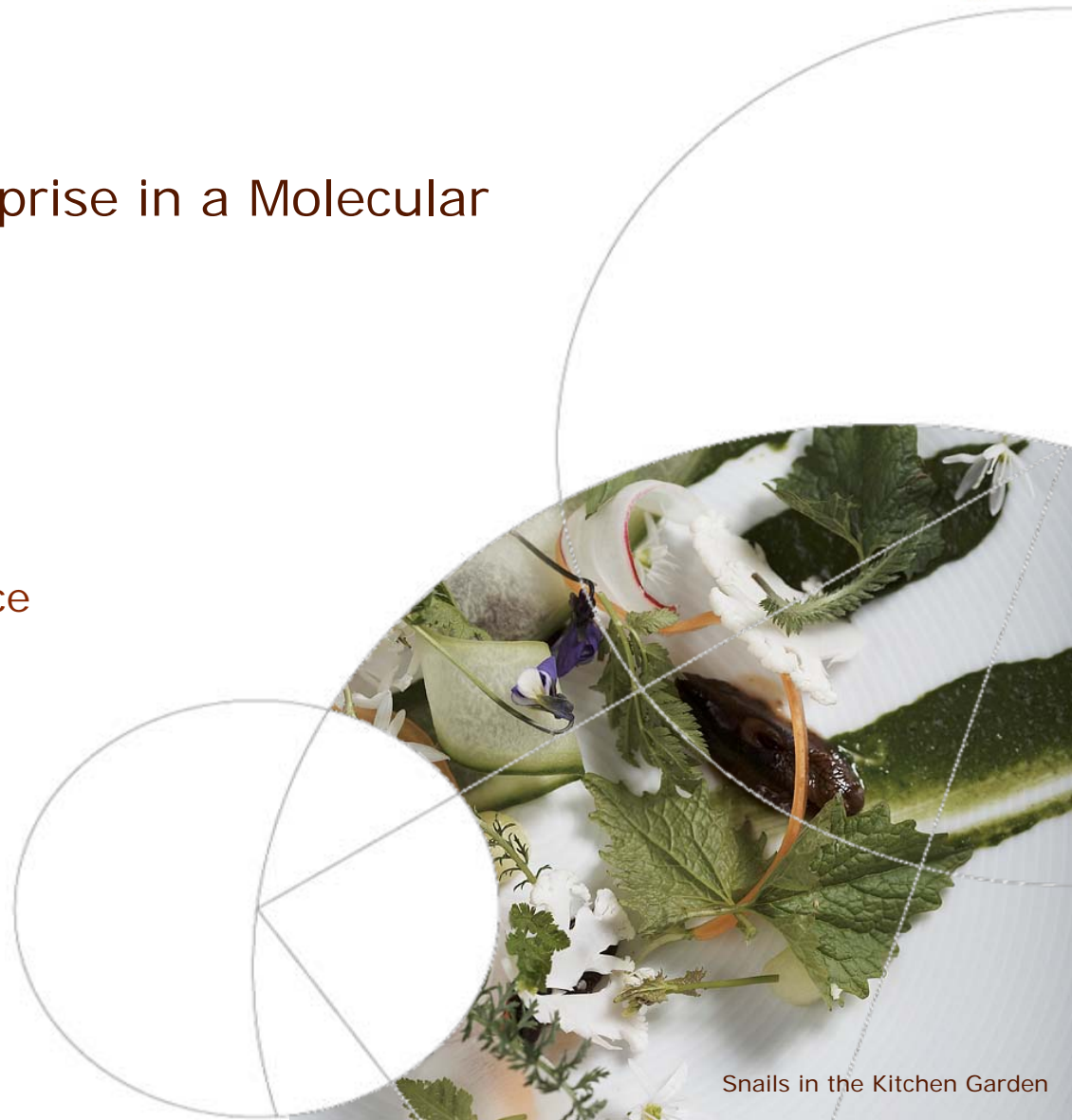


Expectations and Surprise in a Molecular Gastronomic Meal

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Agenda

- Background
- Purpose
- Materials and Methods
- Results and Discussion
- Conclusions
- Acknowledgements



Kitchen work



Background

Studies of the contemporary consumer society have discussed the socioeconomics of western consumer culture as an experience economy

- Physical quality or price does not explain consumer consumption
- Non-materialistic aspects such as experiences that generate feelings and sensations are key factors in consumer behavior*

*(Pine and Gilmore 1998)



Background

In line with experience economy innovative culinary trends like molecular gastronomy emerges

- Scientists' knowledge is combined with chefs skills and know-how to understand the culinary processes and recipes
- Experimental and highly scientific cooking.
- Special combinations of foods, often constructed to create hitherto unseen experiences
- The dishes challenge the guest by playing with the culinary mindset and being surprising*

*(Bourdain 2004; Svejenova et al. 2007, This 2002; 2006)



Purpose

- Within molecular gastronomy many factors are involved in affecting and surprising the consumers.
- Contextual factors have an effect on consumer perception*.
- The main scope was to study effects of the verbal presentation of dishes (contextual factor) on the experience of a molecular gastronomic meal. All dishes intended to surprise the eater, although in different ways.
- Part of larger research project jointly between sensory science and food chemistry running until 2010 at Department of Food Science.

* eg. King et al. 2004; 2007, Köster 2003



Materials and Methods

Restaurant study

- Meyers Madhus.
Well known culinary destination in
Copenhagen
- May 7-9, 2007



Restaurant setting



Materials and Methods

Pre-test screening for appropriate subjects

- Based on attitudes towards foods and eating
- Web based screening questionnaire
- Likely consumers at high end gastronomy restaurants
- Triadic split in segments (A, B and C)

Personal recruitment over the phone



Subjects participating in the study



Materials and Methods: Stimuli – Dishes and Presentation

Presentation design for the 11 dishes over the three days

Dish	Day one	Day two	Day three
Frozen Wood Sorrel and Milk in Textures	Story telling	Title	Experience
Soup of Fiord Shrimp	Process	Story telling	Experience
Rapeseed and Yoghurt	Experience	Process	Title
Salad Roots and "Ardent Love"	Process	Experience	Title
Snails in the Kitchen Garden	Experience	Story telling	Process
Field of Potatoes	Title	Process	Story telling
Sweetbread of Lamb and Strawberries	Experience	Title	Story telling
Veal Collagen and Asparagus	Title	Process	Experience
Cheese and Rhubarb	Story telling	Experience	Process
"Pågens Classic"	Process	Story telling	Title
Creampuff	Story telling	Experience	Title



Materials and Methods

Questionnaire

- 1 Expectations towards the event
- 2 Five statements regarding the dishes (7 pt. Likert scale)
 - Curiosity towards the dish based on the verbal and visual presentation
 - Surprising elements in the dish
 - Challenge the senses
 - Liking
 - Eat again
- 3 Expectation fulfilled



Organizing the questionnaire



Results

P-values for statements answered after each dish

	Curiosity due to the verbal and visual presentation	Surprising elements in the dish	The dish challenged the senses	Liking	Eat again
Segment	0.004	0.003	P<0.0005	0.029	0.011
Table	P<0.0005	P<0.0005	P<0.0005	P<0.0005	P<0.0005
Dish	P<0.0005	P<0.0005	P<0.0005	P<0.0005	P<0.0005
Verbal presentation	0.117	0.032	0.424	0.042	0.064
Segment * Dish	.	.	0.008	.	.
Segment * Verbal presentation
Dish * Verbal presentation	.	P<0.0005	P<0.0005	.	P<0.0005
Segment * Dish * Verbal presentation	.	.	.	0.001	.

The . denote non significant interactions removed from the model to produce a more stable model



Results

P-values for statements answered after each dish

	Curiosity due to the verbal and visual presentation	Surprising elements in the dish	The dish challenged the senses	Liking	Eat again
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Segment * Verbal presentation
Dish * Verbal presentation	.	P<0.0005	P<0.0005	.	P<0.0005
Segment * Dish * Verbal presentation	.	.	.	0.001	.

The . denote non significant interactions removed from the model to produce a more stable model



Results and Discussion

Dishes

- High correlation ($r = 0.929$) for liking and eat again



Field of Potatoes



**Salad Roots and
"Ardent Love"**



Cheese and Rhubarb



**Frozen Wood
Sorrel and Milk in
Textures**

From most liked to least liked:

**Field of Potatoes, Salad Roots and "Ardent Love", Cheese and Rhubarb, Creampuff,
Frozen Wood Sorrel and Milk in Textures, "Pågens Classic", Sweetbread of Lamb and
Strawberries, Snails in the Kitchen Garden, Rapeseed and Yoghurt,
Soup of Fiord Shrimp and Veal Collagen and Asparagus**

Results and Discussion

Dishes (continued):

Low correlation with liking for

- Curiosity towards the dish based on the verbal and visual presentation ($r=0.187$)
- Surprising elements in the dish ($r=0.068$)
- Challenge the senses ($r=0.157$)



Veal Collagen and Asparagus

Results and Discussion

Dishes (continued):

Findings as expected for

- Curiosity towards the dish based on the verbal and visual presentation
- Surprising elements in the dish
- Challenge of the senses



Results and Discussion

Information during the verbal presentations

Significant main effects

- Liking (Story telling vs. Experience)
- Surprising elements in the dish (Title information)



Results and Discussion

Information during the verbal presentations

Significant two way effects (together with dish)

- Surprising elements in the dish
- Challenging ones senses
- Eat again

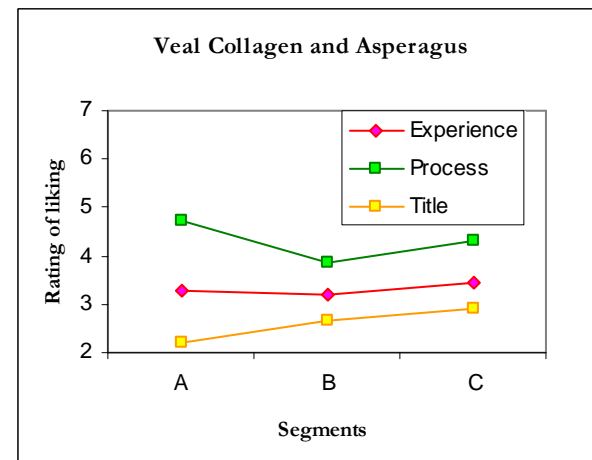
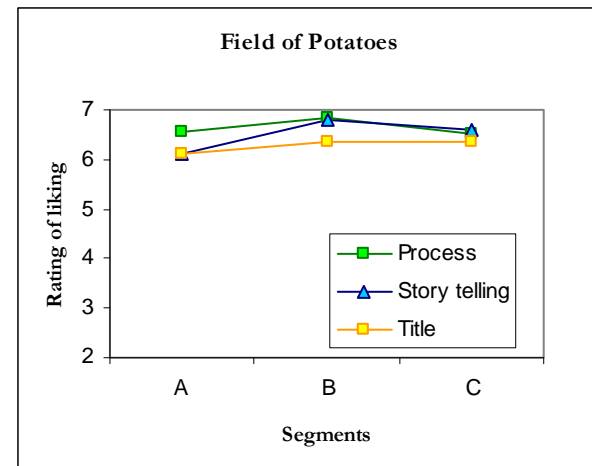
The verbal presentation did have an effect on the rating of the three statements and the effect was dependent on the dish



Results and Discussion

Information during the verbal presentations

- Significant three way effect for liking (segment, dish and verbal presentation)
- Information of no great importance for likable dishes
- Information of more importance for less likeable dishes



Three way interactions for dish, segments and the information given during for the liking statement



Conclusions I

Differences in liking of the dishes

- The dishes creating curiosity due to their verbal and visual presentation, displayed surprising elements and challenged the senses, were the dishes liked the least.
- Dishes, which the subjects could relate to something familiar and create nostalgic feelings for, were the dishes the subjects liked best.



Sensing the dish



Conclusions II

Guests are affected by the presentation of dishes, but the effect of the verbal presentation is complex and depends on the individual consumer as well as the individual dish

- For highly liked dishes, the information given during the presentation was not of great importance.
- For less-liked dishes, a tendency towards more importance of the information was found.



Sensing the dish



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Soup of Fiord Shrimp

Thank you for your attention

All food by Thorsten Vildgaard
All photos by Lars Gundersen



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