

# Food, Cooking and the 5 Senses...

Are you considering pursuing a long-term culinary career? Let me ask you the one question that made my decision to choose this type of career so easy and that is now a driving force for me Ulrich Hoeche to teach the next generation as a lecturer in Culinary Arts at GMIT

**“Name one other profession that allows you to use all of your 5 senses every single day”!**

In this blog post I will have a closer look at the five senses and their relation to food and cooking.

## ***The enjoyment of Food,***

Why do I enjoy cooking so much and why did I become a chef, it is quite simple, I have a love for food and eating and I find it extremely exciting and rewarding when I can transform simple fresh ingredients into a dish that is so much more than the sum of all its individual parts.



When we cook and eat all our senses are working, eyes, ears, nose and mouth, all perceive cues of many different natures, visually as we look at the colours of a simple plate of sun ripened tomatoes and burrata with some fresh basil, glistening from the drizzle of extra virgin olive oil, the crackling sounds as we bite into the texture of a crispy tempura Dublin Bay prawn, the strong earthy smells as a hot bowl of wild mushroom soup is placed in front of us, the aroma and taste of that first Christmas cookie each year that reminds me of my childhood when the notes of freshly baked lebkuchen (a German type of ginger bread) with hints of cinnamon and cloves filled the house.

## ***The science of food and the five senses,***

When we ingest food, all our five senses are involved in a complex process. Perception through various channels plays an important role and in turn triggers other processes in our body that are necessary for the metabolism of nutrients. Each individual sense is entrusted with its own tasks. The way in which our senses and perception play a part in this process is at this stage well researched. However, the knowledge about it unfortunately only too rarely finds its way into our everyday life's and our eating and nutritional habits. Our senses have a variety of tasks when eating, from the identification of the food and the assessment of the quality to more passive processes such as the increased production of saliva or gastric acid.

But let's take a look at the individual senses from a culinary perspective, and while aroma and flavour are front and centre when it comes to cooking, eating and enjoying food, we should not neglect our other senses.

## ***Sight,***

Possibly the most basic sense you'll use when you're in the kitchen, but it is also one of the most important. Well-presented food is perceived to taste better or as the saying goes, we eat with our eyes first. At this stage we should ask ourselves how often has it happened to us that when visiting a restaurant and the waiter walks passed with plates of food, we impulsively think "oh I would like that" or "that looks really good", and this could be before we ever laid our eyes on the menu.

### ***Touch and Texture,***

We use touch to determine the ripeness of fruit and cheese, the freshness of bread. These sensory impressions convey important information about the quality of products. Additionally many chefs can judge the doneness of meat by touch alone.

Texture is another element often perceived by feeling food in our mouths, and chips or crisps are one of the most basic examples on how we are observing texture. We would like our chips to be crispy on the outside and fluffy on the inside rather than limp all over. When eating crisps, people often refer to them as not being very fresh if the crunch is not as it should be. But also overcooked vegetables are perceived as too soft, while an overcooked egg yolk could be described as too hard, almost powdery, and chalky. Optimum texture achieved through the cooking process can transform the mouthfeel and the enjoyment of the food that we eat dramatically.

### ***Sound,***

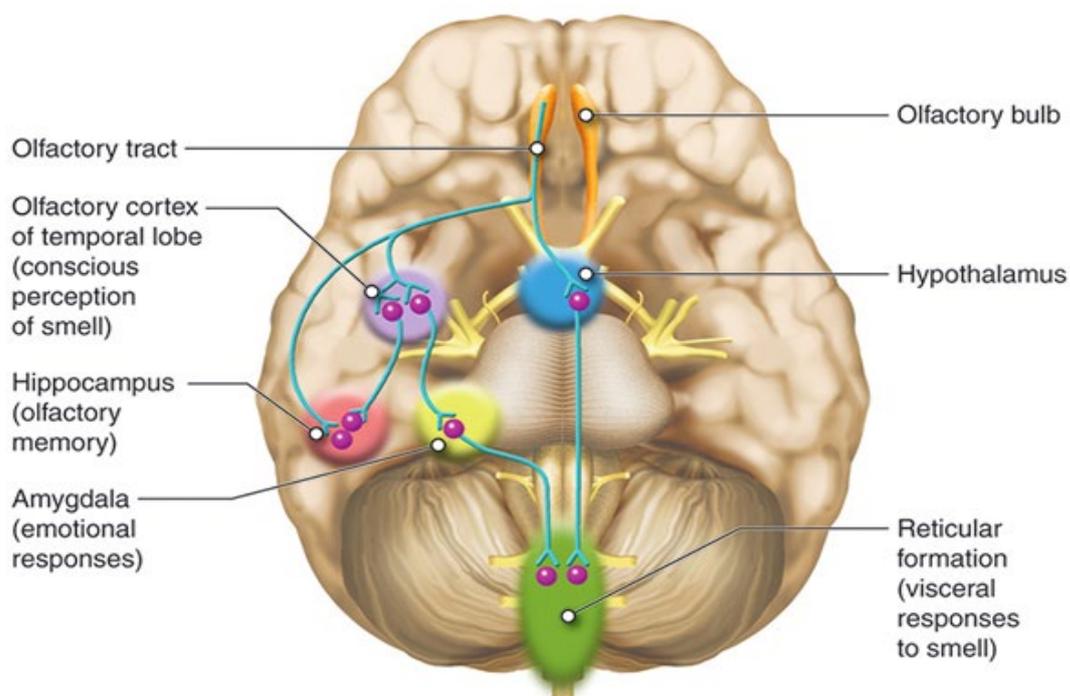
While sound is not playing a primary role as we eat and drink, the sound of opening a bottle of beer, the sizzling noise of a guest cooking its own steak in a restaurant like Rustic Stone or the sound of the crust of freshly baked bread as we cut it gives us a glimpse of the influence our hearing has on the perception of food and beverages.

Additionally, sound for the cook or chef is extremely important, for example when we browning meat, the sound will inform us if the heat is strong enough as we hope to hear a good strong sizzle as the product makes contact with the cooking vessel.

### ***Aroma and Flavour/ Smell and Taste,***

A good sense of smell allows us to recognise spoiled food but also enables us to smell our favourite meal long before we can see it.

Additionally, the olfactory centre is part of our brain that is responsible for feelings and memories, hence why olfactory perceptions are often accompanied by strong emotions (referring to my childhood memories of lebkuchen around Christmas).



Central Nervous System Regions that Receive Information from the Olfactory Bulb. Licensed under a Creative Commons Attribution 3.0 United States (<http://creativecommons.org/licenses/by/3.0/us/>).

As a cook or chef, I am not only trying to balance the five tastes sweet, sour, salty, bitter and umami, I am also trying to consciously influence the aroma of food. I must be aware that our taste buds find it harder to identify specific tastes when the food we are eating is cold and that aromas are not as volatile at low temperatures making it also more difficult to identify smells. That is why a terrine of pork or a soup that is been served cold should be very well seasoned, compared to its hot counter parts.



Tongue map with different taste areas  
(Photo Credit: Peter Hermes Furian /Shutterstock)



### ***Our surroundings affect our senses while we eat,***

There are many non-food related cues that effect sensory perception of food. An understanding of these factors can help culinary and restaurant professionals to enhance the overall dining experience. Not only the colour of the food itself plays a role, the colour of the delph, the table decorations, the surroundings, the lighting, and the background music can all influence the perception of our food. Gaining a deeper knowledge on the multisensory perception of food and the influence the above named external factors can have, will allow us to create multisensory dining experiences that go way beyond the food itself, and that are more stimulating, exciting and engaging.

This blog post is intended to emphasise the importance of our five senses in the context of cooking and food and the external factors that influence our perception but does not allow to cover many aspects in detail. If you are interested to find out more, below are some of the books that I would recommend, that provide a wealth of information on this topic.

### ***My Favourite Books,***

#### *Culinary Books*

Sight Smell Touch Taste Sound (2019 – Sybil Kapoor)

Taste: Surprising Stories and Science About Why Food Tastes Good (2013 – Barb Stuckey)

The Elements of Taste (2001 – Gray Kunz & Peter Kaminsky)

#### *Scientific Books*

Gastrophysics: The New Science of Eating (2017 – Charles Spence)

Multisensory Flavour Perception (2016 – Betina Piqueras-Fiszman, Charles Spence)

The Perfect Meal: The Multisensory Science of Food and Dining (2014 – Charles Spence, Betina Piqueras-Fiszman)

***If you would like to gain specific additional knowledge in relation to sensory science,***

The Galway-Mayo Institute of Technology will be offering a new MSc in Nutrition and Sensory Science, with applications currently open for September 2021 intake. This is great opportunity for anyone considering a future role or expanding their knowledge in Sensory and Nutrition Science. This Masters is suitable for culinary professionals with experience and a specific interest in the sensory science and nutritional aspects of food (prior level 8 academic qualifications required).

This is currently the only postgraduate course in Nutrition and Sensory Science being offered in Ireland.

The programme is delivered via blended learning and has been designed to suit those that are already in the workplace as it can be completed on a part-time basis.

Link to the Programme:

[MSC IN NUTRITION AND SENSORY SCIENCE](#)



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NUTRITION  
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***Final thoughts,***

We eat a minimum of three times a day, so food and cooking are an integral part of our existence, and we as cooks and chefs can see past food being only basic nourishment, with a whole world of creativity open to us. Learning how to utilise our senses more effectively will improve our cooking skills tremendously and allow us to create incredible new dishes. So, let's make sure we use all of those senses every single day as part of our work, in the process creating unforgettable experiences for the people that we cook for, letting them use all their senses as they eat.

***Enjoy using your Five Senses!***

***Ulrich Hoeche***