Professional wine tasting

Where do sources of bias come from?

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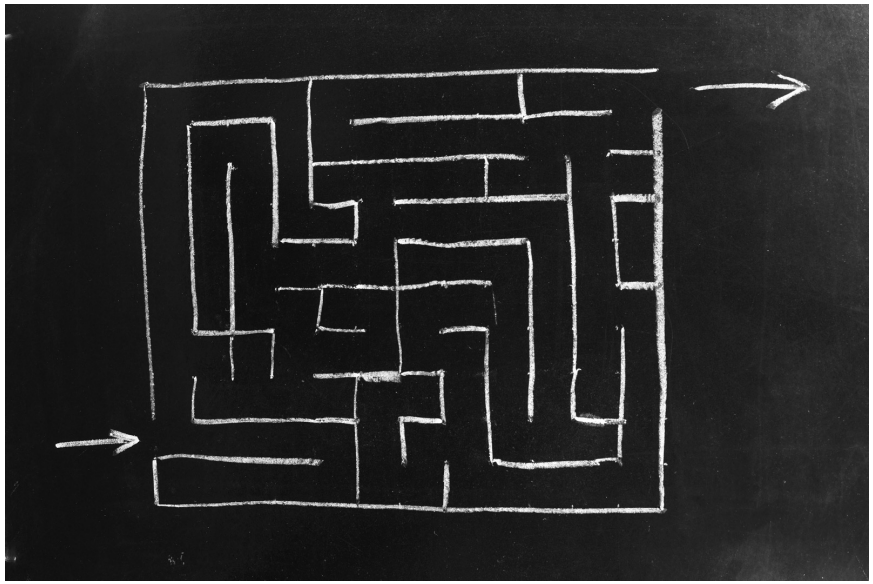
Overview

Where do sources of bias come from?

- Physiological
- Psychological/perceptual
- Cognitive
- Social
- Case study: Judging at the International Wine Challenge



THE INSTITUTE OF MASTERS of WINE

WSET
WINE & SPIRIT EDUCATION TRUST

INTERNATIONAL Wine CHALLENGE

Physiological sources of bias

Sensory adaptation

- Decreased sensitivity to a stimulus after repeated exposure
- First wine tastes more sour / alcoholic
- Tannin build-up with red wines

Sensory adaptation

- Decreased sensitivity to a stimulus after repeated exposure
- First wine tastes more sour / alcoholic
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- In practice:
  - order matters in judging
  - palate “warmup”
  - Time between tasting
  - Water

Threshold differences

- Genetic varation
  - E.g. rotundone, TDN
  - Also faults and taints! E.g. TCA, smoke taint, brett, etc.

- Age
  - Reduced smell sensitivity with age
  - Reduced taste sensitivity

IMPORTANT!

- We all live in our own taste worlds, BUT that doesn't mean objective quality judgement isn't possible.

- We also experience variations in vision, hearing, etc…
- But nobody says artists or art critics need to have good sight, or musicians/music critics need to have sensitive hearing!

Perceptual sources of bias

Smell and Taste

- "Smells sweet" – wines with oak, very ripe fruit
- Taste-taste interaction
  - Eg. Sweet-sour interaction, acidity and alcohol confusion

"Can't tell white from rosé…"

Contents lists available at ScienceDirect

Food Research International

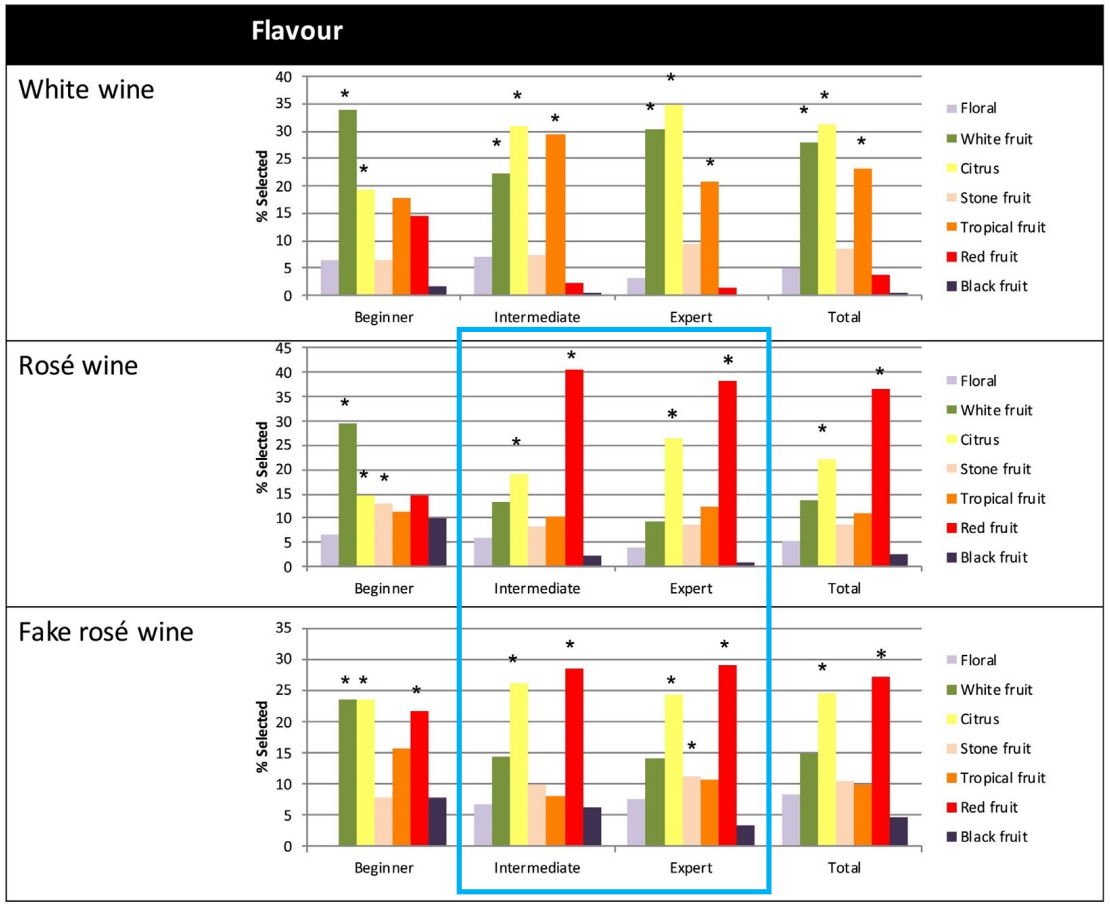
journal homepage: www.elsevier.com/locate/foodres

Drinking through rosé-coloured glasses: Influence of wine colour on the perception of aroma and flavour in wine experts and novices

Qian Janice Wang[a,b,*], Charles Spence[b]

[a] Department of Food Science, Faculty of Science and Technology, Aarhus University, Aarslev, Denmark
[b] Crossmodal Research Laboratory, Department of Experimental Psychology, Oxford University, Oxford, UK

"can't tell white from rosé…"



Intermediate and expert drinkers were "fooled" by the food colouring

Or did they actually taste the red fruits in the fake rosé?

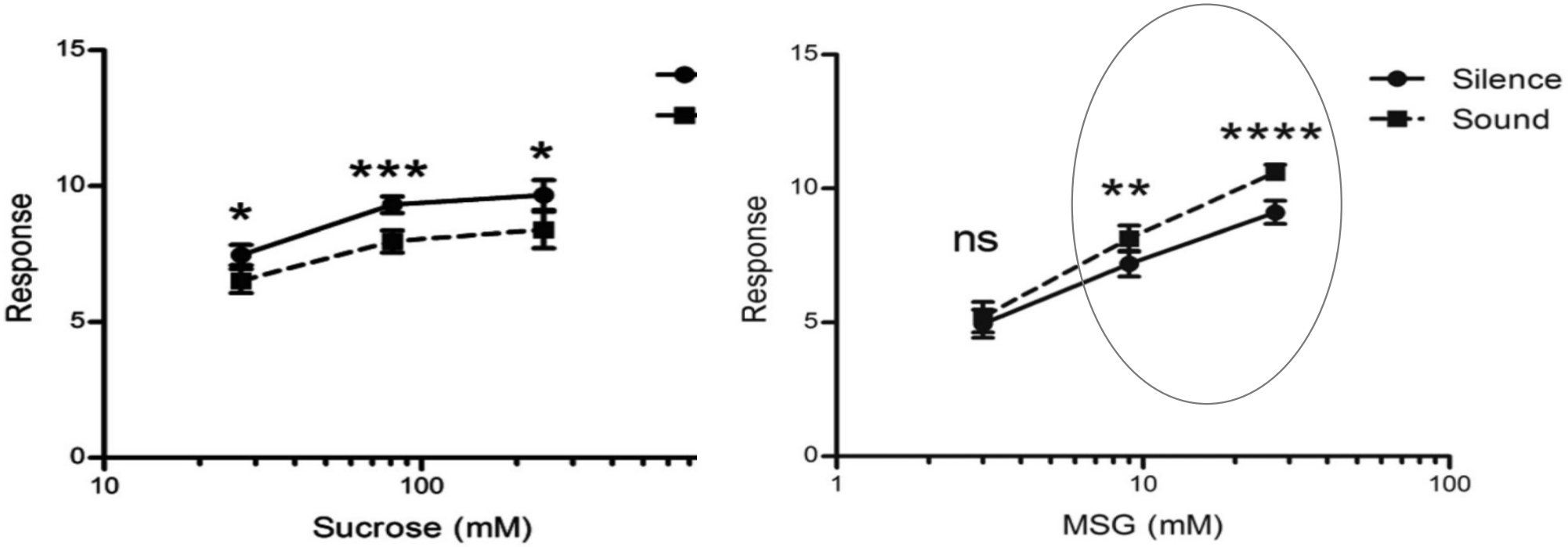

OK

Journal of Experimental Psychology:
Human Perception and Performance

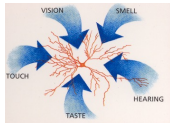
0096-1523/15/$12.00 http://dx.doi.org/10.1037/xhp0000044

A Crossmodal Role for Audition in Taste Perception

Kimberly S. Yan and Robin Dando
Cornell University

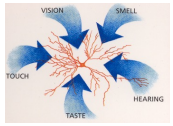


Sound-Taste Correspondences



Sour or **Sweet**?

Sound-Taste Correspondences



	Sour	Sweet
Tempo	Fast	Slow
Articulation	Staccato	Legato
Harmony	Dissonant	Consonant
Pitch	High	High

Received: 17 September 2017 | Revised: 26 October 2017 | Accepted: 31 October 2017
DOI: 10.1002/fsn3.554

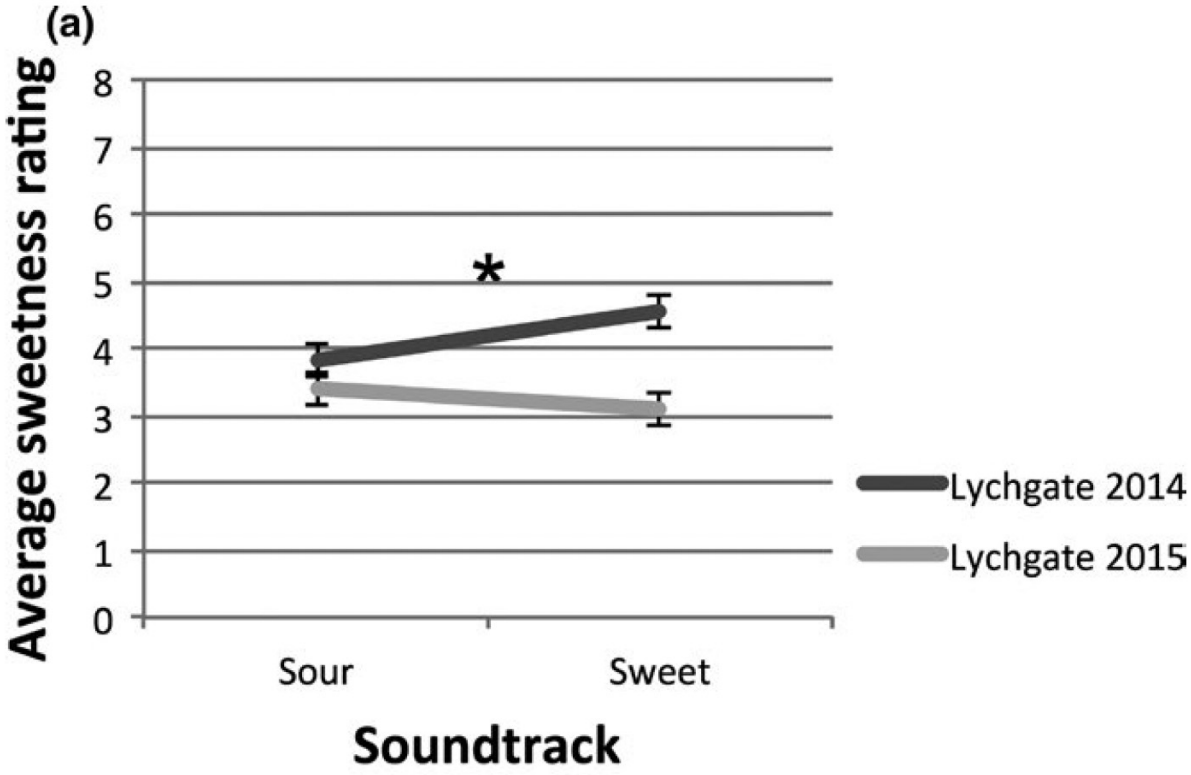
ORIGINAL RESEARCH

WILEY Food Science & Nutrition Open Access

Assessing the influence of music on wine perception among wine professionals

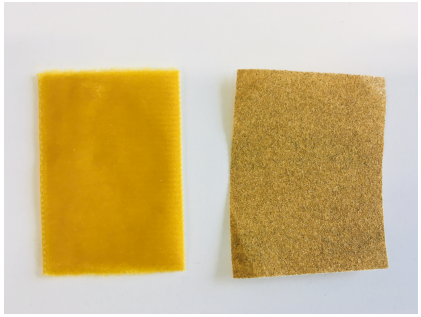
Qian (Janice) Wang | Charles Spence

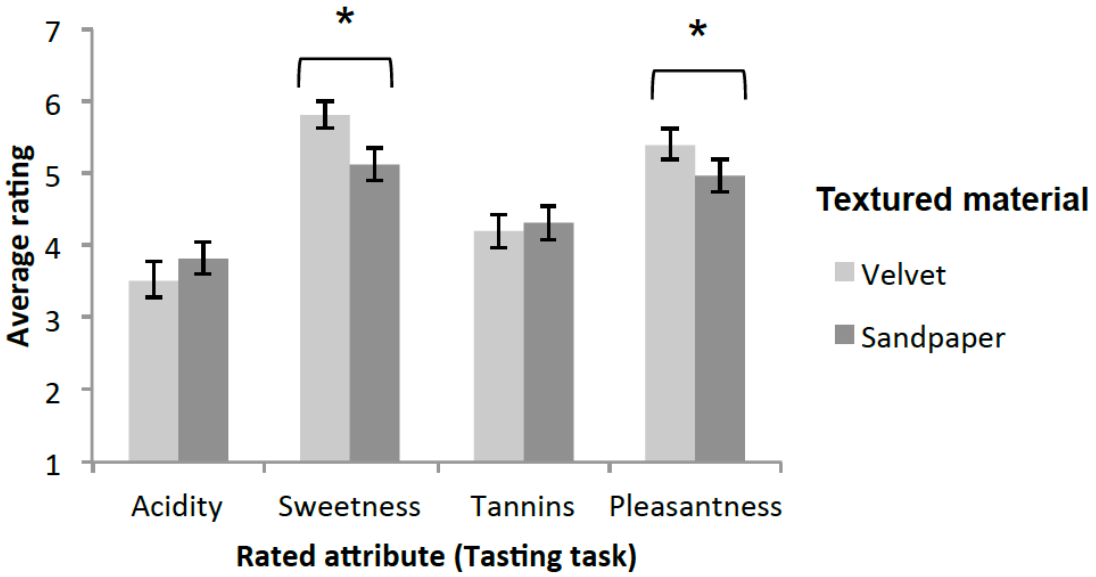
INTERNATIONAL COOL CLIMATE WINE SYMPOSIUM ENGLAND 2016



Touch

Touch





Wang & Spence, 2018, *Int J Gastron Food Sci*

Glass weight

?

Cognitive sources of bias

Information

- E.g., price, origin/PDO, producer, etc.

Marketing actions can modulate neural representations of experienced pleasantness

Hilke Plassmann*, John O'Doherty*, Baba Shiv†, and Antonio Rangel*‡

*Division of the Humanities and Social Sciences, California Institute of Technology, MC 228-77, Pasadena, CA 91125; and †Stanford Graduate School of Business, Stanford University, 518 Memorial Way, Littlefield L383, Stanford, CA94305

Edited by Leslie G. Ungerleider, National Institutes of Health, Bethesda, MD, and approved December 3, 2007 (received for review July 24, 2007)

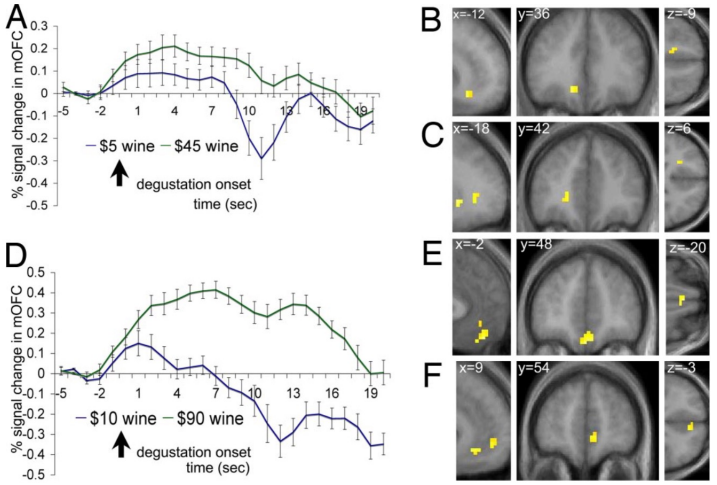


Fig. 2. The effect of price on each wine. (*A*) Wine 1: averaged time courses in the medial OFC voxels shown in *B* (error bars denote standard errors). (*B*) Wine 1: activity in the mOFC was higher for the high- ($45) than the low-price condition ($5). Activation maps are shown at a threshold of $P < 0.001$ uncorrected and with an extend threshold of five voxels. (*C*) Wine 1: activity in the vmPFC was also selected by the same contrast. (*D*) Wine 2: averaged time courses in the medial OFC voxels shown in *E*. (*E*) Wine 2: activity in the mOFC was higher for the high- ($90) than for the low-price condition ($10). (*F*) Wine 2: activity in the vmPFC was higher for the same contrast.

Information

- E.g., price, origin/PDO, producer, etc.
- Organic, biodynamic, "natural"

Food Quality and Preference 96 (2022) 104405

Contents lists available at ScienceDirect

Food Quality and Preference

journal homepage: www.elsevier.com/locate/foodqual

Short Communication

Shopping for a sustainable future: Two case studies on consumer perception of organic cotton and wine

Qian Janice Wang [a,*], Julie Dalsgard [b], Davide Giacalone [b]

[a] Aarhus University, Aarhus, Denmark
[b] University of Southern Denmark, Odense, Denmark

Expertise

- Perceptual learning
- Learning and memory

Available online at www.sciencedirect.com

ScienceDirect

Current Opinion in Food Science

ELSEVIER

Wine expertise: perceptual learning in the chemical senses

Charles Spence[1] and Qian Janice Wang[1,2]

Chem. Percept. (2011) 4:99–115
DOI 10.1007/s12078-011-9090-8

The Training Level of Experts Influences their Detection Thresholds for Key Wine Compounds

Sophie Tempere · Eléonore Cuzange · Jinane Malak · Jean Claude Bougeant · Gilles de Revel · Gilles Sicard

Chemosensory Perception
https://doi.org/10.1007/s12078-020-09284-x

ORIGINAL RESEARCH

Is perceptual learning generalisable in the chemical senses? A longitudinal pilot study based on a naturalistic blind wine tasting training scenario

Qian Janice Wang[1] · Henrique M. Fernandes[2,3,4] · Alexander W. Fjaeldstad[3,4,5]

Language

- Culturally-specific descriptors: e.g., box hedge, fly spray, blackcurrant

- Language-specific descriptors

COMPARATIVE STUDY OF TEXTURE TERMS: ENGLISH, FRENCH, JAPANESE AND CHINESE

KATSUYOSHI NISHINARI[1,2,3,9], FUMIYO HAYAKAWA[4], CHONG-FEI XIA[5], LONG HUANG[6], JEAN-FRANÇOIS MEULLENET[7] and JEAN-MARC SIEFFERMANN[8]

TABLE 12.
CLASSIFICATION OF CHINESE TEXTURE TERMS

1	Firm and crisp (*ying cui*)	18	Dry-damp (*gan hu*)
2	Firm (*ying*)		Dry (*gan*)
	Hard and solid (*jian ying*)	19	Tough and firm (*jian ren*)
	Dry and hard (*gan ying*)	20	Oily and brittle (*you su*)
3	Loose and crisp (*song cui*)	21	Multiholed (*duo kong zhuang*)
	Dry, loose and crisp (*gan cui*)	22	Gritty and daintily (*sha shuang*)
	Loose and crisp (*su cui*)	23	Crisp and tender (*cui nen*)
4	Detrital (*sui xue zhuang*)		Tender and crisp (*nen cui*)
5	Tough (*lao*)	24	Villiform (*rong mao zhuang*)
6	Stiff (*jiang*)	25	Astringent (*se kou*)
	Stiff (*gen*)		Astringent (*shou lian gan*)
7	Crisp (*cui*)	26	Loose and soft (*song ruan*)
	Crunchy (*cui beng*)	27	Soft and brittle (*su ruan*)
	Crunchy (*ceng*)		Brittle and soft (*ruan su*)
	Clear and brittle (*shuang cui*)		Brittle and mushy (*su lan*)
	Clear and brittle (*cui shuang*)	28	Spongy (*hai mian zhuang*)
	Uncooked and crisp (*sheng cui*)	29	Cystose (*pao mo zhuang*)
8	Grain (*ke li gan*)		Foamed (*fa pao zhuang*)
	Grain-like (*ke li zhuang*)	30	Fine (*xi mi*)
	Granule (*li gan*)		Fine (*xi ni*)
	Gritty (*sha li gan*)	31	Mastication (*you ju jue xing*)
	Gritty (*sha li zhuang*)		Tenacious (*ren*)
9	Crisp and loose (*su song*)		Elasticity (*you tan xing*)
	Rarefaction (*shu song*)		Chewy (*jin dou*)
	Dry and crisp (*gan su*)		Chewy (*yao jing*)
10	Crystalline (*jie jing zhuang*)		Chewy (*jin dao*)
	Glassy (*bo li zhuang*)		Mastication (*you jiao tou*)
11	Tightness (*jin shi*)		Tendon (*jin*)
	Compact (*jin mi*)		Flexible (*rou ren*)
	Substantial (*jie shi*)		Flexible (*ruan ren*)
	Solid and substantial (*jian shi*)	32	Coagulate floc (*ning xu zhuang*)
	Pycnotic (*zhi mi*)	33	Melt immediately (*ru kou ji hua*)
12	Mealy (*fen zhi*)	34	Tasty and icy (*shuang kou*)
	Mealy (*fen zhi gan*)		Clear and tasty (*qing shuang*)
	Powdered dregs (*fen zha*)		Icy clear (*bing shuang*)
13	Coarse (*cu cao*)		Tasty (*li kou*)
14	Loose (*song*)		Clear and smooth (*shuang*)
	Flaccidity (*song san*)	35	Soft (*rou ruan*)
	Puffed (*peng song*)		Soft and spongy (*mian ruan*)
	Fluffy (*peng song*)		Sponge-like soft (*ruan mian mian*)
	Dry and loose (*gan song*)	36	Dense (*nong hou*)
15	Powdery (*fen zhuang*)		Dense (*hou shi*)
	Powdery (*fen zhuang gan*)		Dense (*hou*)
16	Brittle (*su*)	37	Thoroughly cooked (*shu lan*)
17	Fibrous (*xian wei gan*)		Overcooked (*gun lan*)
	Fibrous (*xian wei zhuang*)		Thoroughly cooked (*fen lan*)
	Fibrous (*chai*)	38	Fatness (*you ni*)
	Dregs (*zha zhi*)		Greasy (*ni*)
	Dreg-sensed (*zha zhi gan*)		Oily (*you wang wang*)

Language

- Culturally-specific descriptors: e.g., box hedge, fly spray, blackcurrant

- Language-specific descriptors

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Social sources of bias

- Ratings, reviews
- Social pressure from other judges?

Case study - IWC

How it works

- Day in the life of a judge
  - 80-100 wines per day
  - 6-12 wine flights
  - Water, bread sticks
  - Taste at own pace
  - Discuss each flight after individual assessments are made

"More reds are entered than whites, so there are more to be tasted. But we would never subject our tasters to an uninterrupted morning or afternoon of just whites, or just reds. We mix them up. **A flight of whites or rosés after a couple of flights of red wakes up palates – and gives tasters more energy to carry on with reds afterwards."**
- Charles Metcalfe, IWC co-founder

What works?
What doesn't work?

3 Rounds of judging

1. Round One

- During Round One, wines are subject to initial assessment. **They are either marked as 'out,' awarded a Commended designation, or advanced to the next round as potential medal winners.** All wines marked as 'out' or 'Commended' are re-tasted by the IWC Co-Chairs to confirm the mark. Wines deemed eligible may be re-entered into Round Two for further evaluation.

2. Round Two

- Round Two involves a more detailed assessment, **where wines are marked as 'out,' awarded a Commended designation, or distinguished with Gold, Silver, or Bronze medals.** Points are also assigned to the wines at this stage. The IWC Co-Chairs re-taste all wines to ensure the accuracy and consistency of the results.

3. Trophy Tasting

- Exceptional wines that receive Gold medals progress to the Trophy judging stage. Here, Regional and National Trophies are conferred. All Trophy-winning wines undergo a final evaluation by the IWC Co-Chairs, who award the prestigious Champion Wine Trophies.