Sensory Design: The Sum of All Senses

Johan Swahn has more than one string to his bow. He is Head of Sense Lab at Örebro University, Department of Culinary Arts and Meal Science and runs a sensory marketing agency together with his wife. He's also a former chef who has studied sommellerie. Photo: Carl Lemon

When experiencing something new, there is almost always more to it than meets the eye. The same can be said about what we eat and drink; there's always a combination of senses at play. The art of designing this combination is called sensory design. Basically, it's the idea of considering all human senses – vision, hearing, taste, smell and touch – when creating an experience. Think of the 'exclusive sound' when you close the door of a brand-new car. That sound is no coincidence; it's part of a well-designed experience.

Johan Swahn is one of Sweden's most sought-after sensory designers and holds a PhD in sensory marketing. However, instead of working with car doors, he specializes in culinary experiences. Together with his wife, Charlotte, he runs a culinary sensory agency since 2017 and is also Head of Sense Lab at Örebro University, Department of Culinary Arts and Meal Science.

Earlier in his life Johan had a promising career as a chef, with gold and silver medals at the Culinary World Cup, and worked in some of the most renowned restaurants in the world including The Fat Duck. There he worked under head chef Heston Blumenthal, who has spearheaded the so-called 'molecular gastronomy' movement for over a decade now and is world-famous for his scientific approach to food.

It must have taken some convincing for you to leave the world of fine-dining and enter the world of science?
"Honestly, it didn't. In a way, it was already in the back of my mind when I went to London to work. I was studying at that time and was already extremely interested in the theory of taste and in science in general. So, as I was working at The Fat Duck, I realized what a great opportunity I suddenly had to put my ideas to the test and combine theory with practice. I was of course very lucky to have great professors at home in Sweden that backed me. And not long after I went back to Sweden and finished studying, I was offered to enroll as a PhD candidate within the field of sensory marketing, which I gladly accepted."

How do you apply sensory design to food and beverages?
"One of the best examples I use is an experiment which was conducted by the pioneer in psychology and sensory marketing, Louis Cheskin. His experiment showed that once 7UP added 15 percent more yellow color to the brand logo, the consumers perceived a higher intensity of citrus flavor. This is something I work with today, creating sensory design of food and beverages that will make a difference to the greater sensory experience."

When it comes to taste, how much is 'built-in' and how much is acquired by our experiences?
"It's hard to determine, but let me give you another example to illustrate. The sensory field is basically about the concepts of sensation and perception. If we take coffee for instance – let's say you've never heard of coffee and have no idea what it is. When you take a sip, the sensation in your mouth tells you that it's hot, it's bitter and it's most likely disgusting. Because you know, most people don't enjoy coffee the first time they drink it – at least not without a ton of sugar. Anyway, the thing is that you teach your brain what coffee is. There's a ritual, a social context around coffee – we drink our coffee in the morning and start the day with an energy boost. That's the perception part – what we teach our brains to accept and enjoy. So, all of a sudden, once you've grown accustomed to and made to understand the ritual of having a cup of coffee, you begin to love it."

So how do you use this in your research?
"We have lots of ongoing research studies within areas like digital media, sound and music, product design, as well as newer science like augmented reality (AR) and virtual reality (VR). Our VR study is very interesting, where we're looking at what happens if you tell your perception parts of your brain something entirely different from what your sensation parts are telling you. Say for instance that you're chewing on a piece of black radish, while you're inside a virtual reality that tells both your eyes and ears that you're in a fishing boat out to sea – what will the black radish taste like? There's a real chance that it at least comes close to the taste of fresh fish. I think this is really interesting, because if we can alter our experience like that, we might be able to move away from many 'bad habits', like using overexploited produce or eating unhealthy food without the feeling of missing out."