



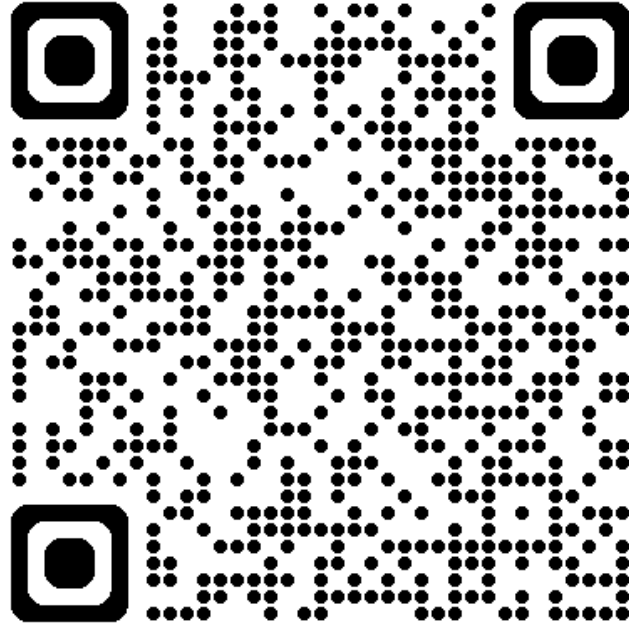
Culinary Institute
of America

Composing for Deliciousness

In the Plant Forward Kitchen



Link to the Course Guide



Deliciousness
Matters!

Deliciousness Is Important

- Stimulation of the Senses Processed in the Brain
- Related To Hedonism -- Hedonics
- Motivates Behavior
- Studied as “Food-Liking” Behavior





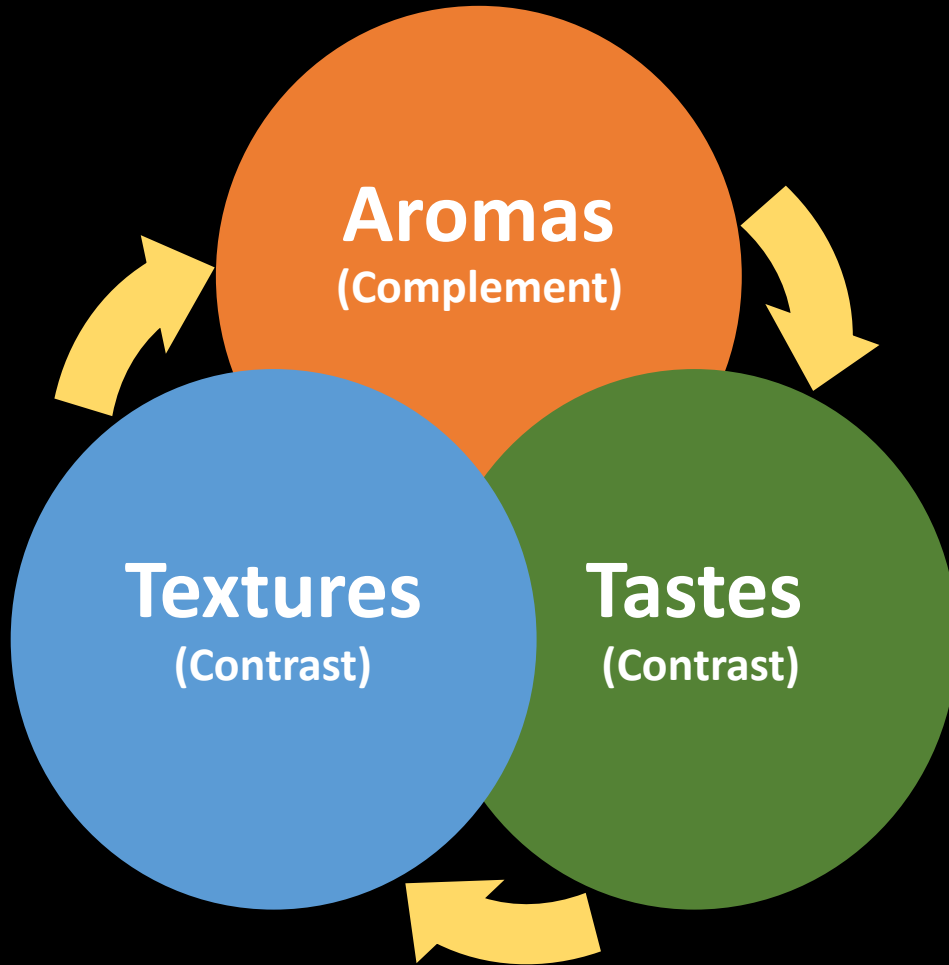
Can We Compose Flavor to Strategically Increase Deliciousness?

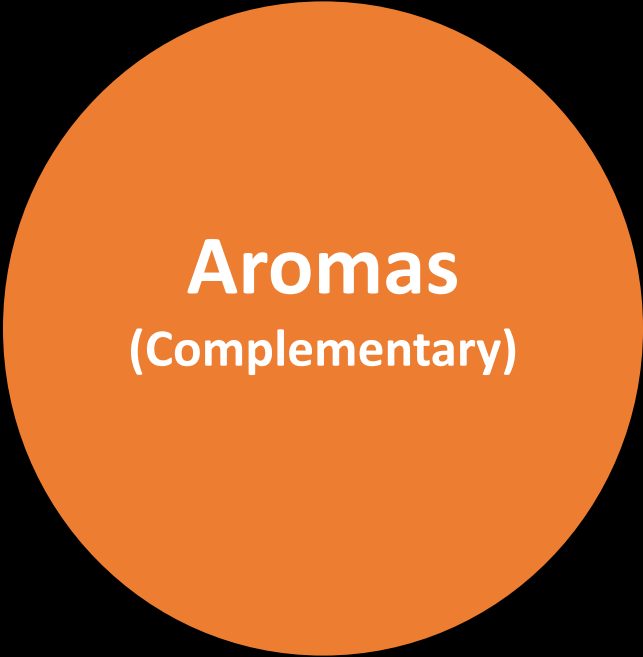
Especially when we are trying to bring
plant foods to the forefront?

DON'T WANT
A/C# D
MY SCARS
BUT
A
YOU AS YOU ARE
A/C#
NO ONE'LL LOVE
BM
I KNOW THAT THERE'S A PLACE FOR US
A
LET THEM BREAK ME DOWN TO DUST
A
FOR WE ARE GLO - RI - OUS
WHEN THE
I'M GON-NA
SHARP-EST WORDS WAN-NA CUT ME DOWN

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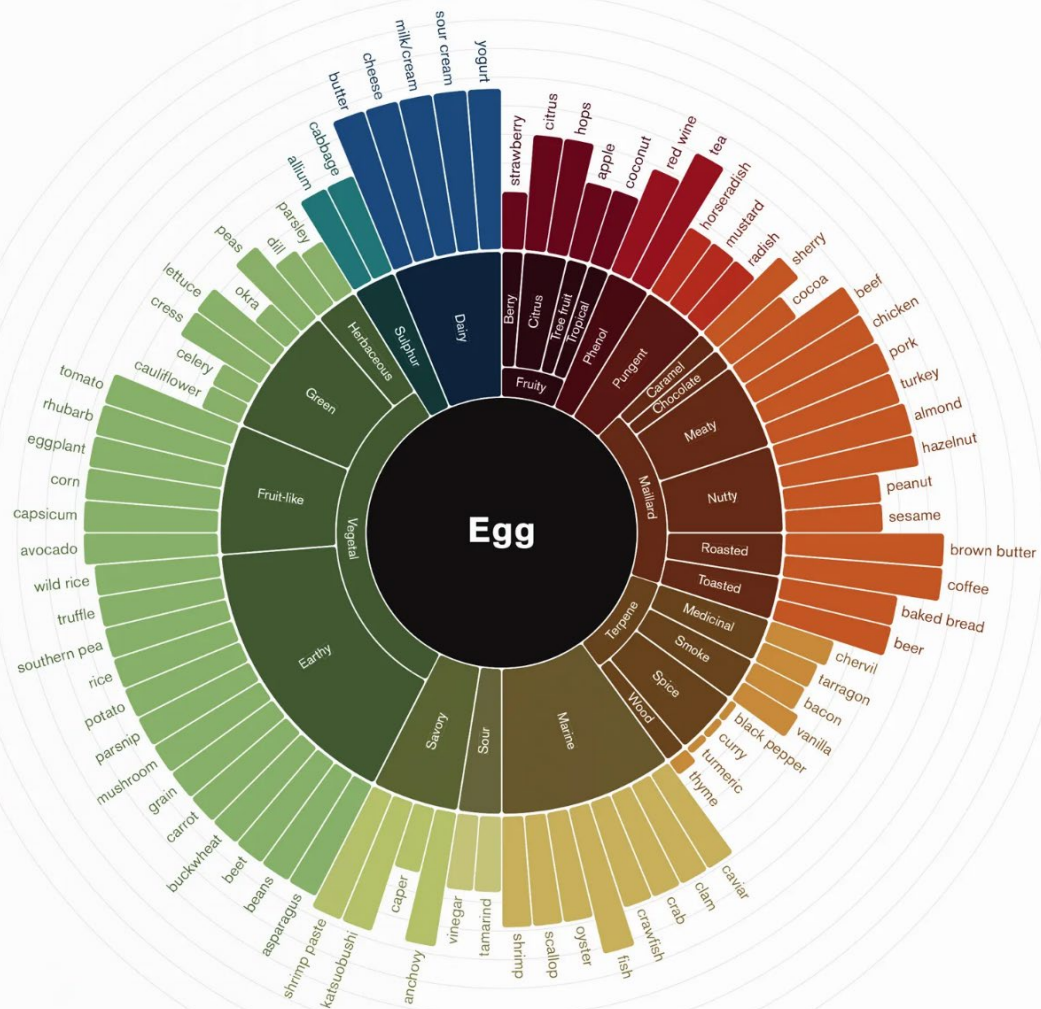


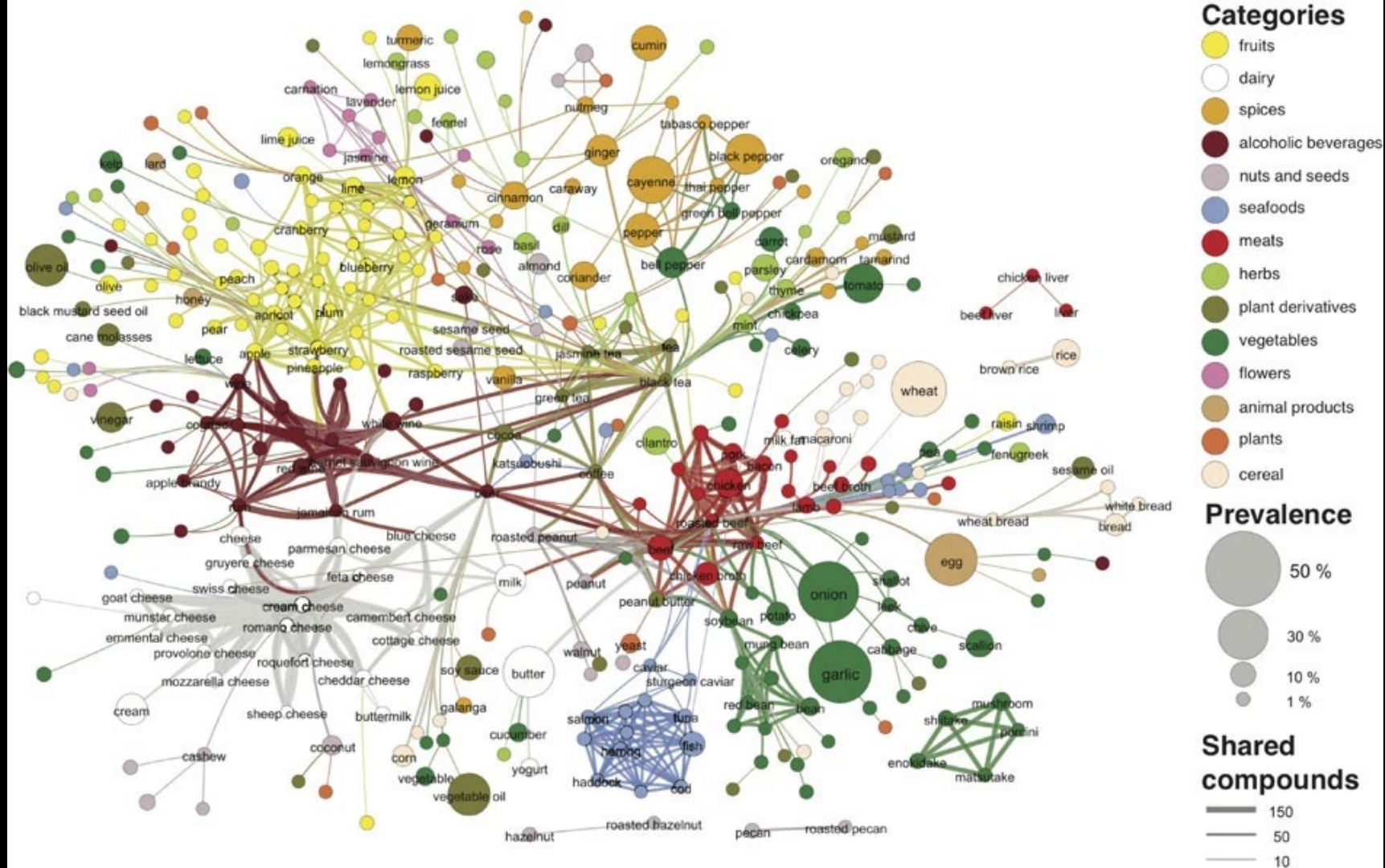


A large, solid orange circle is centered on a black background. Inside the circle, the text "Aromas" is written in a large, bold, white sans-serif font. Below it, the text "(Complementary)" is written in a smaller, white sans-serif font, enclosed in parentheses.

Aromas

(Complementary)





Chocolate Chip Cookies

Yields: 12-14 cookies

Description

Ingredients

- 1 cup brown sugar
- 1 cup brown sugar
- 1 cup white flour
- 1 cup white flour
- 1/2 cup baking powder
- 1/2 cup salt
- 1/2 cup water
- 1/2 cup chocolate chips

Directions

1. Beat chocolate for 30 seconds.
2. Add brown sugar and continue to beat until ingredients are well blended.
3. Add vanilla and mix well.
4. Mix in the baking powder, salt and the flour. Beat thoroughly.
5. Add the water, followed by the chocolate chips.
6. Using a teaspoon, scoop a heapingful of dough and place carefully on a cookie sheet.
7. Bake at 350°F for 10 minutes.
8. Allow cookies to cool on a wire rack.

PEER PRODUCED
INSPIRATION SETCOGNITIVE COOKING
SYSTEMNOVEL CUSTOMIZED
RECIPE

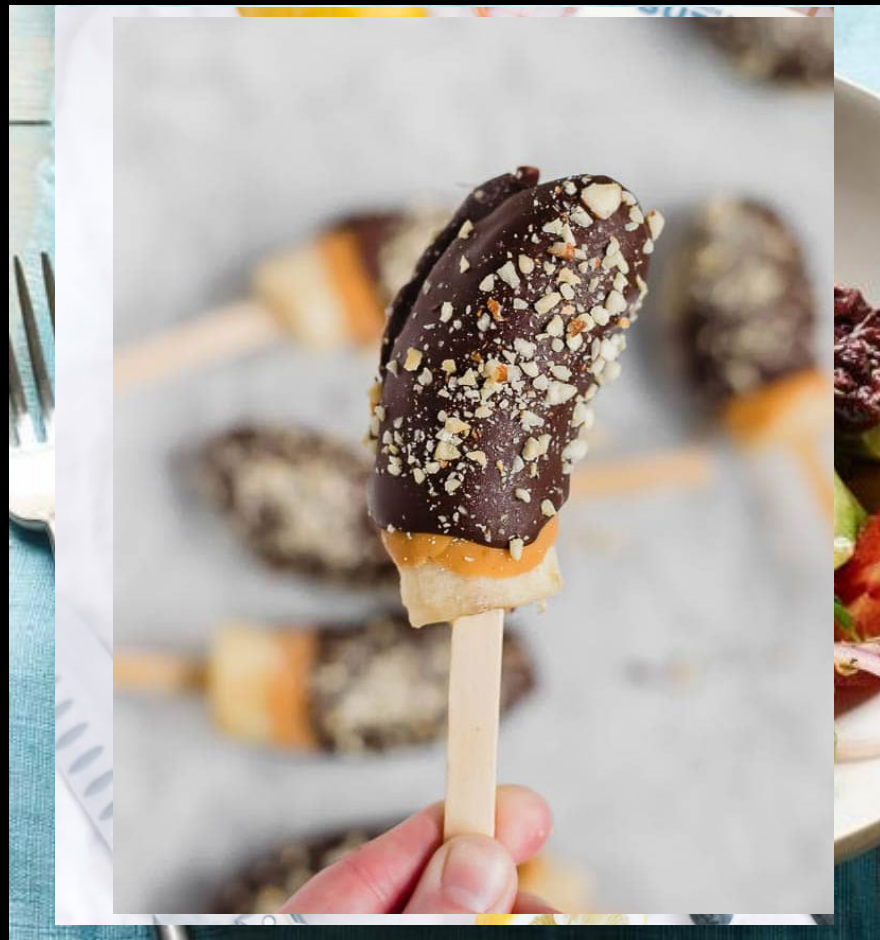
DISH LEARNER

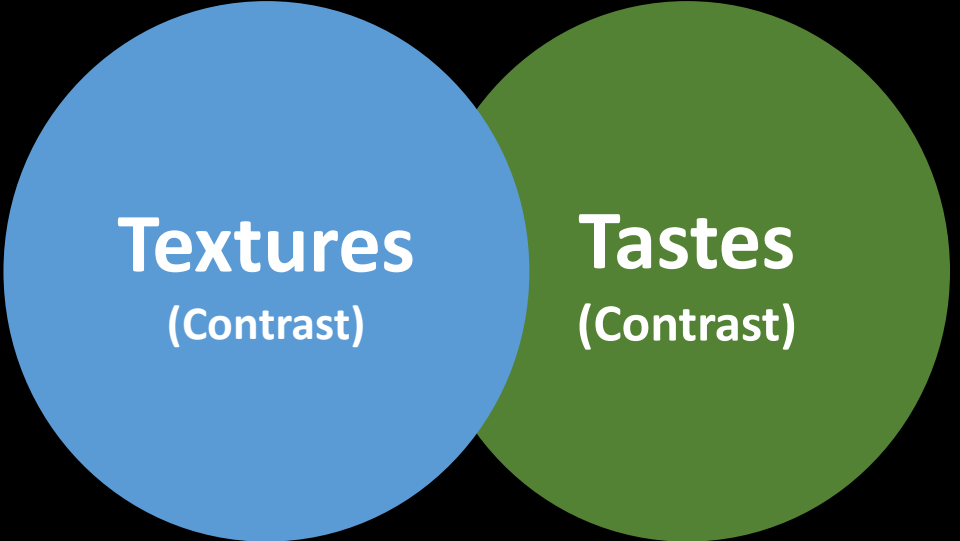
COMBINATORIAL
DESIGNERCOGNITIVE
ASSESSORDYNAMIC
PLANNERFOOD KNOWLEDGE
DATABASE

“contrary to what many who are interested in computational gastronomy would have us believe, the fact that a selection of ingredients share some number of flavour compounds is certainly no guarantee that they will necessarily combine well”

Pairing flavours and the temporal order of tasting

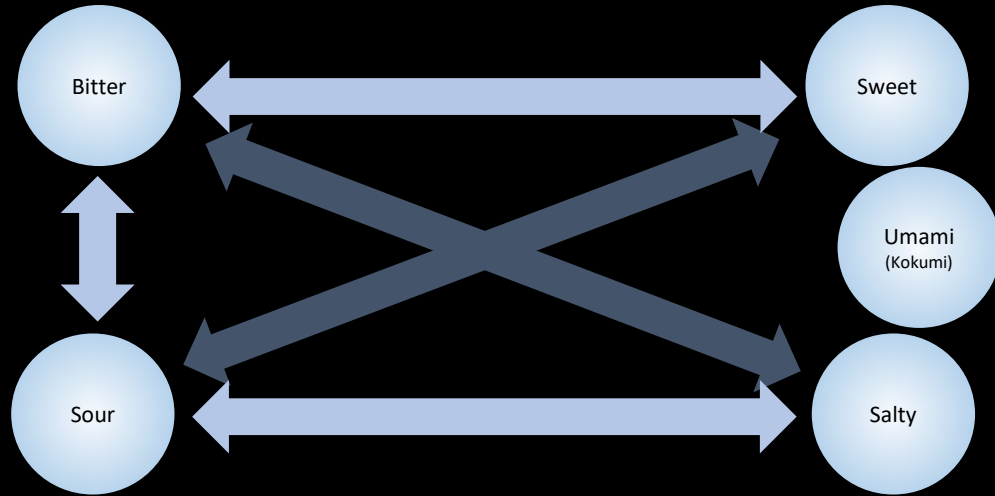
Spence et al. Flavour (2017) 6:4





Textures
(Contrast)

Tastes
(Contrast)



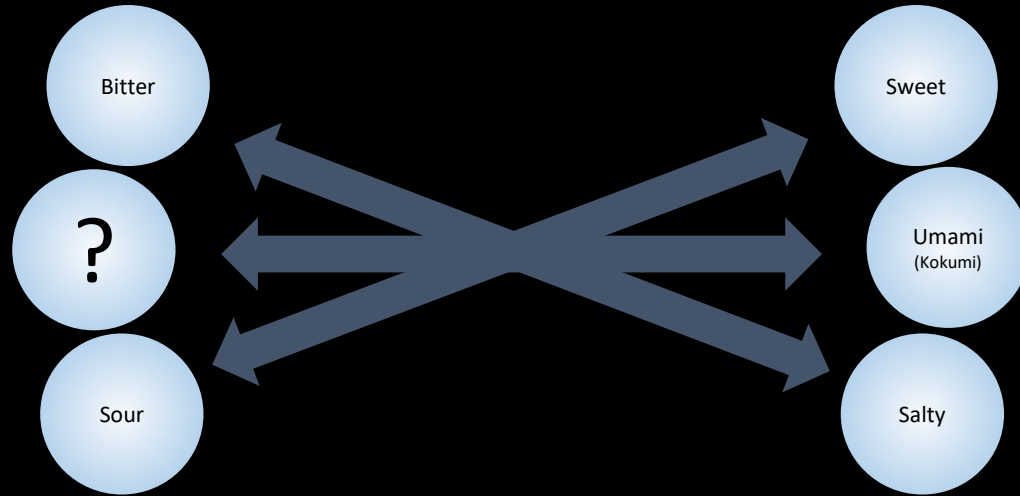
Sources of Umami/Kokumi?

- Ripened Cheese
- Aged Meat
- Cured Meats
- Dried Fish
- Fish Sauce (garum)
- Maillard Reaction
- Fermented Vegetables
- Mushrooms (esp. dried)



If Umami/Kokumi leverage
decomposition for the purpose
of enhancing flavor...

... is there a counterplay?

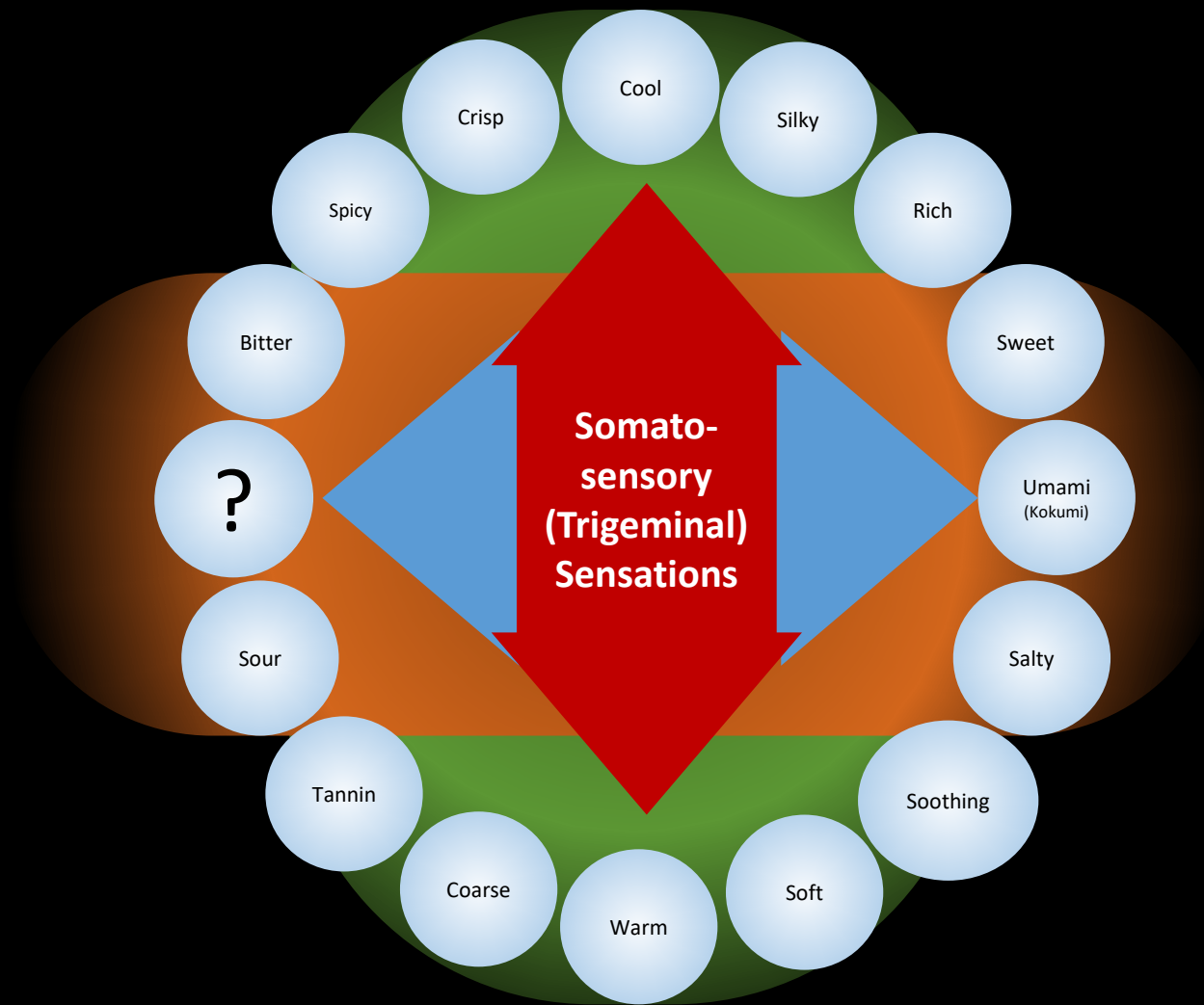


...Can (or Do?) We Counterbalance the flavor contributions of Umami/Kokumi?

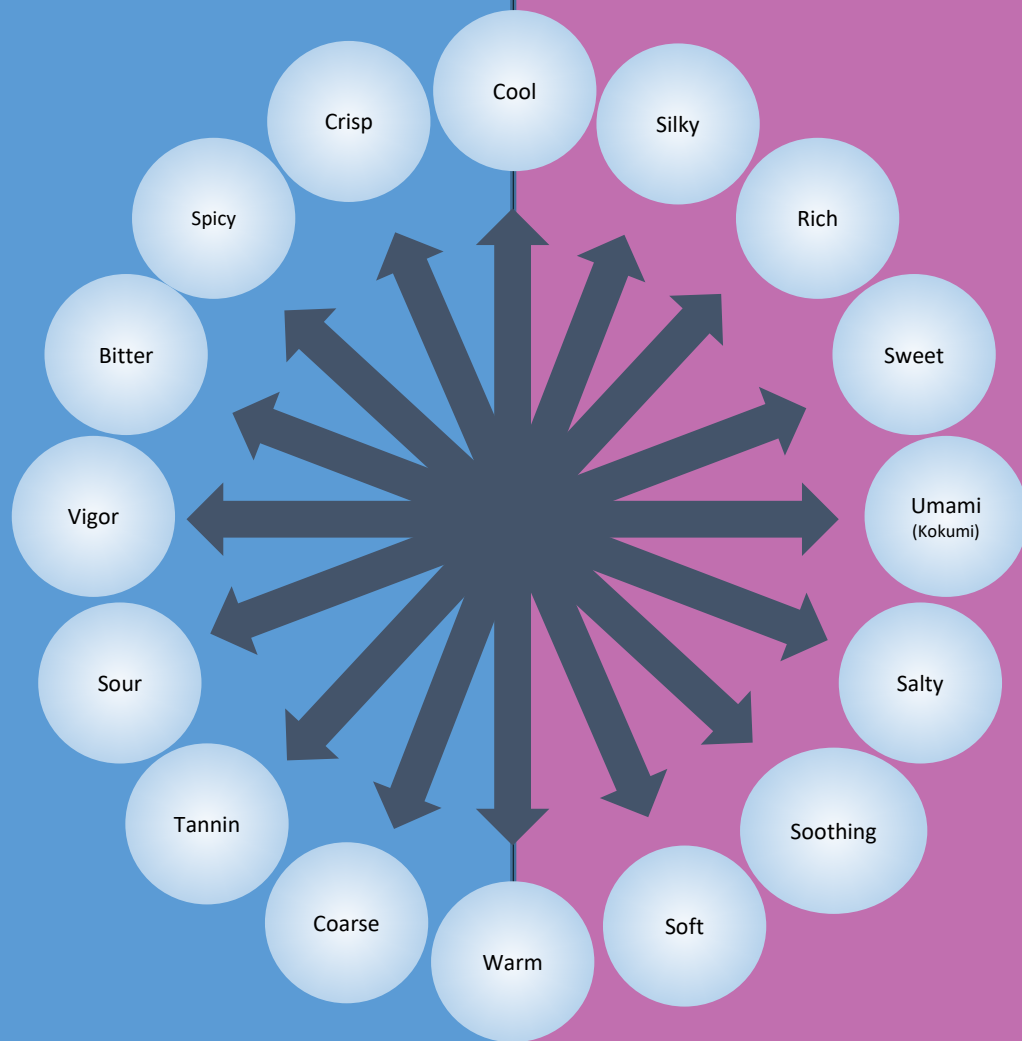


- Fresh Herbs
 - Citrus
 - Green Olives
 - Green Chilis & Tomatillos
- Is the opposite true?
- Under-Ripe Fruit (Papaya)
 - Vegetables – As the Star

...Let's call it Vigor!

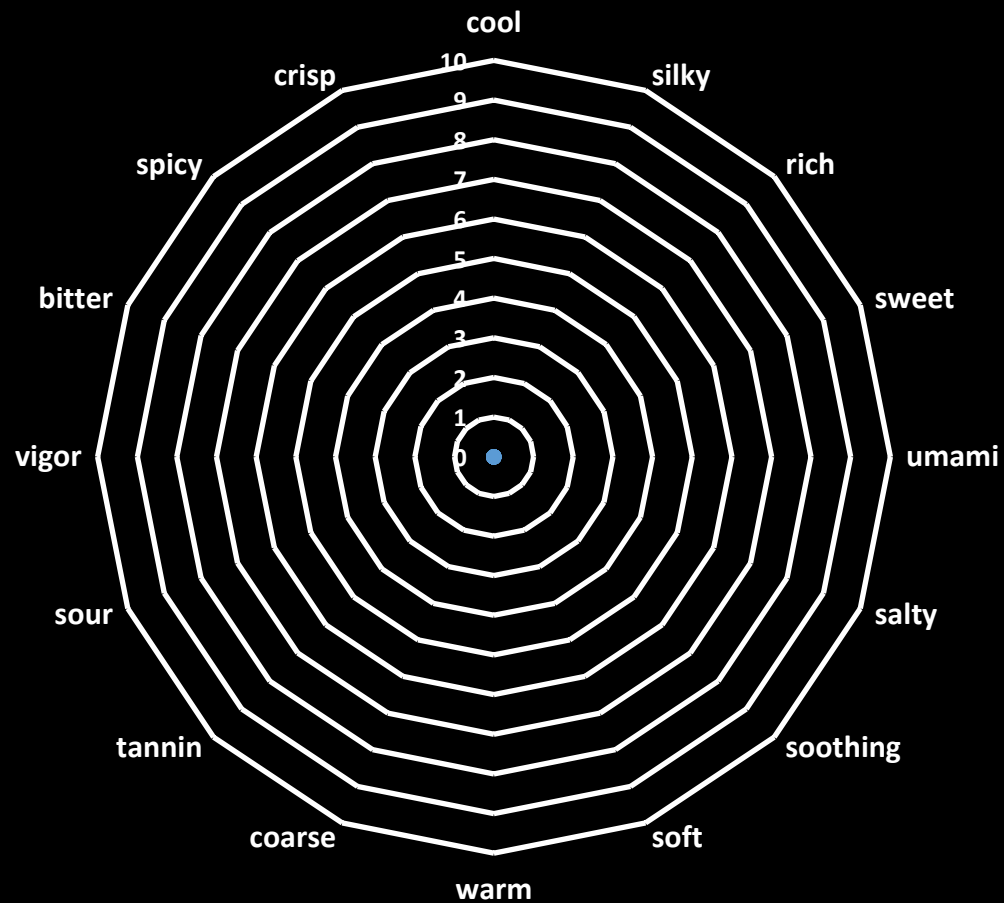


Yin?



Yang?



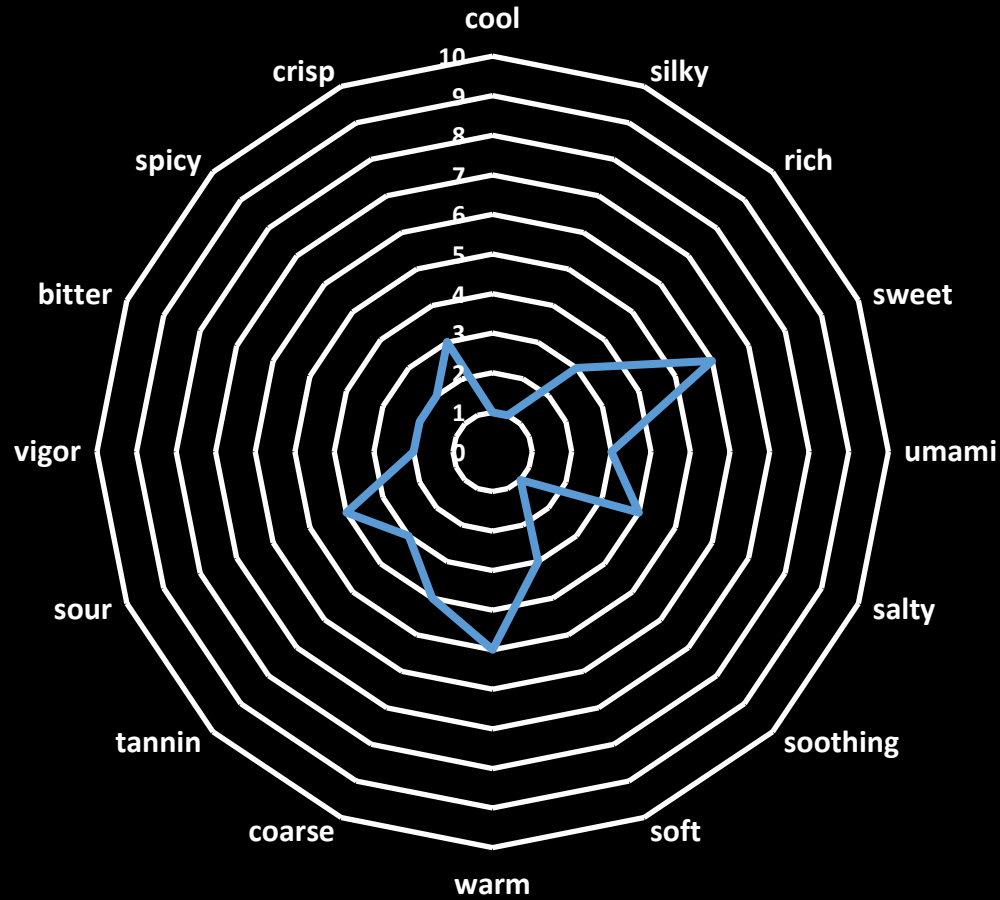




Honey and
Cumin
Roasted
Carrots

	Honey and Cumin Roasted Carrots
cool	1
silky	1
rich	3
sweet	6
umami	3
salty	4
soothing	1
soft	3
warm	5
coarse	4
tannin	3
sour	4
vigor	2
bitter	2
spicy	2
crisp	3

Honey and Cumin Roasted Carrots

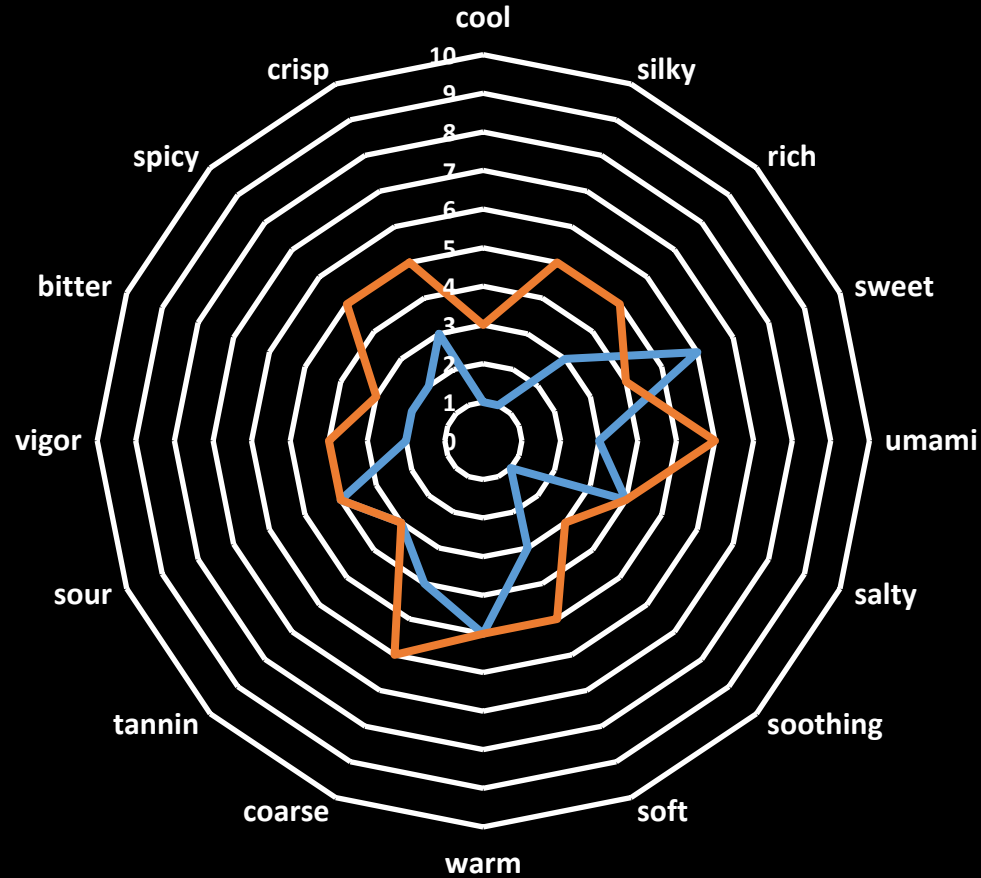


A top-down view of a white ceramic plate with a decorative rim. The plate contains a meal consisting of a thick, light-colored hummus spread at the base. On top of the hummus is a mound of cooked bulgar wheat, garnished with finely chopped green herbs and a single fresh parsley leaf. Several large, roasted carrot sticks are arranged around the bulgar, showing a golden-brown, slightly charred exterior. To the right of the bulgar, there are strips of mushroom bacon, which appear dark and crispy. The plate is set on a dark wooden surface, with a portion of a woven placemat visible in the upper left corner.

Roasted
Carrots with
Hummus,
Bulgar and
Mushroom
Bacon

	Honey and Cumin Roasted Carrots	...with Hummus, Bulgar and "Bacon"
cool	1	3
silky	1	5
rich	3	5
sweet	6	4
umami	3	6
salty	4	4
soothing	1	3
soft	3	5
warm	5	5
coarse	4	6
tannin	3	3
sour	4	4
vigor	2	4
bitter	2	3
spicy	2	5
crisp	3	5

— Honey and Cumin Roasted Carrots
— ...with Hummus, Bulgar and "Bacon"

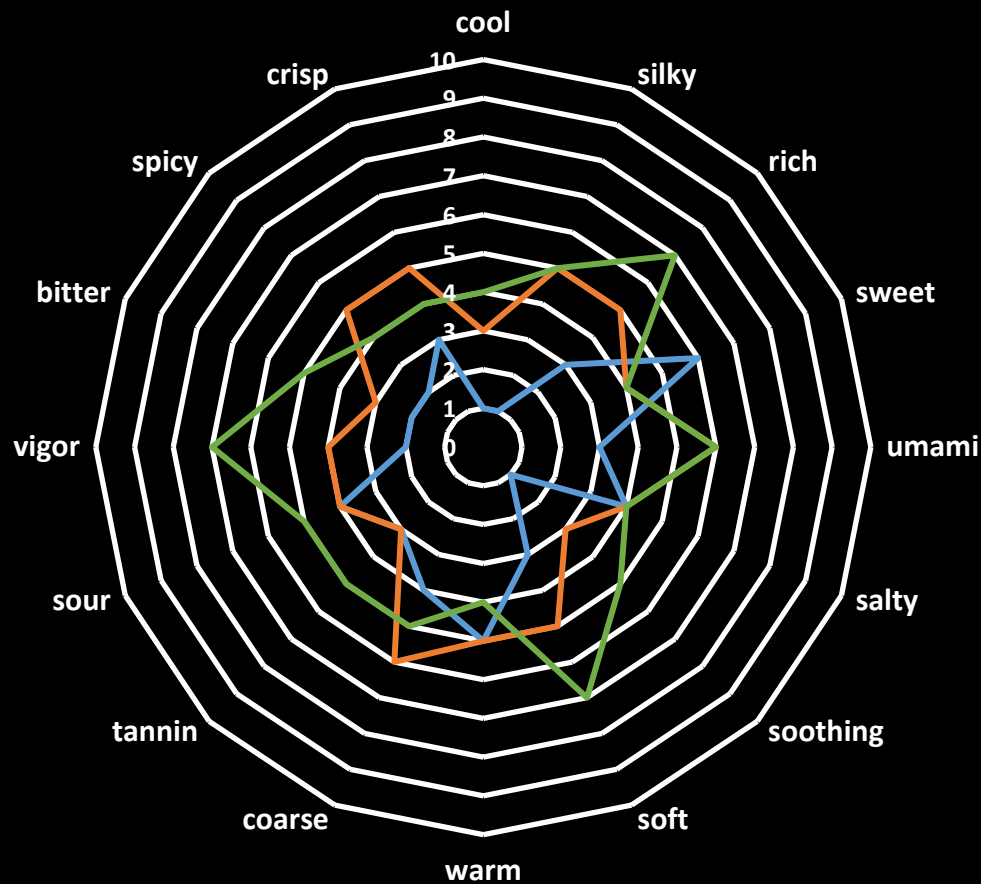


A top-down view of a white ceramic plate with a decorative, scalloped rim. The plate is filled with a dish consisting of a base of light-colored hummus. On top of the hummus is a pile of cooked bulgar wheat. Several whole roasted carrots, which are golden-brown with some charred tips, are arranged around the bulgar. Three dollops of bright green pesto are placed on the plate: one at the top left, one at the bottom left, and one on the right side. A small sprig of fresh green parsley is tucked into the bulgar. The plate is set on a dark wooden table, and a portion of a white woven placemat is visible on the left side.

Roasted Carrots
with Hummus,
Bulgar, and Pesto

	Honey and Cumin Roasted Carrots	...with Hummus, Bulgar and "Bacon"	... with Pesto
cool	1	3	4
silky	1	5	5
rich	3	5	7
sweet	6	4	4
umami	3	6	6
salty	4	4	4
soothing	1	3	5
soft	3	5	7
warm	5	5	4
coarse	4	6	5
tannin	3	3	5
sour	4	4	5
vigor	2	4	7
bitter	2	3	5
spicy	2	5	4
crisp	3	5	4

— Honey and Cumin Roasted Carrots — ...with Hummus, Bulgar and "Bacon" — ... with Pesto



Where Do We Go From Here?

- Develop a method of commonly understood calibration for each of the sensations (i.e. “salty” expressed from tapwater=0 to seawater=10)
- Study “fingerprints” of a variety of dishes to see if meaningful correlations exist
- Can the tool be an additional step in menu analysis?





