Bioprinting

City

Cooking

Creativity

Culture

Decoding

Environment

Design

Food

Senses

Sociocultural

Food designing

Food product

Food safety

Health

Intelligent labels

Method

Packaging

Printed food

Process

Products

Project

Proteins

Refuse

Society

Strategy

Technology

Urban agriculture

Urban design

Urbanism

Waste

Waste of resources

Marije Vogelzang

"It took quite some time before designers started focusing on what lies at the essence of what people truly need, i.e. food"

Marije Vogelzang graduated at the Design Academy in Eindhoven in 2000, developed and recently sold two experimental restaurants in Rotterdam and Amsterdam, now she works solo again under her own name. Her work is focused on restaurant concepts as well as long-term medical projects, social projects, work for food industries and art installations. She has recently curated some exhibitions about eating and design. She became head of FOOD NON FOOD department at the Design Academy Eindhoven.

Feeding A New Breed of Designers

The design discipline is, by definition, fairly young. People can of course ask themselves how to define design. One could say that the first people who made fire had achieved a feat of design. On the other hand, the professional field of design isn't actually that old. Craftsmen became masters of the applied arts, and then, with the arrival of industrialisation, they became designers. The designer was no longer the maker, by definition. This was where the gap developed between inventor and executor, and marks the first step in the process in which the designer's work and the materials became separate entities. The designer devised the form, and the machine produced the form. The form was subservient to, or supported, the function. The designer not only shaped the material, but also the ideology behind the design. Ultimately, the form also became a result of the ideology as well as the function. Designers started thinking about how people should live. The discipline was no longer just about form and materials, but also about vision and concept. This is an important starting point if we want to understand how food has emerged as a subject for design.

When I first arrived at the Design Academy in Eindhoven in 1995, Droog Design had been around for two years. I had heard about a new way of designing, in which concept transcended form, or where either form or materials could be left out of the equation. The designer was being challenged to also explore the possibility of working on an intangible level. Digitisation was also starting to make inroads in the design world. It was now possible to create a three-dimensional design for an object without ever having to touch the actual material. The revolutionary idea that materials did not necessarily constitute the entire essence of the design field meant that you could also design a service or ideology.

Designers have traditionally focused on man. Designers create applied work for people as the users of their product or service. They design cars for driving in, clothes to protect us from the elements or merely for show, and pots and pans for cooking. If we look around, we see that nearly everything around us has been designed. In spite of this, it took quite some time before designers started focusing on what lies at the essence of what people truly need, i.e. food.

Fifteen years ago, designing food was not a logical choice. Although food has a long tradition in the arts, designers have always focused on non-perishable materials; after all, food was the chef's domain. Now and then you would see a designer deviate from this concept, such as Philippe Starck, who designed pasta. However, the result of Starck's work was also an extension of traditional design methodology. It wasn't about where the pasta came from, but where it was going. It remained a one-off departure, a flash of humour, a witticism in Starck's oeuvre.

A different way of thinking developed based on the conceptual design. Suppose a designer is given the assignment to create a design using tea. Initially, the designer might think of a teapot, tea service or packaging for tea. But if you approach the assignment from the standpoint of the verb phrase 'drinking tea', you can also start thinking about the ritual of drinking tea, the harvesting of tea leaves, the transport and processing of tea leaves, the types of tea that are available, and how we actually define tea. The designer naturally thinks about the packaging. But do we also consider what happens to the packaging once we have finished drinking the tea? How does the process of fermentation of the tea leaves work, and who is the person drinking the tea? Does this person drink tea alone? What is the significance of drinking tea in different cultures, and what is the economic value of tea? Are there political implications involved in the production or sale of tea? What does tea do to your body? Is it healthy? Does it also affect your mind? What does fair trade mean? What kind of information can we find on the history of tea drinking? Where is tea grown, and has this always been the case?

These are just a few of the questions that a simple subject like drinking tea can raise.

Thinking on the basis of a verb (in this case, tea drinking) raises questions. Questions are a stimulator for inspiration and research, for innovation and enticement.

When, as a young designer, I started working with the subject of food in 1999, people told me that I was a 'food designer'. It seems logical, but it could also imply that I literally designed food.

"The fascinating thing about food is that aesthetics don't only emerge in the form and colour, but also in the temperature, the consistency, the flavour, the smell, the way it feels in your mouth, and the sound the food makes when it is chewed"

When I start asking questions about a specific design as I have described above, I realise that the world behind its design is much larger than I had thought, and that the literal making of a new type of food does not do justice to all the fascinating aspects that emerge.

I refer to this overarching area as Eating Design, using the verb to eat as the starting point. The overall subject of food is the area in which the designer works. Whether food is ultimately the final product devised by the designer remains the question. It could also be a new logistics system, a new type of fertiliser, or a ritual.

An important part of Eating Design is the literal design of food, Food Design.

The literal design of food is only one of the first things people think of when they hear about designers who specialise in food. It is an area that appeals to our imagination, and people immediately think of artsy cakes in a variety of colours, or even an industrial foodstuff, such as Magnum ice cream or pasta in a thousand different shapes.

It is hard to explain exactly what type of position an eating designer holds. Aren't there already enough professions in the food sector? Don't we already have enough food? Does our food really have to be designed? These are questions I am often asked.

In order to provide some insight into the potential in this field, the breadth of the subject and the possibilities that Eating Design offers, below I will discuss seven different areas from which designers can cull inspiration when working with food as a subject. It is important to mention that these fields almost never exist in isolation. They overlap one another, touch one another, kiss or even mate with one another in order to arrive at a new hybrid.

Senses
This seems obvious, since chefs and food technicians always work based on the senses, and it would seem that all the sensory experiences have already been tried or tested at one time or another. And yet I think that there much remains to be discovered in this field. The aesthetic value of food is still underestimated in the West. As my mother always said when I complained about the food she served that didn't look appetising, 'It all gets mixed up in your tummy anyway.' I always thought that was a strange comment, and one that wasn't at all helpful. In Japan, people talk about the 'shape of the taste'. When you eat, you start with your eyes, as it were. The colour, shape and consistency betray some of what you can expect in terms of the taste. (Sometimes, they do the opposite.)

The fascinating thing about food is that aesthetics do not only emerge in its form and colour, but also in its temperature, consistency, flavour, smell, how it feels in your mouth, and the sound it makes when it is chewed. Composing an ultimate taste experience is a true art form that in terms of the degree of dif-

ficulty ranks perhaps even higher than the fine arts. After all, you are dealing with a broad range of practical know-how such as hygiene, food safety, the short shelf life of food and the perishability of the materials. It is also a very cruel art form; at the end of the day, there is nothing left.
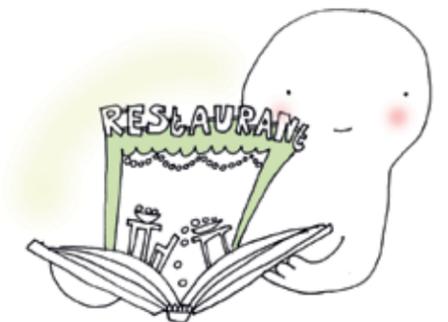
We mustn't forget that a sensory experience is never isolated, and must be viewed in a certain context. The interpretation of sensory qualities is therefore incredibly personal, and associations can always change over the course of time. (Remember the lovely desserts you wanted to eat every day as a child until one day, you ate too much of one of them and ended up feeling ill?)
Sensory experiences and personal expectations and associations pave the way for emotions. Our sense of smell and taste are the motorways leading to emotions, both positive and negative. They are powerful instruments, yet difficult to control since you never know how they are triggered, and even if you discover this in the case of one person, it may be entirely different for someone else.

Psychology

Why do we eat when we're not hungry? Everyone knows the feeling: you run into someone on the street and they ask if you want to have a cup of coffee with them. You wouldn't usually drink coffee at that time of day, but social conventions dictate that you will have a cup anyway. What about after a rough day at work, when the train is late and you're waiting around at the station? You wouldn't normally eat anything right then, but to console yourself you buy a nice bar of chocolate. Or you eat crisps every night in front of the telly. Not because you're hungry, but because it's just a habit for you to eat crisps while you watch television. Suppose you're walking down the street, and you see posters everywhere advertising a pudding with velvety-soft chocolate mousse and thick blobs of cream and crunchy nuts on top. You're tempted: 'Mmmmm! I could really go for that right now!' The next time you do the shopping, you buy that pudding, a product you wouldn't normally have chosen. All these decisions have nothing to do with an empty feeling in our stomachs. We eat or drink, but not because we're hungry. These are all mental decisions to eat. In the Western world of overabundance, our heads have more to say about our eating habits than our stomachs.

It is important for designers to be aware of this phenomenon. Food is so much more than just calories. Food is a sense of community, memories; food can make you feel at home but also uprooted. 'The way to a man's heart is through his stomach' is a well-known expression in most cultures. Everyone is familiar with the psychological effect of food: eating a Madeleine cake transported Marcel Proust back to the years of his youth that he thought he had forgotten. Advertisers also try to employ this trick, but this is difficult since its effects are fleeting and personal.

If you consider food from a psychological perspective, you can usually see the subject as a means rather than an end in itself. It doesn't involve gastronomy or the development of the best taste. At its core, this work is about the effect of food on eaters; how food enables people to connect or develop a mutual understanding (or indeed the opposite, depending on the effect intended). Food plays a role in this, mostly as an excuse for an action, or to create situations that provide people with the opportunity to gain (new) experiences.

Designers who work with food haven't merely chosen a material to work with, just as their colleagues might choose wood or glass. Food is the only material in which the work of the designer is absorbed by the body of the user, from where it makes its way to the brain.

Materials

Designers usually choose a specific material and a scale that will best help them express themselves. We live in a world full of graphic designers, fashion designers, urban designers, product designers, ceramics designers, furniture designers and so on. Designers often work with several materials that are suited to the works they create: wood, plastic, glass, textiles and so forth. The reason why food has only recently begun to be used as a material is not entirely clear. Perhaps it has to do with the transitory nature of the material. In any case, we may say that food can in fact be considered an equivalent material when compared with the more standard materials.

Food can be shaped, squeezed, woven and printed in 3D. In the food industry, a variety of techniques are applied to food. On the one hand, this is done to give the materials appealing properties, such as an attractive colour, a nice feeling in the mouth, or an unusual shape. On the other hand, practical considerations demand that the material have a longer shelf life, an enhanced flavour or, for instance, a reduced risk of breakage in the packaging. There are a wide variety of motives for adapting food. Producers look for ways to make their products as economically attractive as possible, such as how to use the least number of ingredients and still achieve the maximum possible effect. They also deal with issues such as how to ensure the product will move smoothly through the packaging line or how to develop products from residual waste flows.

The traditional skills a designer possesses are very easily adapted to working with food. In spite of this, we shouldn't consider food as an isolated material. The specifications of chocolate are very different to those of bread or meat. Within the food-design field we can therefore distinguish between specialisations that are comparable to those we find in former trades. We could develop a specialisation in the design of meats (which would fall under the scope of the butcher trade). The categories of pastry chef, baker, greengrocer and cheese maker also indicate possible food-design specialities.

Apart from the food itself being used as a material, there are important related topics in which product design is literally necessary, such as the develop-

▲ *Black Confetti*. World War II recipes served in Rotterdam evoking strong childhood memories in war survivors.
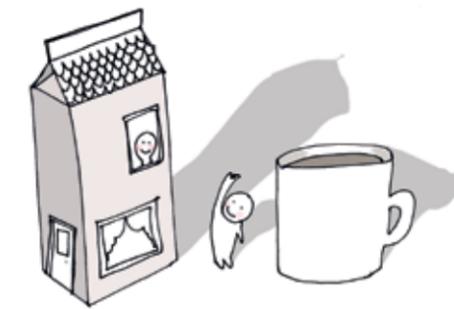
▲ *Sharing Lunch*. Forty strangers sharing a lunch and connecting. Image by Kenji Masunaga.

▲ *Mouth-watering* Spoon for Saved by Droog.

▲ *Faked Meat*. Vegetarian meat from imaginary animals. The diet, habitat and lifestyle of the animals dictate the design of the meat.

▲ *Feed-Love*. Strangers feeding each other while sharing their personal stories.

ment of bio-plastics, biodegradable or edible packaging, and generating energy from food waste.

Nature

Something that people often forget (including people who work with food on a daily basis) is that food always has a natural origin. At the risk of stating the obvious, food is grown and comes from the soil, no matter how you look at it, and no matter how refined and synthetic food may be these days, there is always a link to nature. As a society, we are moving farther and farther away from nature and food production. City people no longer see how animals grow or witness their slaughter. It is hard for a child to understand in today's modern world where eggs come from, how tomatoes and potatoes grow or what a skin sausage is made of. Designers can play a clear role in education and communication about food.

Yet educational aspects aren't the only important issues. The agri-sector is in a constant state of motion and innovation. Farmers are at the foundation of our civilisation. It is a sign of the times that modern farmers are having trouble keeping their head above water. Our primary focus is on gadgets and digital technology, and we take the daily flow of food for granted. Yet food production is not reserved exclusively for farmers. Wendell Berry made this clear in his statement, 'Eating is an agricultural act.' People don't realise that they are part of agriculture. By making certain decisions in their daily eating habits, consumers are controlling farmers from a distance. Designers can play a role in this by ensuring stronger connections between consumers and farmers.

Knowledge of biology is the basis for understanding the food cycle. Starting from rudimentary biology, the field for designers grows and extends to bio-technology, genetic engineering and micro-bacterial research, for instance. This brings us to the next field.

Science

Food plays a major role in science. The functioning of the human body has been studied for a very long time, and a great deal of research has been conducted on the effects food has on our bodies. In spite of all this, the actual functioning of our bodies and how food affects it are generally a mystery. We have been able to clarify bits and pieces, but we have yet to fully understand everything about the great complex machine that is the human body.

Interest in nutritional science has grown a great deal in recent times. We understand that food can have a tremendous impact on our bodies and minds. The more Western diseases increase on a worldwide scale, the greater the interest in

food-related solutions. People are looking for the Holy Grail of health, but the average consumer gets lost in the maze of diets and food philosophies. In addition to dietary science, the medical nutrition field of research has also grown. How can we ensure that scientific discoveries are understood by consumers? Can designers play a role in these efforts?

Food that supports the body, improves its performance, or cures it of disease are not the only complex subjects on which researchers focus. Other major issues occurring outside of the human body such as meat production, innovation in water purification technology, recycling excrement for use as fertiliser, harvesting algae for a broad range of applications, solutions for preventing bee mortality, intestinal bacteria transplants, micro-organisms that eat plastic, and developments in food safety, to name just a few examples, are being studied and developed.

Designers can work side-by-side with scientists and transform scientific developments into useful, comprehensible or tangible designs. Scientists can achieve interesting developments, but if users can't explore this research, understand or interpret it in the right context, the research will only interest a select group. In this situation, the designer once again plays the role of agent, developer. The exciting combination of science and the creative process is not a new invention. Science and art were inextricably linked during the sixteenth and seventeenth centuries and today we see a revival of this trend. The two disciplines are not necessarily united in a single person, but can merge when different specialists work together and reinforce one another.
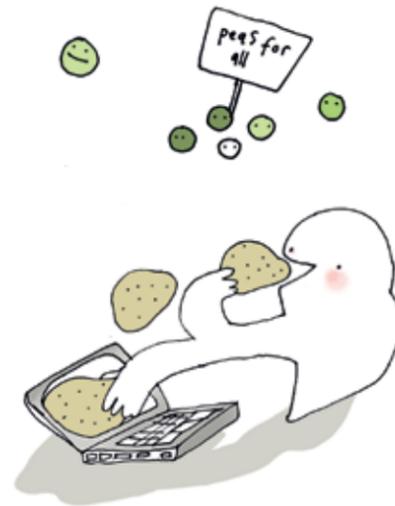
Culture

We live on a giant, beautiful planet. There are people living in nearly every part of the world, and they must all eat to survive. How we eat, what we eat, how we prepare our food, and the etiquette and rituals we have when it comes to eating vary from one region to another. In spite of the fact that globalisation and developments in logistics have played a substantial role in ensuring that these different foodstuffs, dishes and rituals spread to other areas and mix with local customs, we still find clear distinctions in food and eating cultures from one place to another. Sometimes, we come across hundreds of different eating cultures in a single country, traditional cultures as well as pop culture and subcultures. Even if we have no knowledge of history, we can still gain an understanding of how certain events of the past transpired through food alone. We can trace the diffusion of Judaism on a map if we know what people eat in certain parts of the world. A look at the menus of certain exotic restaurants in Rotterdam shows how the Chinese settled in Suriname, and how, as a part of the Netherlands,

> **"Designers can work side-by-side with scientists and convert scientific developments to useful, comprehensible or tangible designs"**

Suriname merged its own cuisine with that of China, thereby bringing together two geographically incongruous areas in a cold climate where these exotic ingredients would never have grown.

Food has also traditionally helped us express our own personal identity. 'You are what you eat' is not just a statement representing our physical state; it also provides an indication of our social status. By definition, religious dietary laws separate believers from non-believers. More modern choices in what we choose to put into our bodies also provide insight into which social group (or subgroup) we belong to. Vegetarians, vegans or fruitarians, intentionally or not, position themselves in a different social corner than that occupied by carnivores. Special dietary preferences indicate people's concern with health or vitality. Special rituals, such as those involved in making coffee or drinking tea, and the knowledge that goes with them afford insiders a certain position within a group. Epicureans and even people who 'simply' eat anything occupy a certain position by virtue of their choices.

Eating habits vary around the world and cultural differences dictate how, what, how much, with whom and when people eat. It is not only the differences currently determined by culture that are interesting for designers. All regions of the world also have a history filled with deeply rooted food stories, preconceived notions, food wars (such as the potato wars in Ireland), superstition and tradition. When you discover that every place on earth has experienced its own unique historical development that has an effect on how people eat, how they assign a value to the concept of food, and how they have evolved as a group over the course of history, then you realise what a rich source of inspiration this is for designers. What can we learn from this history? What does the development of a certain eating culture tell us, and how can we interpret traditions and rituals in today's society? Our lifestyles are changing, we are assigning new standards and creating different definitions of 'family', mothers have long since stopped staying at home solely to raise their children, and designers can play a role in developing more relevant rituals and traditions.

Society

What makes food so radically different from all the other design subjects is that food is always a political act, whether we are conscious of this or not. We are living in the most schizophrenic of times when it comes to food. We (and I am speaking mostly about the Western world) have never had such a wide variety of food available to us and at such a low cost. We spend the smallest percentage of our income on food even though our food safety is considerably higher than it was in the past. There are 2.5 times more obese people than malnourished individuals, and a growing number of people are both obese and malnourished (a large proportion of these are children).
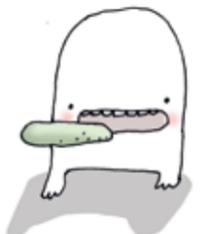
An interesting fact is that we are now living in a time we have dreamt of throughout history. This is a place that has been portrayed in all sorts of paintings throughout the ages: the land of plenty. Every day, our shops are magically filled with fresh food the average Westerner can load up on. The meals that our forefathers might have eaten once a year, at a wedding or special celebration, are now easily eaten every week. We don't know how these products are grown, who has produced them, or from where they have been transported. More and more people are growing up without knowing how to cook. In major cities with high property prices in Asia, but also in New York, flats are even built without kitchens. Many people eat alone, seated in front of a computer screen. We see this scenario alongside the increasingly present concept of food porn, and the enormous quantity of food photos being posted on Instagram and other social media sites, the increasing focus on the origin of food, a host of slow-food enthusiasts and a growing market share of organic products.

This disunity may be seen throughout society, yet nowhere is it as blatant as it is with food.

We are faced with a very pressing set of problems. The topics vary from overfishing and loss of biodiversity to food waste (⅓ of all food produced becomes waste), bee mortality on a massive scale, animal exploitation, a growing world population plus increasing prosperity and rising consumerism versus the Earth's production capacity. And these are only a few examples of the increasing range of problems that the large-scale production of food (in addition to food safety and affordable and easily accessible food for everyone) has entailed in the last century. It is precisely these problems that increase the need for creative spirits, now more than ever.

> "Designers are people who can move from one specialisation to the other and who can shift gears at a moment's notice, both in terms of technical and cultural aspects"
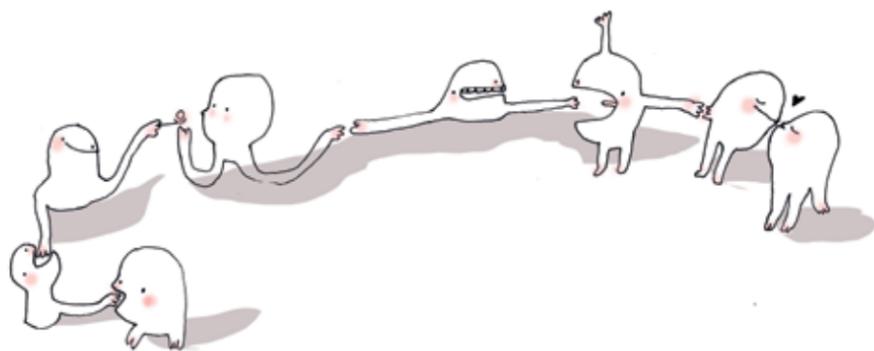
What can designers do with these seven areas?
Designers are people who can move from one specialisation to the other and shift gears at a moment's notice, both in terms of technical and cultural aspects. Designers are not people able to solve all these problems, but they can provide acceleration and connections.

A connection can be created between farmers and mothers feeding their children. Food technicians can work with logistics specialists, scientists with retailers, and seed improvement companies with environmental activists. These connections are not linear. Designers connect specialists to each other, yet apply the factor of creative thinking. Or as Einstein said, 'Imagination is more important than knowledge.'

I am convinced that designers who focus on food are aware of the moral and political implications of their chosen subject matter. This complexity adds yet another layer to the work of the Eating Designer. However, an overly moralistic attitude can be fatal for creativity. It's up to designers to strike the right balance. This of course can also be applied to all those who eat food.