

## Crossmodal Cooking: An Interview with Charles Michel

*Charles Michel is a classically trained French-Colombian Cook and scientist who has worked in Michelin starred restaurants in France and Italy. In addition to this experience, Michel worked as a private chef in his native Colombia where he advocated for the use indigenous ingredients and experimented with creating immersive dining experiences with a group of artists and musicians. He is currently the Chef-in-Residence at the Crossmodal Research Laboratory at Oxford University where he works with the Experimental Psychologist Charles Spence, exploring the relationship between plating, visual aesthetics, and multisensory flavor perception.*

**Russell Pryba (RP):** It might be useful to start with some background about yourself and your culinary training. Where did you go to culinary school?

**Charles Michel (CM):** I started in 2005 at the Institut Paul Bocuse in Lyon, France, certainly a capital of gastronomy in France, and a definitely a very traditional school. There the culinary philosophy was building upon Nouvelle Cuisine, which was really focused on rigor and respect for traditions but also had a touch of modernity in terms of thinking about the wellness of the client and the pleasure elicited by food. For instance, not cooking with too much fat, or too much sugar. That is something that the chefs of the Nouvelle Cuisine in the 60's and 70's started to think about. But, now that I think back to it, there was also an important component of novelty and creativity at the *Institut*.

After that background in learning culinary skills, which was more focused on techniques than on sensibility, I went to Italy. There, the approach to cooking and the organization of the kitchen was completely different, which was what I wanted. I went to work with Nadia Santini, who has had three Michelin stars for about 20 years, at a very traditional restaurant that has been around for about 80 years now and is really one of the pinnacles of the high end Italian culinary tradition. This is in the North of Italy and we had the Nonna (Granny) Bruna cooking with us in the kitchen. No one would be able to touch the risotto apart from her, she would show you how to do it, tell you all the secrets and even let you try it, but you would not be able to touch it. It was the same with the pasta; only the family members could touch the pasta. The craft, the seasoning, the cooking, everything had to be approved by one of the family members. Nadia [Santini] is very sensible and she really wants people to be happy. She is not only about the technical performance; not only about making it beautiful, making it delicious. At 'Dal Pescatore' it is really about reading the customer to enhance their enjoyment, knowing where the guests came from for instance, trying to please them with surprises that were basically not in the book. For example, if someone was from Verona, Nadia would turn the kitchen upside down to prepare this small amuse-bouche that none of us knew how to prepare, because she wanted that particular guest to have a very specific flavor that she knew they would recognize ("Madeleine de Proust" effect), and that they would be flattered by her preparing this specific morsel of food. It was beautiful. She used to say that we didn't have 5 senses but that we had 7

senses. A sixth sense she would define as psychological well-being, and a seventh one of physical or digestive wellness; that was really important for her. That triggered my curiosity as a cook to think about cooking for *more than five senses*. This led me to be curious about the senses and psychology and to think about the philosophy behind cooking, not only the performance of cooking. Sometimes chefs get drawn into thinking that it is only about the performance, that it is only about making it beautiful and complex and unique without thinking that maybe it is just about getting to people's hearts.

**RP:** How did you get involved with Charles Spence and the Crossmodal Research Lab?

**CM:** I met Charles Spence in 2010, and that changed a lot of things. I was in London and a friend of mine introduced me to him. We were having lunch at Somerville College at Oxford and for about an hour I went on about my passion for food, and my passion for the potential of South American and Colombian ingredients, and how unpleased I was that no one wanted the local ingredients, everyone wanted French or Italian cuisine. What now is evident is that the most beautiful South American potential is about the local ingredients. We see Peruvian cuisine flowering, we see that Colombian cuisine is now becoming something. But at that time no one wanted Colombian ingredients. It would be very hard for me as a cook to put a tropical fruit into one of my menus, or a wild herb, because clients would completely distrust those ingredients. So I told him [Spence] all about this and he understood the problem and my frustration because he is married to a Colombian, and he had been to Colombia several times, he understood the Colombian potential, and knew what I was talking about.

Then it was Spence's turn to talk, and he told me about the potential of using sensory and psychological science to infuse culinary thinking, to enhance culinary experience. He told me about his experience with Heston Blumenthal when he created the "Sounds of the Sea" dish, and made me understand the potential of doing research with a blend of culinary knowledge and psychological science, and I was really inspired by that. For about a year after that encounter he would send me papers on the emerging science of crossmodal food perception, and I started using some of those ideas in the events that I was doing. So my friends and I began creating immersive experiences where we would, for instance, change the light and the sound and make the flavor of the food congruent to the sourness of the music. It was very fun and we realized that there was something there. Now you see everybody doing multisensory events, it has become kind of mainstream. I think that Charles Spence's work has played an important role in bringing this about. Back in 2012, we ended up doing an experiential talk, Spence, two friends working in *Neuromarketing*, and myself, about innovation through understanding our senses. We created a tasting menu where each dish was designed with a focus on only one sensory modality. For the visual dish I decided to create a visual art-inspired presentation of food. I was inspired by a painting by Kandinsky that I had seen a couple of months before, and that was where Charles Spence told me he had never come across something like that (a Kandinsky-inspired dish), and invited me to do research at the Crossmodal Lab in Oxford. Six months later I was in Oxford doing research with Spence on this Kandinsky salad idea, an experiment to assess the impact of the visual aesthetic presentation of food on flavor perception. Now I have been there for three years, Spence has been a mentor and patron, helping me to get into scientific research.



Figure 1 Plating a Salad on Canvas

**RP:** It is interesting how you speak about the shift away from people wanting to eat French or Italian food because that was seen as the high water mark of gastronomic culture to now wanting the more traditional or indigenous cuisines of South America. It seems fair to say that food culture has been more instrumental in bringing about this change than say the visual arts.

**CM:** I like the perspective that you are taking: that cuisine may be a more direct way to communicate cultural identity, or the history of a region, and ultimately effecting some kind of knowledge in people's minds. One of the best things about culinary arts right now is that they are evolving, but I am not sure how much the guys serving ceviche in New York actually communicate the real story behind ceviche, the fact that the coastal indigenous cultures of South America were preparing it several thousand years ago. Ceviche is not new. It is actually an old preserving technique for fish, in the same way that cooking in a plantain leaf is a form of preservation. There is a microbiology that makes it work and taste amazing naturally, without

artifices. I am really fascinated at the moment by ancestral cooking. Recently, I was preparing a clambake with some friends in Mayo, Northern Ireland, using seaweed and hot stones to cook seafood, meats and sausages. I had never tried such a juicy chicken in my whole life. Even though I have cooked with ovens that can tell you the exact temperature at the center of the flesh, sous vide techniques, the ‘best’ technology, both very energy consuming and expensive that in theory can give you the perfect texture, the perfect aesthetic in textural and olfactory components, better preservation, yet nothing compared to this [chicken] in terms of the juiciness, of the flavor, of the deliciousness. I am not sure what part of it is purely technical, happening at the molecular and physical level, of having the stones slowly releasing temperature and creating a vapor of seawater that somehow maintains the juiciness in the flesh, and what part of it is purely psychological. But everything was perfectly cooked. The chicken was perfectly cooked, and the lobsters that were just on top were also perfectly cooked. That goes against everything that I had been taught at school. The clambake just erased all that. We have been living, cooking for a few thousand years this way, it is easy, and it is delicious. Peruvians also have a way of doing this cooking into the earth; they call it Pachamanca. This is tradition in Ecuador as well, in Colombia, in Hawaii, in New Zealand, and many more places. It is a *universal* cooking technique in a way (much more effective and real than a \$10,000 combi-steamer oven), universal since we see this technique in cultures across the globe even nowadays, and it works. It is about cooking with the elements. In the end, we evolved to like this kind of cooking: it means proximity to resources of water, of plants, to food, to home. To me, thinking about this as the future of cooking is the most exciting perspective.

**RP:** I suspect that even if you were to scientifically determine the exact salinity of the salt water and recreate it in a professional kitchen that you wouldn’t have had the same phenomenological experience of the deliciousness of that chicken.

**CM:** Right. As I said before – the psychological implications of the context that is required to cook a clambake, lighting a fire, the people around, the *ritual*, all play an essential role in creating a memorable experience. The term *clambake* does not define a cooking technique; it’s a social gathering.

Deliciousness is clearly a drive of evolution (all life forms seek the pleasure of energy absorption), and it’s clearly not only determined by the content of the white plate – what happens around the plate (the meal, the place, the time, the social context) might matter even more. I am not sure if contemporary chefs all agree with this, but it seems to be true, and it’s one of the core ideas in the research we do on food at the Crossmodal Lab in Oxford, and what we explore by integrating different artistic disciplines with Crossmodalism.

**RP:** It seems to me that in the experimental work that you are doing that there is perhaps a clash between the necessities of the experimental setup and the immersive nature of the cooking environment that you just described, in that it might not yield to scientific analysis. We might not be able to pin down experimentally why that experience is so much more meaningful because in order to do the science you lose the immersive experience of “being there.” So, I am trying to get at the limits of the scientific or experimental approach for understanding the meaning, or even the gustatory values--the deliciousness, of those types of experiences.

**CM:** I completely agree with you. The scientific method can point us to the right direction, give us precious hints, but *everything* cannot be measured. It’s the dichotomy of controlled tests

and ‘naturalistic’ experiments. But it’s not only about understanding how things happen, but why, and what for. Science and art inspire philosophy, hence wisdom (we sometimes forget that philosophy means “the love of wisdom”). I think a big part of the enjoyment [of the clambake] is the ritual. We were all surrounding the fire and when I took out the first lobster claw and broke it and it was perfectly cooked everybody went “wow, that is going to be delicious. This is a great moment.” It was a memorable communion; a unique shared memory.

Right now I am working with Rodrigo Pacheco, a friend in Ecuador who studied with me at the Institut Paul Bocuse. He is directing a hospitality project on the Pacific Coast called “Las Tanusas.” More than a restaurant; he has a unique hospitality concept. He is kind of like the Ecuadorian Rene Redzepi, in the way that he is applying the philosophy of the New Nordic Cuisine Manifesto (2004), to cook in tune with everything that the surrounding nature provides. I am not saying he is inspired by the Nordics, but there is a parallel because he is getting inspired by the indigenous and the ancestral ways of cooking here in South America, finding better ways to ‘use’ the flavors of a certain natural landscape. So, of course, there is a lot of hand picking, there is a lot of fishing in his cuisine. We’ve been creating unique experiences for the guests at the hotel; one of the most meaningful experiences takes place on a reef about 5 km away from the hotel. When they arrive at the reef it is a surprise, using the idea of “positive disconfirmation of expectations” (Spence & Piqueras-Fiszman, 2014): they see that there are a few tables set up on the reef and a small kitchen with the cooks waiting for them. All the cooks are local fishermen that were trained from scratch. They greet the guests and teach them how to spot oysters on the reef, pick them and open them - which is easier said than done, it requires a lot of skill. Guests are often barefoot, walking on the reef at low tide, in a landscape of incredible beauty, a tip of land in the sea. After each guest has picked one or two oysters, cracked them open, and had a first taste of the sea... we ask them to sit down at the table and we serve them a chilled Chilean white wine, and an oyster ceviche. Now that the guests are aware of the effort required to find and open one oyster, it is a luxury to be served 15 in one go. A mouthful of sea flavor. Each table gets served by one of the cooks/fisherman - this is not only taking the ‘chef’ out of the kitchen, it is taking him out of the restaurant.



Figure 2 Las Tanusas

If you think about it, we have evolved to enjoy multi-sensory experiences by nature. Nature itself has given us that kind of liking for congruent sensory stimulations. That means having the sights being connected to the sounds, being connected with the flavors, being connected to the tactile experience. It is as if our bodies, our sensorium, are designed to tell us when all the elements are there for all the senses. That is when the food is fresh, when it is good for you. Eating 'at the source' is more enjoyable partly because we intuit it is safe. Nowadays we have become disconnected from the nature of food harvesting, living in artificial abundance. Nowadays there seems to be a trend in designing multisensory experiences, tapping into more senses, to more blunt effect, to surprise and sell more... but it should come as no surprise if I say that it *should* be about reconnecting with nature. I think we will come back to *natural* cooking, out of the restaurant, maybe.

**RP:** As you were describing this wonderful experience, and I have to admit I am a little jealous of those who have had the good fortune to experience this event, I was thinking that this type of immersive experience obliterates the front-of-the-house/back-of-the-house distinction of the restaurant. That the institution of the restaurant itself evolved in such a way, perhaps unintentionally, to divorce the diner from these types of crossmodal experiences of eating. It is curious in a way then that it is culinary professionals who are leading the way in reviving a lost human inheritance---the pleasures of eating in these immersive ways. Yet, these experiences are still cost prohibitive for the majority of people. For instance, you couldn't have that same experience you described at the reefs with twenty covers--it has to be small to be meaningful. So I am wondering if you see a connection between these sorts of crossmodal culinary experiments, if you will, and how an average person eats. Do you think there will be a sort of trickle down effect for diners who don't have the means, or perhaps even the interest, to have these sorts of very beautiful experiences that you just described? In some sense many of us are either socially, economically or culturally precluded from having the sorts of experiences you are creating.

**CM:** That is a very interesting point. I don't know where to start. The first thing that comes to my mind is that the restaurant concept is a very young institution. If you think about the scale of human evolution or human culture, and if you think about the importance that the restaurant has in modern life--most of us eat at least once of week in a restaurant and some of us eat 90% of their meals, let's not even say in a restaurant but just someone else cooking for you--it has become ubiquitous. You really need someone else cooking for you otherwise you don't have time for your busy, computerized, digital activities. You know, it is that "let's get this done quickly, food is fuel" mentality, neglecting the pleasures and meanings of food. So, food in general and the food system have become so big and centralized around the commodification of ingredients (nature), the supermarket, and the restaurant. It has only been 200 years, more or less, that the restaurant has existed, it still has to evolve, and especially, adapt to new human needs.

I'm not sure why the best human experiences should be expensive. If you think about it, 'luxury' could be defined as uniqueness, and awareness. It should not only depend on purchasing power. If you have money you certainly have a shortcut to very expensive food, but maybe you don't have the knowledge to really enjoy it to its full potential. Perhaps you don't know what it takes to produce a kilo of caviar, or you don't know what it takes to cultivate and harvest that particular spice, make it travel overseas, to 'garnish' the top of your lunch. So if you don't know that, you are not appreciating it to its full potential. I think the restaurant concept has to evolve, and my intuition tells me that the true culinary art will not only happen in restaurants. Restaurants are a place where you go to get your fix of energy and that is one thing (from *restaurare*, in Latin). Now, high-end restaurants, the 'pinnacle' of gastronomy, are different because the food is aimed at making you think. If you go to eat at Redzepi's, or Humm's, or Bottura's restaurants, you are going to be challenged, you will be surprised and you'll come out changed if you really understand their creative universe. It is storytelling in a way. You are going to hear stories about how they sourced and prepared these incredible things for you, and some poetry. Yes, of course it is expensive. It is also rarely sustainable (both in economic and ecological terms). Even the most expensive restaurants do not make money.

**RP:** Right, I think in the first decade of the 21st century we saw the high water mark Modernist cuisine, and its decline has shown that that kind of cooking is unsustainable as a movement. But that has no impact whatsoever on the aesthetic value of what was or is happening in those sorts of restaurants and how it opened up avenues of exploration for other chefs to think about

food as narrative. Narrative was one of the things that traditional aesthetic theory has always precluded from pertaining to eating because food was always seen to be a minor art, if an art at all, because it lacked the complexity to engage in narrative. I think we would both agree that this is just false. That narrative is what is important, and that having the ability to understand that narrative has nothing to do with one's economic status.

**CM:** Yes, exactly. One other thing that came to mind while you were asking the last question was Charles Spence's book *The Perfect Meal*, which is an incredibly complete review of everything that has been done on food perception and psychology. There are a large amount of factors that go into making an experience pleasurable. There is a lot of thought that goes into the experience's architecture, every single detail counts. Now, if you ask Charles Spence about his best food experience, he will tell you about a surprising experience, to say the least. His best memory of a food experience would be a ceviche that he bought in the streets of Cartagena on the Caribbean coast of Colombia - served in a plastic container, with a plastic spoon. No table, no expensive decoration, no waiters, no storytelling apart from the present moment. While waiting, you sit on a plastic chair, and you might be given a cold beer. The weather is warm and humid, heavy traffic streams by, and when that ceviche finally arrives, it is an incredible flavor experience. He once mentioned in a talk that this ceviche was his most memorable flavor experience, his most delicious memory. Eating out of plastic containers with a plastic spoon is exactly the opposite of what the science of deliciousness advocates. In theory you have to think about the weight of the cutlery, the shape of the plate, its color, the atmosphere, etc. Of course, both from an experimental and experiential standpoint, context is everything (think restaurant vs. street food, vs., say, an art gallery), but expectations play a larger role than we might think. A street food experience can be *perfect*. So what makes the perfect meal? I think there is a huge element of surprise (positive disconfirmation of expectations), and through surprise also uniqueness, the feeling that something cannot be repeated.

Some of the most important experiences in life come together with food, and importantly, sharing with people you love most. Again, the ritual and the relational aesthetics might matter more than the molecular or physical properties of the food – what seems to be the main focus of most 'food designers'.

**RP:** I was hoping we might go back a little and discuss the Kandinsky salad again as a way to address your research. You had mentioned that the origin of that salad was the idea of preparing a dish for each sense modality, and I was wondering if that might be in some sense in tension with the Crossmodalism that you advocate. When one looks at the presentation of the Kandinsky salad alongside a traditional presentation, there might be a gustatory reason to prefer the traditional plating of that salad rather than the Kandinsky inspired artistic presentation. I wonder if as a chef, thinking about how to plate things, if one overplays the visual element to present something beautiful--even if that corroborated by the psychological research about increase in willingness to pay, and increased enjoyment and liking that is attended by more artistic presentations--that this is some ways might be undermining the idea of developing a language of gustatory aesthetics except through analogy with the visual. So, as a chef would there be a compelling culinary reason to prefer the non-artistic plating? Perhaps plating might be a cue for how one should eat something that might be lost in the artistic plating. It becomes more difficult to approach how one should eat it.



Figure 3 The Kandinsky Salad

**CM:** There are quite a few things to go over here. First, in regards to the relation between plating and the liking of food, I think that there is no pure conclusion but something that all chefs know intuitively: we eat with our eyes first. That is kind of an easy aphorism. I am particularly inspired by the philosopher Denis Dutton and how he argues that “the value of an artwork is rooted in the assumptions of the effort underlying its creation.” I find it fascinating that we can perceive effort and skill in implicit cues of an experience. Experimental aesthetics have put forward the importance of visual balance for instance. Thinking about the Kandinsky salad experiment, there are several reasons why people may have enjoyed the art-inspired presentation of the salad more. One is that we perceive the effort of the cook, neatness is an indicator of skill, and the complexity of color might indicate to our primal brains that a broader array of nutrients are going to be consumed, hence the enhanced liking. When complexity meets visual balance and neatness, there is both skill and effort. Another way of seeing the enhanced perceived flavor of a visually pleasing dish of food might not only be visual. Indeed, the change in display might lead us to have a different approach to the eating experience. In the traditional plating, you might eat everything in two mouthfuls. You get an intense, complex flavor sensation, but it doesn't last very long. It is very difficult to capture the nuance of all the different culinary elements. If the salad has an intricate, detailed presentation, there is a change in eating dynamics, we pay more attention to the diversity of ingredients and their complexity: “what's that red sauce?... and then the black sauce, that's something I've never tried, ... oh, what is this red cube? It's different from the red sauce...” And then you might pay attention to the crunchiness... the quality of the olive oil, the quality of seasoning... We end up being able to discriminate the complexity of the food better, if it is visually presented in a complex but neat manner. Also, something that I think is very important is the surface area that is covered on the plate. I think it has an effect on how much you want to eat, so on perceived or expected satiety that changes how much you end up eating. One thing we were discussing with the Fat Duck experimental kitchen is how do we drive, through visual cues, people to try a certain bite, and then to go to the second, and then to go to the third. So that we can kind of implicitly guide the experience of eating. That is something that is really interesting because you can create a flavor journey instead of just a flavor sensation. Coming back to your point – here we study the impact of vision, but really it's not only 'vision' – food is always a crossmodal experience...

**RP:** Right, and that is how you can create a narrative.

**CM:** Exactly.

**RP:** You can have self-referential cues within the sequence of the flavors that you have developed and that you are leading diners to experience in the sequence that is intended by the chef. I think you explained the point quite well that the traditional plating of the salad undermines the complexity of the dish. I think there are 17 components of that dish and to not have that complexity visually represented leaves all that work to the tongue and you won't actually slow down enough to experience that complexity.

**CM:** Exactly.

**RP:** But also with some of the more artistically inspired plating or avant-garde plating, it seems like it leaves the possibility open to the diner to complete the intention in a way that a chef might not want to give this level of control over to the diner. So it could work out that the visual cues

lead to a certain flavor sequence that is intended because the chef wants the diner to have an experience that makes some conceptual point, or aesthetic point, or to construct a narrative-- but it also leaves the diner open to close the work off if you will. It is common theme in the philosophy of interpretation, following Arthur Danto, that works are completed if and only if they are interpreted. A work becomes an open system of interpretation. I wonder if that strikes you as chef, or the chefs that you know, as a level of control that chefs worry about giving up or if they are excited about that possibility. That eating might become a more communicative experience between a chef and a diner where a dish might taste completely different based on the way that a diner ends up eating it than the chef intend it to be, or even than a different diner might experience the same dish. That, in turn, could end up creating something interesting or surprising.

**CM:** Sometimes Chefs are too focused on the ego side of creation-- that I want the guest to taste my palate, to taste what I like, my ‘flavor inventions,’ my ‘cuisine.’ I really like what you said. Duchamp said that the artwork is not completed if the viewer is not there. I would say when you are cooking something for someone, you cannot be 100% sure that the person is going to like it, because you don’t know that person’s past or cultural background, etc. More than that, we all have different amounts of taste buds on our tongues, which changes how we perceive taste, and we might even experience things differently according to how hungry we are. The dish is completed by the palate that is experiencing the food. Now, the narrative is something important and it is not only about telling the story, but it is about a story that each person will go and discover, gastronomy can be an imaginative experience. It is like drawing a landscape and letting the viewer run in the direction that they want to run, to enjoy the landscape in their favorite manner. Some will jump on a tree, some will dive into the lake, some will go and gaze at the animals that are there. Experiencing art is completely free, completely free for interpretation. That said, it seems that the modern ‘table manners’ and the ‘restaurant box’ might be taking us away from the imaginary power of culinary creation. We need to break certain rules. The paper *The Taste of Kandinsky* was only focused on the visual aspects of the dish, but the inspiration behind this dish really was born watching the painting at MoMA in New York, where I was struck not only by the visual balance and beauty of this artwork, but by the label text, that quoted Kandinsky’s “Concerning the Spiritual in Art.” Inspired by what he wrote, I had the epiphany that food was an incredible matter with which to play with sound, with visuals, with taste, with olfaction and with tactile components – sensory complexity and narrative can touch someone’s deep emotions. It’s not easy to get there though. It might be even more complex than creating a beautiful painting. It is not about passive contemplation.

The first time that I had the courage to try the Kandinsky-salad idea was with Spence at the innovation talk I mentioned before. Then I started reproducing it and going a bit further and refining the visual presentation. Because I wanted the Kandinsky inspiration to be explicit, I tried to replicate the painting as much as possible. But the concept of the “Kandinsky Salad” is to be served after a plating performance, where Wagner - inspiration for Kandinsky’s paintings, given that the latter was a synaesthete and also fascinated by the ideal of *Gesamtkunstwerk* - would be playing in the background, and people would have to eat with hands, or with a paintbrush...

The salad is served during a multisensory performance. So I would establish a context for the imagination to wander around those flavors. Some people would not recognize any of the ingredients that were there. They could see salad, they could see mushroom, and then the rest was like “what was that?” Carrots, beetroots, peppers, cauliflower, only very common ingredients.

I know that just studying visuals is only one element of the food experience (and maybe

not a 'substantial' one) but there is a visual primacy, in science, arts, and in everyday human behavior. 100 years ago, William James, the father of modern psychology, said there is little to be learned by studying the proximal senses (taste, olfaction, and touch). And actually, it's not easy to study them. Touch might be very closely related to sound, and the chemical senses are extremely complex, taste is not only about 5 'basic tastants', and olfaction is. Light and sound are measurable, there is a 'spectrum' that is easy to refer to, but take the chemical and physical complexity of food and smells... and how about the gut? Does it taste? What do we 'sense' in our bellies?

**RP:** It is interesting to me that you bring up James here because my training is in American Pragmatism, starting with James, but especially the work of John Dewey. Dewey certainly undermines James's original and earlier dualistic thinking as in, *The Principles of Psychology*. Later, this becomes one motivation for thinkers like Richard Shusterman to think about the body as an integrated site where aesthetic enjoyment takes place. Aesthetic experience is both in and of the body in some sense but it is of a total body, not a body that is divided into distinct, compartmentalized sense modalities. That is not how lived experience happens. We don't experience things discretely as either visual, or auditory, or olfactory, or gustatory. So, somaesthetics is trying to rehabilitate some of these themes about the body that are obvious to practitioners like yourself who work with the senses in a different way than philosophers who try to conceptualize them. So, would you consider the work that you are doing as both a researcher and a chef convergent with or congenial to a somaesthetical approach to philosophical thinking as opposed to traditional philosophical views about the senses or bodily experience which were more often pejorative? How might you locate your various activities within a philosophical landscape?

**CM:** I am really into thinking about the unity of the senses, rather than looking at how to separate them from one another. There has to be a unity between body and mind when we think about designing human experiences. Having a *somaesthetic approach* is the mindset in which we should think. When I got into research I realized that it is hard looking at a very, very narrow aspects of the human experience. Sometimes when looking so closely you can forget about the big picture -- in science, or art, or anything. Why do choose to investigate one thing over the other? Is it for human well being? How is it going to increase people's happiness? This is one of the things we should all strive for. When I think about designing experiences in the broadest sense, I think we should always be thinking about the *wholeness* of the experience, designing for all the senses not about just one or two. That is at the heart of the *Crossmodalist* approach. It may sound very abstract at the moment, but there is certitude that in thinking about the unity of the senses and human experience, that we can get somewhere meaningful.



Figure 4 A Crossmodal Event

**RP:** Is that the intention of your Crossmodalist group? To have a platform where you can experiment across a broad spectrum of human experience without having to be confined to one discipline?

**CM:** Exactly, that is the whole point. It really is about having a science-inspired approach as much as an artistic, sensible approach. Thinking about all the inspiration that is out there, from Objectivism, to Gesamtkunstwerk, to Dada, Surrealism, Futurism-- all created out of extremely interesting points. In the same way, the science of the senses is telling us how much all the senses are interconnected and how one perception in one sensory modality can affect the perception in another sense, that our brains are wired somehow to perceive things as one whole and not to discriminate between sensory modalities.

Food is where all the senses come together, and research on food aesthetics is a great tool to understand how our mind perceives pleasure, and how we define our preferences. Today, it

seems essential to study how we perceive 'beauty' on all senses, given the impact that what we consider beautiful and rightful has on how we consume, and given the impact our consumptions have on the natural environment, touching on some of the biggest challenges facing our species, how we relate to nature, and the impact our species, as a collective, is having on the planet.

**RP:** In general, what place do you think philosophy has in your work?

**CM:** Essential. Philosophy is about loving wisdom, right? I really want to be involved in thinking through why we do the things we do. If you think about some of the pressing issues of our time, we might need more philosophers to inspire action, from the President of a country to the guy who sees waste as a resource. With food, there is a huge opportunity to act on some of the biggest challenges, for instance, Climate Change is directly related to the way we cultivate, gather, transport and transform our most essential energy source: food. If, on a daily basis, we can change something very small about our food consumption behaviors, we can contribute to make a wider change. We are currently eating the planet with our mouths, and we sometimes disregard the fact that every time we consume food, we vote for a certain organization of the food system.

I'm currently collaborating with Andreas Fabian, designer, on how to create eating tools (cutlery) designing utensils that can change your eating manners, affecting the way you enjoy food, and change how much you end up eating. The key is to design foods and food experiences that are pleasurable, healthy, and sustainable - both economically and ecologically. Some of the healthiest people that I know almost have a very precise style of eating, and it is an informed, clever style of eating. Feeding yourself can also be an art. It is definitely important for well-being.

**RP:** It is interesting that you said that feeding yourself well could be an art because that is very consistent with somaesthetics and recovering the original Greek conception of philosophy as an art of living and of living well. There is an art of living that is to live philosophically, or to eat philosophically and when you say that eating can be an art it is exactly in line with what a somaesthetics of food is trying to achieve. There is an ameliorative aspect to philosophy as a way of life that suggests that we can improve ourselves and our world through deeper reflection and engagement. Eating mindfully, or eating artistically is perhaps the first step to solving larger problems that are tied into the way that we, as a society, eat mindlessly. There is an idea that what philosophers interested in food are developing is really a "gastrosophy," or the wisdom of the stomach, and this seems to be exactly what you pointing to here. I was hoping you might reflect on what you think a gastrosophy might amount to.

**CM:** I think it is absolutely essential to think "philosophically" in order to design better foods and better food interfaces of the future. I have been pondering about how to make the best of the opportunities that I have at the moment, and together with Spence and several collaborators we have come up with two fields of action that embody the knowledge we're working on - which are in tune with what you call gastrosophy. One is the art of designing experiences, which would be Crossmodalism. We are currently writing a manifesto with some artists and the idea is about bridging experience design and crossmodal science. On the other hand we have been really inspired, together with other scientists and chefs, to think about Gastrophysics which would be in a way going a bit further into understanding the physical and molecular properties of foods, but crucially, to think about how perception is essential to our understanding of the physical and chemical world. It is also about a holistic science and art approach to sensory education,

and food education. Gastrosophy would be between these two in a way--it would be within each of those things. And I think it is exactly what I want to be doing. To get people to develop their wisdom of eating, making them more intelligent consumers.