Developing And Designing Novel Foods And Drinks Using Note By Note Cooking.

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**Recommended Citation**
Developing and Designing Novel Foods and Drinks using Note by Note Cooking

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Molecular Gastronomy

• What is it?
• Examples

• Development over time
• Applications e.g. Note by Note Cooking
Molecular Gastronomy in DIT

Development
Progression

= Innovative Food
The student has to:
design the shapes of the various parts of the dish, the
colours, tastes, odours, temperatures, trigeminal
stimulation, consistency, nutritional aspects.
A note by note dish developed by Hervé This and Pierre Gagnaire
The Forest Floor and Coconut Parfait, Milk Honeycomb and Mint Tuille
Mushroom Meringue

- The mushroom meringue was prepared by whisking egg white protein with water, sucrose, salt, Octen-1-Ol-3 (Mushroom Flavour) until stiff sticky peaks are formed.

- The mixture is separated and two thirds is coloured using colour E110 along with citric acid and potassium sorbate.

- The mushrooms are piped onto plastic trays. Using a pipette the white dots are made using the white mushroom mixture onto the orange mushroom caps.

- The mushroom is cooked in a microwave for 15 seconds until they have expanded to double in size.

- Must cool completely before assembly.

- A small piece of the orange mushroom cap base is removed to allow the mushroom stalk to fit into the cap securely.
The Earth of the Forest Floor: Bacon Soil

- The soil was made by melting cocoa butter gently and adding E122, E102, E131, E211, E422, Inverted Sugar, Smoked Bacon Aroma and Bacon Flavour (Dithazine Trisolutly 2,4,6-tris (2-methylpropyl)-1,3,5 dithiazinane)
  - The mixture was then allowed to cool slightly to that the fat thickened slightly.

- The liquid was slowly incorporated into the Maltodextrin, Soy Lecithin and salt to form a crumbly soil texture.
  - This was then refrigerated which changed the texture by cooling the fat.
  - This was broken up to form soil.
Forest Moss: Pea Sponge

- The pea sponge was made using water, egg white protein, pea protein, pea aroma, bacon flavour, basil flavour natural extract, oil, E102, E131, E211, E415, E330, E1505, E141, E422

- **Trigeminal compound: Ally Isothiocyanate**

- The ingredients are incorporated together to form a thin batter.

- The batter is poured into a siphon gun, two canisters of N₂O were added to the mixture.
- The siphon was shaken well to incorporate the gas with the batter.
- The batter was piped into a plastic container to be cooked in the microwave.

- The sponge was allowed to cool before being broken into small moss like pieces.
Fallen Leaves on the Forest Floor: Basil & Chlorophyll Leaves

- The leaves were made from water, chlorophyll, glycerine, natural basil aroma & flavour, whey protein, Matcha green tea powder and oil

Methylcellulose

- All of the ingredients were mixed together in a bowl and refrigerated overnight to make a firm gel/paste

- A template was made of the desired shape and the paste was thinly spread onto parchment paper and baked until crisp.

- The texture was extremely light and quite similar to a leaf.
Coconut Parfait, Milk Honeycomb & Mint Tuille
Coconut Parfait

- The coconut was made using coconut extract, sucrrose, coconut milk powder, coconut oil, soy lecithin, E202, E1520, egg yolk powder, whey protein
- The ingredients were placed in a bowl and cooked over a Bain Marie until the mixture became thick and rich like custard.
- Mixture passed through triple layer of muslin cloth to ensure smooth velvety texture
- Shallow round mould filled with parfait and placed in the freezer to freeze.
Milk Honey Comb

- The milk honeycomb is made using sucrose, whey protein, water, corn starch, sodium bicarbonate, sodium aluminium sulphate, mono-calcium phosphate.

Methylcellulose

- The whey powder was used to introduce a malty toasted milk flavour and another dimension to the otherwise sweet dessert.

- The honeycomb was made by caramelising sugar and then quickly whisking in the remaining ingredients.

- The addition of the whey protein gives the honeycomb a more crumbly texture.
Mint Tuille

- The mint tuille was made using the same basic recipe as the leaves. The tuille was made using water, Matcha green tea powder, whey protein, mint) and oil.

- **Trigeminal compound:** Mint (essential natural Arvensis mint oil)

- The texture was very delicate and crisp. It give the dish a burst of freshness to balance the richness of the coconut and honeycomb.
Questions arising from Note by Note Cooking

- Land Use
- Economy
- Sensorial
- Technique
- Art
- Politics
- Nutrition
- Toxicology etc.
Some publications about Note by Note Cooking

Burke, R. and Danaher, P. (2016) *Note by Note: A New Revolution in Cooking*. Available at: http://arrow.dit.ie/cgi/viewcontent.cgi?article=1060&context=dgs

This, H. (2013). *Molecular Gastronomy is a Scientific Discipline, and Note by Note Cuisine is the Next Culinary Trend*. [online]. Available at: flavourjournal.biocentral.com/articles/10.1186/2044-7248-2-1