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

Roisin Burke  
*Technological University Dublin*, roisin.burke@tudublin.ie

Pauline Danaher  
*Technological University Dublin*, pauline.danaher@tudublin.ie

Sophie Dalton  
*Technological University Dublin*

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Developing and Designing Novel Foods and Drinks using Note by Note Cooking

School of Culinary Arts and Food Technology,
Dublin Institute of Technology
Róisín Burke, Pauline Danaher and Sophie Dalton
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-OI-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, sucrose, 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

This, H. (2016). *What can “Artificial Meat” be? Note by note cooking offers a variety of answers.* [online]. Available at
file:///C:/Users/Home/Downloads/n3af-2016m6artificialmeat-hervethis.pdf