



Shiloh Estate

SHILOH VINES & WINES KNOWLEDGE BASE SERIES
www.shilohestate.com

Part I: Toward Quality Wine

by
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Coordination Draft
Comments Welcome

Decisions and the Decision Space

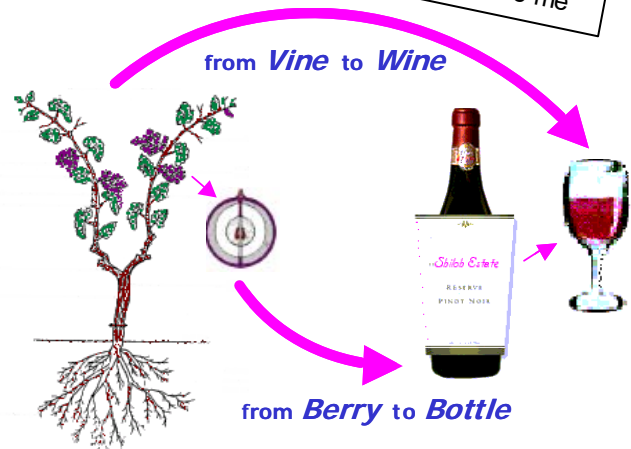
Alice: "Would you tell me, please,
which way I ought to go?"
Cheshire Cat: "That depends a good deal
on where you want to go?"
Alice: "I don't much care where."
Cheshire Cat: "Then it doesn't matter
which way you go."

Lewis Carroll

Alice's Adventures in Wonderland

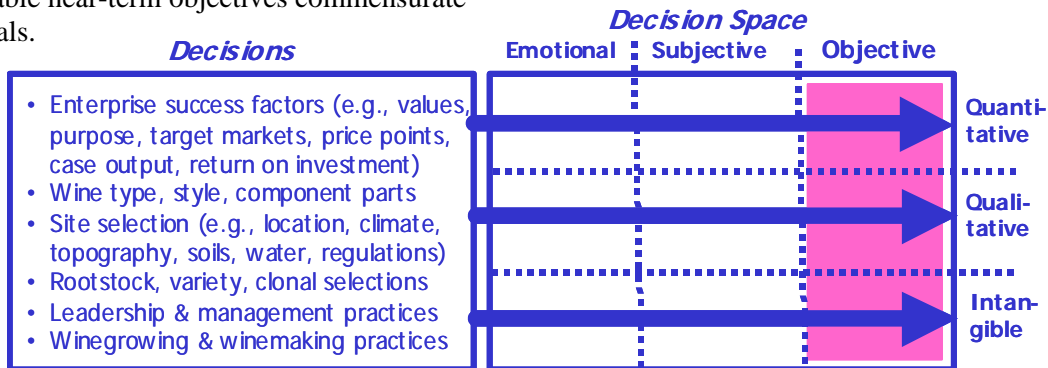
The Journey—Before venturing out on a path toward quality wine, you need to know where you want to go. The journey from vine to wine, from berry to bottle, involves numerous winegrowing and winemaking decisions (see below) that are part of a complex process. Planning is crucial.

Strategic Managementⁱ—Begin the process by defining the enterprise along with the major factors expected to contribute to its success. Involving stakeholders,ⁱⁱ articulate long-range goals that define products, target markets, price points, and desired return on investment. Next, identify major issues, agree on major assumptions, and generate, select, and implement strategies to achieve measurable near-term objectives commensurate with goals.



The plan—formal or informal—should include the business concept, product mix, marketing mix, resource needs, organization, milestones and schedules, and pro forma financials.ⁱⁱⁱ

The Series—This paper is the first of five that discusses cause-effect relationships between winegrowing and winemaking and achieving goals and objectives related to desired wine types (e.g., red wine), styles (e.g., dinner wine), and component parts (e.g., *aroma, flavor, balance*).



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The Product—Quality Wine

Wine is a satisfying, exhilarating and/or intoxicating beverage created by the complete or partial alcoholic fermentation of fresh grapes, grape must, or products derived from fresh grapes in accordance with legal enological practices, and contains (i) not less than 7% and not more than 24% alcohol content by volume, (ii) about 74% to 91% water, and (iii) 2% (give or take) other compounds including carbohydrates, acids, phenols, anthocyanins, flavonoids, terpenes, esters, aldehydes, and tannins.

Quality

Definitions—According to the dictionary: (a) an inherent or distinguishing characteristic, property; or attribute; (b) degree or grade of excellence and, my favorite, (c) associated with complexity, harmony, and the ability to stimulate the emotions.

Dr. Geraldine Ritchie defines quality wine as one that *consumers buy more than once*,^{iv} recognizing that *quality* is in the eye, nose, mouth, mind, and pocketbook of the beholder-cum-consumer.

Categories—Wine quality can also be categorized by conceptually fuzzy names and shifting price points (price is a major wine quality component):

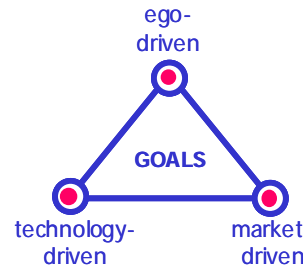
Category	Retail Price Points
"Icon"	> \$100/bottle
"Luxury"	\$50-\$100/bottle
"Super- or Ultra-Premium"	\$25-\$50/bottle
"Premium"	\$10-\$25
"Table"	\$3-\$10/bottle
"Jug"	< \$3/bottle

Quality Factors—Wine's quality factors include *terroir* (soil, climate, topography), grape variety and rootstock, vine-row spacing, cultural practices (e.g., pruning, irrigating, yield), quality of the harvest (maturity status, sanitary status), and quality of winemaking (e.g., practices and processes, fermentation temperature, aging).

The 2% Challenge—If wine is 98% alcohol and water, this leaves 2% for those other compounds that contribute to wine quality and quality wine.

Wine Type & Style

Goals—The prime driver in the definition of the longer-range goals of the enterprise can be *ego*, the *marketplace*, or *technology*. Usually it is combination. *Objective* decisionmakers usually place markets and technology ahead of ego.



In any event, goals (and policies to reach them) should be articulated to provide a top-down framework within which plans, objectives, strategies, action programs, and resource budgets can be developed, implemented, evaluated, and continually improved.

Wine Types—There are at least nine categories of wines made from grapes (in this series, red still wines are emphasized with less attention paid to whites and nearly none to sparkling and fortified):

	still	sparkling	fortified
red	✓ ✓		
blush			
white	✓		

"Quality" wines can be made for *all* of these wine types at *all* price points. Prediction: Given *best practices* vis-à-vis winemarketing, winemaking, and winegrowing coupled with modern technology, we are going to see more-and-more high quality wines at "table" and even "jug" prices.

Other dimensions of wine *type*—or, perhaps, *style*: many of these concepts overlap—may include geography (e.g., Bordeaux, Burgundy, Champagne, Madeira) and variety (e.g., Cabernet Sauvignon, Pinot noir, Chardonnay, Sauvignon blanc).

Decisions as to what wine types to include in your strategic management plan, business model, and product mix must be made before most others.

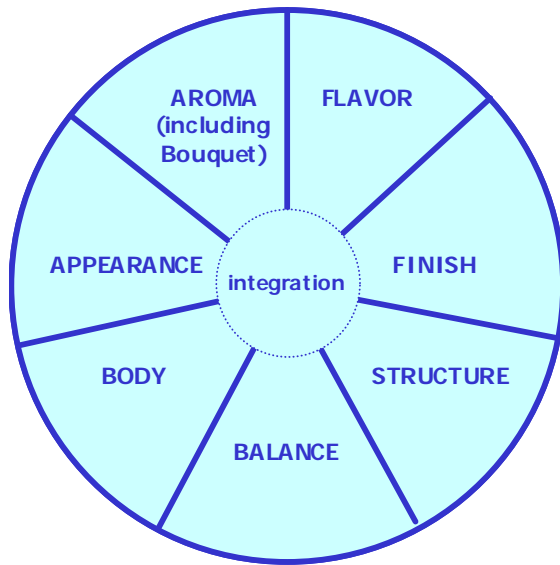
Wine Styles—Three general wine styles have been proposed by Bruce Rector (recognizing that nearly infinite gradations are possible):

Style	Description
Light & Fruity	Easy drinking, fun, affordable, quaffable, poolside, bright, fresh, cash flow, luncheon, everyday, table wines, dry to semi-dry.
Dinner Wines	Varietal, enjoyable now but could benefit from aging, balanced, classically varietal, food compatible, table wines, high-end generics, "elegant"
Big Wines	Age-able, special occasion, big inky monsters, not necessarily but typically high alcohol and oak aged

Source: "The Consideration of Every Step of the Crush & the Stylistic Options" by Bruce Rector, Glen Ellen Winery & Vineyards (undated) WWT 270 Advanced Winemaking, Napa Valley College

These *styles* apply primarily to still wines (more so than to sparkling or fortified wines).

Wine's Sensory Components



Appearance

Sight—In addition to packaging (e.g., bottle, label), glassware, lighting, and eyesight, wines have intrinsic visual characteristics such as color, clarity, and effervescence.

Contributing Factors—Color comes mostly from the anthocyanins in the skins that can be included in or excluded from the wine through various winemaking practices. Clarity comes from practices such as racking, filtering, and fining.

Aroma (including Bouquet)

Smell—Smell and odor are synonyms. To the right, *odor* is included in definitions for *aroma*, *bouquet*, *flavor*, and *finish*. There are 500 or so volatile compounds in the headspace of a glass of wine that can be sensed to varying degrees.

Contributing Factors—Everything associated with grapevines, microclimates, winegrowing and winemaking practices have an impact on aroma.

Flavor & Finish

Taste—The sense that distinguishes the sweet, sour, salty, and bitter qualities of dissolved substances in contact with the taste buds on the tongue. This dictionary definition combines with *odors* perceived in the mouth (including *aromas* that reach the olfactory bulb from the mouth) to form the concept first of *flavor* and then of *finish* or *aftertaste*.

Contributing Factors—As for *aroma*, nearly everything has an impact on *flavor*.

appearance—The first category by which a wine is judged by sensory evaluation. Includes assessment of clarity and bubble display.

aroma—Odors in the wine that originate in the grape from terrior, variety, rootstock, clone, cultural practices, and other winegrowing factors. Odors are sensations stimulated by the volatile components of wines and perceived in the olfactory epithelium and include *aroma*, *bouquet*, and *off odors*.

bouquet—Odors in the wine that originate from fermentation, aging, and other winemaking factors.

flavor—Odors perceived in the mouth.

finish—The lingering aftertaste of a wine. Aftertaste comprises the odors and flavors that linger in the mouth after swallowing or spitting out the wine.

body—The viscosity or thickness of wine. Correlated with extract and alcohol: the higher the alcohol and extract content, the more full-bodied the wine. A tactile sensation. Also the intensity of *aroma* and *flavor* components. Extract comprises those wine components that remain when the volatiles, alcohol, and water are evaporated and that contribute to a wine's body. Alcohol is ethanol, or ethyl alcohol, formed during fermentation. A component of the odor, taste, and tactile sensations of wines—*mouthfeel*.

balance—Integration of acidity, sweetness, and *flavor* in pleasing proportions. Acidity is the tartness, taste of natural fruit acids (tartaric, citric, malic, or lactic) in wine.

structure—All of the organoleptic elements—perceived with senses of sight, smell, taste, touch, and hearing—of a wine other than *flavor* which are experienced in the mouth: sweetness, acidity, astringency, hotness, body, effervescence, etc. Astringency is the harsh, drying, tactile sensation in the mouth caused by high tannin levels (the opposite is smooth). (Bitterness is a taste sensation usually sensed on the back of the tongue.) Also *mouthfeel*.

Source: The University Wine Course, by Marian W. Baldy (1997), one of the resources used in VWT 173 Sensory Evaluation of Wine taught by Sue Langstaff, Napa Valley College. Also see: <http://www.csuchico.edu/agr/faculty/Mbaldy.shtml>

Body, Balance & Structure

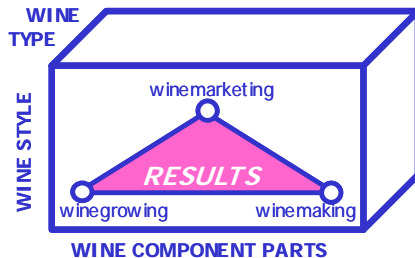
Integration & Intensity—The definitions above suggest the complexity of these component parts. *Balance* is desirable in all wines. *Body* and *structure* depend more on the style and are increasingly pronounced as we go from "light and fruity" to "dinner wines" to "big wines."

Contributing Factors—As for *aroma* and *flavor*, nearly everything contributes (but with emphasis on winemaking techniques).

Pathways to Quality Wine

Effectiveness is the foundation of success—efficiency is a minimum condition for survival after success has been achieved. Efficiency is concerned with doing things right. Effectiveness is doing the right things.

Peter Drucker^v



Effectiveness: Doing the Right Things

Strategic Decisions—Decisions that continue to have an impact over an extended time horizon. They should be made within a top-down strategic management framework.

Winemarketing—Decisions relate to product-market matchmaking, consumer demand within target markets, packaging, case volumes, and price points needed to achieve and sustain the strategic and economic viability of the enterprise.

Winemaking—Decisions relate to desired wine type, style, and sensory components consistent with marketing and other business goals.

Winegrowing—Decisions relate to the selection of the vineyard site, spacing, rootstocks, varieties coupled with vineyard yields consistent with winemaking and related business goals.

Efficiency: Doing Things Right

Operational Decisions—Decisions having a near-term impact. Should be made bottom-up within the strategic framework. Once you are effective, you can become increasingly efficient.

Winegrowing—With the exception of capital decisions (e.g., vineyard establishment), decisions associated with vine and crop management, vineyard floor management, and harvest as outlined in the diagram to the right.

Winemaking—Decisions associated with harvest and crush, fermentation and maceration, and maintenance and maturation per the diagram.

Winemarketing—Decisions relate to creating customers, sales, and sales revenues through an effective marketing mix for each product.

PLANNING & MANAGEMENT

VINEYARD ESTABLISHMENT (or Vineyard Selection)

- Site preparation
- Infrastructure
- Planting & replanting
- Other (e.g., cover crops)

VINE & CROP MANAGEMENT

- Pruning
- Frost protection
- Irrigation
- Fertilization
- Canopy management
- Cluster thinning
- Pest-disease control
- Other (e.g., training)

VINEYARD FLOOR MANAGEMENT

- Till or no-till
- Cover crop mowing
- Weed control
- Other (e.g., compost)

HARVEST & CRUSH

- Crop maturity analysis
- Pick & quality control
- Transport to winery
- Destem / crush
- Drain / press
- Other (e.g., add SO₂)

FERMENTATION & MACERATION

- Cold soak
- Ferment (to dryness)
- Maceration
- Press & transfer
- Malolatic fermentation
- Other (e.g., pumpovers)

MAINTENANCE & MATURATION

- Topping & racking
- Maturation on oak
- Blending (incl. Trials)
- Micro-oxygenation
- Bottling
- Other (e.g., adjustments)

EVALUATION & IMPROVEMENT

ⁱ See the "Strategic Management" paper at web site:

<http://www.shilohestate.com/>.

ⁱⁱ See the "Stakeholder Value" paper at the web site.

ⁱⁱⁱ See the "Strategic Management Plan" paper at the web site.

^{iv} Dr. Ritchie leads the Winery Technology Program at Napa Valley College and teaches several courses including VWT 180 Fundamentals of Enology that this paper and others in the series, in part, draw on.

^v Peter Drucker, *Management: Tasks, Responsibilities, Practices*, Harper & Row, New York (1973,74)