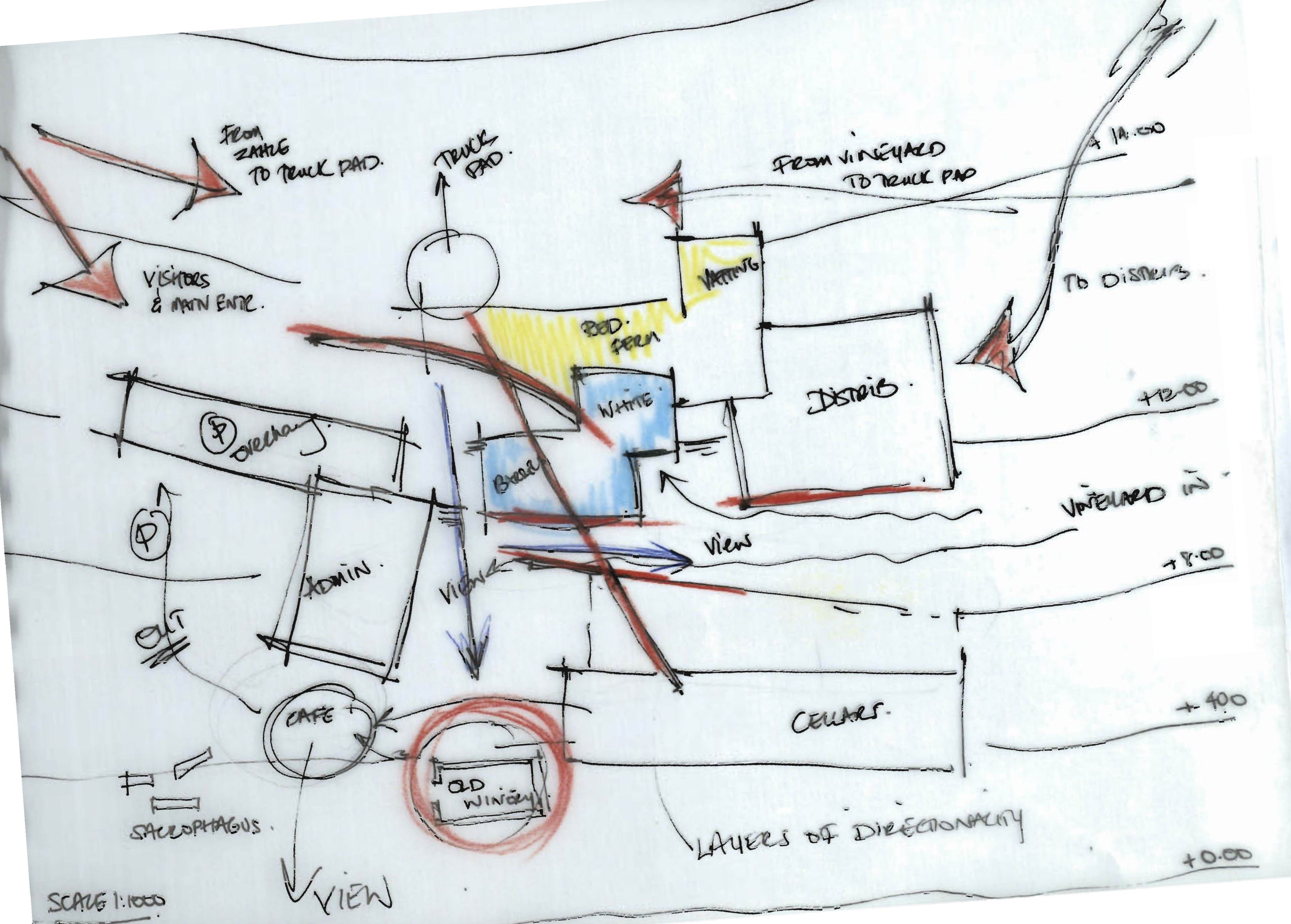

TRUCK PAD.
①
②
NODE ①
NODE ②
CELLARS.
END ALL.


MOVE TO RED
MOVE TO WHITE
DIRECTIONAL RELATIONSHIP
WHITE FERMENT.
NODE ①
INTERMEDIATE SPACE.
BARREL STORAGE
COLD STABILIZE
NODE 2.

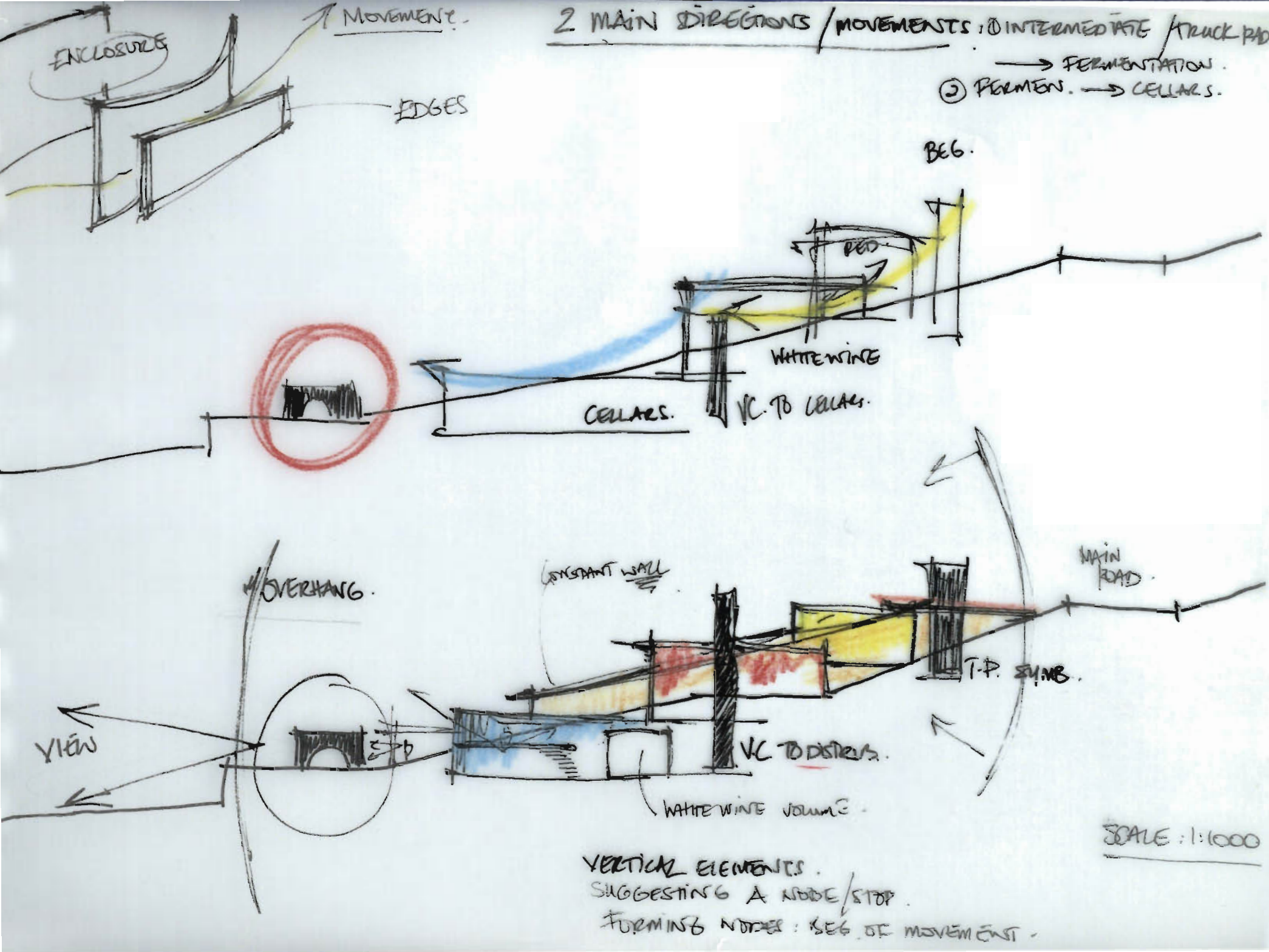

CELLARS.
END. NODE ③


TYPES OF GATHERING OF MOVEMENT


ENTRANCE (1)
ENTRANCE (2)
RED. PERM.
DISTRIB.
PERM.
(P)
ADMIN.
CONTROL OVER BOOTH
directionality to cellar.
VINEYARDS IN
N.
S.
OLD WINERY
VIEW



FROM ZAHLE TO TRUCK PAD.
TRUCK PAD.
FROM VINEYARD TO TRUCK PAD
+ 14.00
VISITORS & MAIN ENTR.
WAITING
TO DISTRIB.
RED. FERM
DISTRIB.
WHITE
+12.00
P
overhang
BARREL
VINEYARD IN
P
VIEWS
ADMIN.
VIEW
+ 8.00
OUT
CAFE
CELLARS.
+ 4.00
OLD WINERY
SARCOPHAGUS.
LAYERS OF DIRECTIONALITY
+ 0.00
VIEW
SCALE 1:1000


ENCLOSURE
MOVEMENT.
EDGES
2 MAIN DIRECTIONS / MOVEMENTS: ① INTERMEDIATE / TRUCK RD
→ FERMENTATION.
② FERMEN. → CELLARS.
BEG.
RED.
WHITE WINE
CELLARS.
VC. TO CELLARS.
OVERHANG.
CONSTANT WALL
MAIN ROAD.
T-P. SYMB.
VIEW
VC TO DISTRIB.
WHITE WINE VOLUME.
SCALE: 1:1000
VERTICAL ELEMENTS.
SUGGESTING A NODE/STOP.
FORMING NODES: SEG. OF MOVEMENT.