

# Your body will make itself heard

By Alice Strete

## Introduction

The disconnection between humans and the origin of the food they eat has never been greater, and new food technologies are not helping to decrease it. The food we consume on a daily basis is shipped from all over the world, has ingredients we don't recognise and is delivered to our homes through immaterial applications by freelance workers. Food is increasingly becoming part of a viable business model for technology entrepreneurs. Issues such as the value of one's time, paid vs unpaid labour and the importance of cooking in society have found their way to Silicon Valley, from where they have come out reflected in a number of consumer products and services which try to reinvent the role of food in our lives.

Silicon Valley's interpretation of food does not reflect the importance people place on it. The focus within that culture is on profit and innovation, while the cultural role of food, traditional gender roles in food preparation, or the values related to collective memory and cooking, are largely unrepresented. Instead, the emphasis is on the continuous quest to improve food as a product, within the value system of techno-solutionism. This system revolves around striving for perfection, maximum efficiency, and no ambiguity. Evgeny Morozov, in his book *To Save Everything, Click Here* critically describes this value system, explaining that "this never-ending quest to ameliorate [...] is shortsighted and only perfunctorily interested in the activity for which improvement is sought" (Morozov, 2013). This criticism is valid when it comes to presenting meal replacements, the materialization of techno-solutionism in food, as a solution to anything from time management, nutritional dilemmas, food waste and sustainability.

Of course, it is imperative to rethink current ways of food production, from the harmful effects of industrial agriculture on the climate to the damage processed meals are causing our bodies. Issues such as food access and food waste also demand immediate action. However, the money currently being invested in food technologies are going into startup businesses selling hyper-processed complete foods and gadgets that have consumers completely dependent on these companies for every meal, while claiming to solve the problems listed above.

Cooking is a task traditionally imposed on women, ever since the rise of agricultural societies (Smith, 1997). Women received little help from others in the kitchen, and were expected to provide meals for their families, at the expense of having a career. The wish to liberate themselves from this imposed, time-consuming activity has been expressed throughout history, from the first dreams of food compressed inside a pill, developed by both suffragettes and science-fiction enthusiasts, to various tools to make cooking easier and more efficient. Today, technology companies selling meal replacements present their products as innovative solutions for today's zeitgeist, as well as a glimpse inside the future of food, while completely disregarding previous struggles that have led to these ideas being posed in the first place.

My research was inspired by the book *In the age of the smart machine* by Shoshana Zuboff. In it, she described her privileged position to experience and investigate the world of labour on the verge of it being revolutionized by computerization (Zuboff, 1988). She looked at the

changing relationship of workers to their own bodies, the abstraction of their work and the way this dramatic change influenced the relationships between individuals. It is fascinating to look at the meal replacement phenomenon, and the repositioning of food within society as potentially similar. What will the future of food look like? What sort of impact does the increasing abstraction and commodification of food and the labour of cooking have on the way we relate to the world and one another? What can we learn today, on the brink of a crucial development, ahead of technological innovations that will change the way we live as humans and relate to our bodies?

## Chapter 1 - The Gender on Your Plate

### We love food, we hate having to cook it

There is a theory of evolution that says the following: the development of the Homo Sapiens brain happened mainly due to the discovery of fire, and subsequently cooking. By using less energy to hunt for fresh food, and spending less time chewing raw materials, the human brain had increasingly more space and time to develop new activities, ponder upon its surroundings and grow in size (Wranghart, 2009). Throughout the years, cooking has maintained its crucial role in all parts of the world, as a fundamental part of culture and society, but also as a way to make foods safer to eat and easier to preserve. Cooking also represented a catalyst for humans to become more social beings, which became more civilized and introspective while sitting around the cooking fire (Pollan, 2014). But while everybody benefited from the positive aspects of cooked food, the labour associated with it became a task reserved only for some.

Women have been pushed towards domestic work ever since the evolution from more equal hunter-gatherer societies to settled agricultural societies (Smith, 1997). Traditionally, men provided the meat, earned by hunting, or by going to their paid job. Women would then be in charge of preparing food for everyone, and that role would rarely change. Throughout time, cooking as a means of caregiving became a practice identified more with women, while cooking as entertainment or skill display was, and still is, associated with men (Cairns et al. 2010). In many households it is still often considered a special occasion when the man of the house cooks. This view was reinforced in cooking advice from the 20th century; men do not cook on a daily basis, but when they do, they cook dishes that best display their skills (Vester, 2015).

Discussing the gender politics of cooking, Pollan wonders: "Was home cooking denigrated because the work was mostly done by women, or did women get stuck doing most of the cooking because our culture denigrated the work?" (Pollan, 2014). Men often have a privileged position when it comes to their cooking practice - mostly with meat, outdoors, seen as entertainment, celebrated as a display of skills, while women's cooking happened behind the closed kitchen doors. Today, most of the world-renowned chefs, the ones who win countless awards and get their own TV shows are men.

However, the more time we spend watching chefs cook meals we'll never get to eat, the less time we spend cooking for ourselves. In the past decades, studies have shown that cooking time has declined (Pollan, 2014; Ferdman, 2015). Less cooking in the average household means, on the one side, less housework reserved for women. It also means that corporations

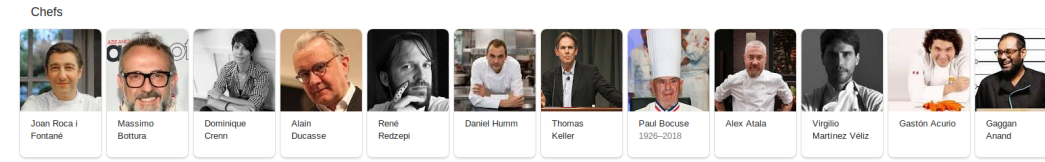


Figure 1:

have made great profits from providing the food we eat on a daily basis, which comes with several downfalls. "Corporations cook very differently from how people do [...]. They tend to use much more sugar, fat, and salt than people cooking for people do; they also deploy novel chemical ingredients seldom found in pantries in order to make their food last longer and look fresher than it really is"(Pollan, 2014). Eating packaged foods has increased the distance between what raw ingredients are and where they come from, and the food we actually consume. "Food becomes just another commodity, an abstraction. And as soon as that happens we become easy prey for corporations selling synthetic versions of the real thing - what I call edible foodlike substances."(Pollan, 2014).

## Women in the kitchen

The phrase *a woman's place is in the kitchen*, or in the home, has been traced back as far as Ancient Greece's Aeschylus. Since then, it has been restated and reinterpreted throughout history, in literature, art, and politics (Popik, 2013). We can see an example of this belief clearly phrased in a clip from *Leave it to Beaver*, a popular 50s American sitcom. In it, the father explains to a confused son why he's more suited to do all the grilling outdoors, while his mother works inside the kitchen. "A woman's place is in the home, and as long she's in the home, she might as well be in the kitchen. Women do alright when they have all the modern conveniences, but us men are better at this rugged type of outdoor cooking. Sort of a throwback to cavemen days." (Leave it to Beaver, 1957). His last remark reinforces the idea that gender roles have an evolutionary development, are part of human nature and should not be questioned.

A brilliant example of the portrayal of women in the kitchen, from a woman's perspective this time, is Martha Rosler's *Semiotics of the Kitchen*. In this performance piece, Martha Rosler stands in typical kitchen, without any discernible facial expression. After sitting still for a few seconds, she proceeds to go through all kitchen tools spread out in front and around her, each representative of one letter of the alphabet. She manipulates every object with sudden, violent gestures, sometimes even performing useless tasks such as pretending to throw the contents of a spoon over her shoulder.

Her piece is meant to express the frustration of women being stuck doing domestic labour, which is taken for granted. It is also a parody of the cooking shows of the time, particularly the one hosted by an always cheerful Julia Child. In her video, the woman becomes only a representation of the tools she uses, which is why, for the last few letters of the alphabet, she uses her body to represent the letters. "I was concerned with something like the notion of <language speaking the subject>, and with the transformation of

the woman herself into a sign in a system of signs that represent a system of food production" (Rosler, 1975). In her mock culinary show, she is no longer a cheerful performer, but uses the tools that have been assigned to her as an expression of anger and frustration: "when the woman speaks, she names her own oppression."(ibid)

As both men and women have been finding their place within the workforce, sharing the workload within the home has increased slightly. However, even in homes where both partners work full-time, the majority of chores and administrative tasks still fall on the woman's shoulders, either mentally, or in practice. The extra workload that consists of planning and organisation and leads to the execution of the tasks has been coined by feminists as *the mental load* (Emma, 2017). Household management is yet another invisible task done by women, a time-consuming work nonetheless, which adds up to the time already spent doing house chores.

Today, we have more options. Both the mental load and the actual chores can be automated, to some extent, through technological solutions, such as subscription-based services, or simple tasks executed by gig-workers, facilitated through various apps.

## The post-mom economy

The contemporary field of technology has created a world that suits its workers perfectly. A well-paid position in IT allows one to move from mom's home, which also means moving away from all the benefits that come with living under her roof. But the solution to all the extra work on their shoulders, which they are often unprepared or unwilling to do, can be easily fixed. Mother, in this situation, can be replaced with software tools - services performed via applications by gig workers.

In the *post-mom' economy*, there are services like Uber to drive you around, Washio to do your laundry, Deliveroo to bring your food, Lot 2046 to send you regular supplies of clothes and grooming items, DUFL to pack your bags, Sleepscore to wake you up, HydroCoach to remind you to drink water, and various other subscription-based services to deliver you new underwear every month. These seemingly easy tasks are deemed not worthy of one's already limited time, in a culture where people are being pushed to perform and be productive at all times. Once mommy stopped providing these services, it's time for her to be replaced with an app.

The main goal of these services is to convince users to separate important decisions from meaningless ones, and focus their time on what's important, usually represented by paid labour. Deciding how to dress and what to eat can be outsourced to a corporation, which uses this as their selling point. This form of convenient consumption limits the need to think about your choices, and becomes an automated form of comfort.

It is easy to explain why most of the latest startups can be put under the *post-mom economy* umbrella. Entrepreneurs are encouraged, or rather pressured, to find solutions to problems they are facing themselves, and monetize every aspect of life. For many, the problem they face is becoming an adult with too much money to spend, and too little time outside of work. Keeping a high level of performance at work at all times does not allow much time and mindspace for dealing with the practicalities of adult life, and the latest consumer products reflect this reality.

## The value of time

Cooking is an activity that falls under the issue of what one's time is worth. Depending on the socio-political environment, and on gender expectations, there are different standards to what is celebrated as a good use of one's time. However pleasant and rewarding, proper cooking takes time, starting from planning and sourcing ingredients, to peeling, chopping, boiling, frying and doing the dishes. Here one can identify the difference between what is valued as time well spent versus what is considered an indulgence.

Within the household, traditional gender roles apply to time management as well. When feminists were asking for equal responsibilities in the household, the time they spent cooking and cleaning was valued as caregiving for the family, a task they were *supposed* to do. Nowadays, many people live in single-person households, or shared accommodation, and do not have access to this traditional female figure, whether a mother or a partner, to do the work.

The tasks associated with preparing food or keeping a home are forms of unpaid labour that are often considered not worth one's time. Within the current economic regime, this workload is often performed by so-called *gig workers*, self-employed labourers controlled by applications, who work under the premise that they can manage their time however they want. In fact, their working time is strictly surveilled digitally, and are often pushed to take risks and work even faster to cope with their precarious income (Woodcock, 2017).

It is much too easy nowadays to rely on the food industry. Taking time from one's day to dedicate oneself to cooking from scratch can be a luxury, since it involves planning, trips to the store, extended cooking time. In this context, cooking can become a statement, a liberation from corporate enforced consumption, a decision to become involved in every step of the process of transforming raw ingredients into a satisfying meal. I find Michael Pollan's view on this very inspiring:

"In a world where so few of us are obliged to cook at all anymore, to choose to do so is to lodge a protest against specialization [...]. Against the infiltration of commercial interests into every last cranny of our lives. To cook for the pleasure of it [...] is to declare our independence from the corporations seeking to organize our every waking moment into yet another occasion for consumption. It is to reject the debilitating notion that [...] the only legitimate form of leisure is consumption. This dependence marketeers call <freedom>."(Pollan, 2014)

## Futurist predictions on food - Meal in a pill

When the amount of chores one has to do as an adult takes up a considerable amount of time, it doesn't surprise me that most predictions about the future on imagining all the various ways technology will change the way we do things now. Early retrofuturist ideas depict future humans in flying cars, interacting with robots, or with superhuman abilities. They no longer waste time on daily tasks, since most things can be achieved with the press of a button. One aspect that keeps coming back, though, is the issue of food. No matter how advanced future humans will be, they will always have to eat.

# Regain your freedom

Eating well can take time, but why should it take up yours? Enjoy your new life with Feed. and discover a new concept that will give you your freedom back. You will find that you have more time to take part in your hobbies and favourite activities.

Figure 2:



NO ONE WORKS AS HARD AS WOMEN DO FOR NOTHING  
 WE WANT TO BE PAID FOR THE WORK WE DO  
 WE NEED MONEY OF OUR OWN TO MAKE CHOICES IN OUR LIVES  
 NO WOMAN SHOULD HAVE TO DEPEND ON A MAN

WE DEMAND

# WAGES FOR HOUSEWORK

FROM THE GOVERNMENT  
 FOR ALL WOMEN

COME TO DISCUSS WITH US AND FIND OUT WHAT TO DO FOR THE  
 CAMPAIGN FOR WAGES FOR HOUSEWORK

WEDNESDAY FEB. 11 in Manhattan:  
 7 - 10 p.m.  
 COMMUNITY CENTER 119 9<sup>th</sup> Ave  
 HUDSON GUILD FULTON CENTER (at 18<sup>th</sup> St.)  
 Child Care Provided

New York Wages for Housework Committee 288 B Eighth St. Brooklyn, N.Y. 11215  
 Wednesdays and Saturdays 11 a.m. to 4 p.m. 965 4112

Figure 3:

One of the first mentions of a solution to the division of labour came in a dystopian novella written in the late 19th century. The author was a conservative woman called Anna Bowman Dodd, an avid critic of the women's emancipation movement. In *The Republic of the Future*, she imagines a transformed New York in the year 2050, governed by socialists and feminists, seen through the eyes of a Swedish aristocrat called Wolfgang. The man writes home to his friend and describes the life of future New Yorkers as joyless and bland. He blames the situation on a couple of developments such as equality between sexes, reduced labor hours and abolishing of class society.

One aspect of life that comes up is food, provided not by kitchens, but personalized by the scientists in the Office of Hygiene. Food in this socialist society has been reduced to pellets or liquids transported to every home through pneumatic tubes, convenient enough to be taken in one's pocket and eaten on the go. The explanation for this development, that the author finds quite outrageous, is women's liberation. "If kitchens and cooking and long dinners hadn't been abolished, the final emancipation of women could never have been accomplished. [...] When the last pie was made into the first pellet, woman's true freedom began" (Dodd, 1887).

Thus, the first idea of meal replacements as alternatives to time-consuming activities such as cooking, dining and cleaning appears, notably as a criticism, a ridiculous solution brought about by outrageous feminists who try to ruin everything that's fun in life.

Soon after the publishing of this work, another futurist food reference was introduced. This came in Mary Lease's essay, a suffragette feminist from the late 19th century (Roodeburg, 2018). In her work, commissioned for World's Fair in Chicago in 1893, she envisioned the future of food 100 years from then. Cooking was a chore that first wave feminists of the late 19th century wanted to leave behind. Thus, in 1993, the future was supposed to look like this:

"Science will take in condensed form from the rich loam of earth the life force or germs now found in the heart of the corn, the kernel of the wheat, the luscious juice of the fruits. A small phial of this life from the fertile bosom of mother earth will furnish man with subsistence for days, and thus the problems of cooks and cooking will be solved." (Lease in Novak, 2013)

The purpose of this futurist food was to liberate women from their household chores, and decrease inequality between both genders and social classes. It was also meant to provide a more sustainable food source, that would replace meat, and would make the lives of agricultural workers easier.

This is quite an interesting look at the birth of the same idea, suggested by two opposing ideologies, one as a criticism, the other as a serious suggestion. It is unclear which part Mrs. Dodd is opposed to - the idea that forcing women into housework is oppressive, or the rejection of food-related traditions, which she presents in her fictional work. However, being the sole responsible for cooking in the household was a reality for most women, and I believe that situation is what feminists wanted to be solved in the future through the wonders of technology.

Representations of food in the future are typically bleak. Regardless of it being a dystopian or utopian future, a drastic change in the way people consume food is called for. But



one aspect of future food that is recurrent is the fact that food production is always obscured. There is no telling where the food behind the Food-a-Rac-a-Cycle in *The Jetsons* came from, nor what are the ingredients of the various meal-in-a-pill representations. However, when the origin of food is revealed, as with the examples in the movies *Soylent Green* and *The Snowpiercer*, it is usually a gruesome reality that is better to be obscured.



This is yet another example of the work being done behind the scenes, inside kitchens of the

past or the future, is unworthy of being brought to light. The details of the actual cooking are either too boring or too disgusting to be revealed, when the only goal of food is to fuel the human body. This is also present today as close as the Netherlands - how is that much more different than vending machine restaurants, such as Febo?

Humans' relationship with food has always been complex. Cooking has increased our brain capacity, has made us more social, and has led to the development of intricate, highly personal relationships between members of the same community. It has also been a reason for frustration. Generations of women have been educated with the only purpose of eventually hiding inside their family's kitchen, where they will find themselves stuck for most of their life.

Technical innovations in the kitchen and in the food industry have largely been targeted to women, to allegedly help them cook faster and more efficiently, in order to have more time to spend with their family. Meanwhile, dreams about not having to cook at all in the future kept being represented, from futurist essays of suffragettes to science-fiction movies. Technology has always had a great importance in the world of food, and today we have numerous examples of new technologies that reflect our current socio-political climate. In the following chapter, I look at some of the ways in which the world of technology and the world of food are interconnected.

## Chapter 2 - Eating through algorithms

### What is appropriation

The transfer of food terminology in programming, on a smaller scale, and the innovations in food technology on a larger scale are instances of cultural appropriation. The definition of cultural appropriation is "The unacknowledged or inappropriate adoption of the customs, practices, ideas, etc. of one people or society by members of another and typically more dominant people or society." (Oxford dictionary)

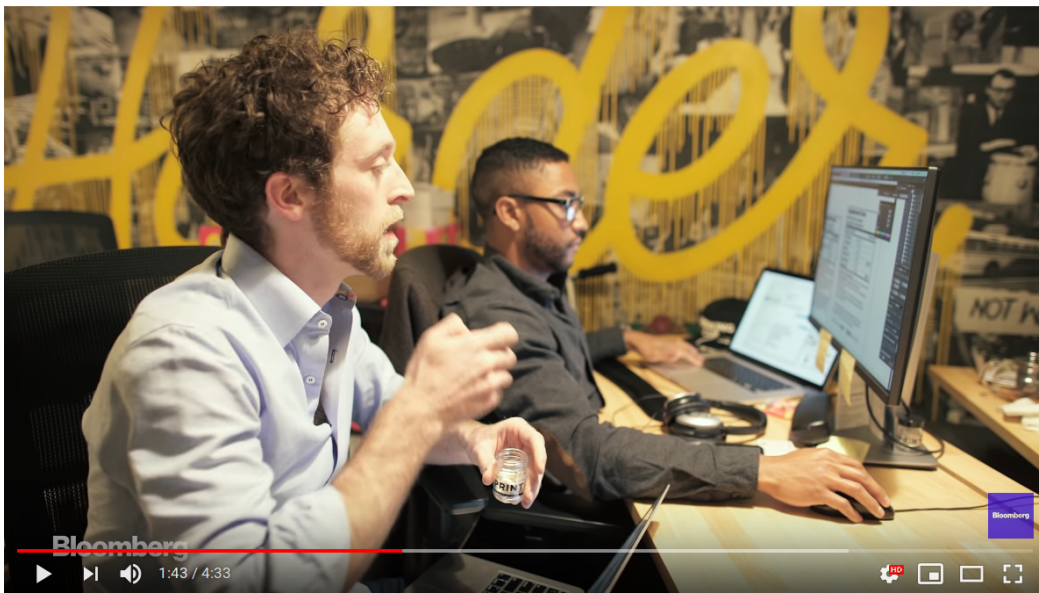
In the case of the current representations of food in society, I noticed a couple of trends that have certain aspects of cultural appropriation. On a broader scale, I can mention the representation of men and women in popular food culture. Women's attempts to make cooking and domestic activities recognized as a legitimate occupation have been largely overwritten by the new status symbol given to chefs, male in their majority, around the world.

In food technology, there has been a clear re-branding of products originally intended for women. One very famous example is the weight loss meal replacement Slimfast, turned into a product meant for busy, successful businessmen (Bowles, 2016). On the same note, cultural/spiritual traditions such as fasting (Tiku, 2016), doping with performance enhancement drugs (Bloomberg, 2016), or appropriated traditional recipes re-branded as proprietary innovations (Bulletproof, 2016) are all familiar in Silicon Valley.

Dave got the idea for Bulletproof Coffee after a trek in Tibet in 2004. At 18,000 above sea level and -10°F, his energy was plummeting - until he staggered into a guest house and a local handed him a creamy cup of yak butter tea.

The butter-infused drink is a necessity for the people in Tibet, who live and work in such rugged, high altitude terrain. The drink instantly rejuvenated Dave. It was like a flip was switched on in his brain and body.

Not surprisingly, the *new and improved* food industry that comes from Silicon Valley is overwhelmingly male. Their success model, summed up under the concept of *hero culture*, is based on self-experimentation, a habit that extends to the employees of the company. For instance, all HVMAN employees, a company that sells performance-enhancing pills, practice intermittent fasting and constantly seem to be taking pills at their desks, even though the founders claim the habit is not forced upon the employees.



Want to Hack Your Body? This Startup Says Its Pills Will Help

Figure 4:

## Cooking as programming

I have not been able to find the starting point of the food terminology being used in the programming world, but my first introduction to it was through the O'Reilly cookbook collection. It seems that programmers are quite fond of this analogy, something that can be seen, for instance, in the foreword for the O'Reilly Perl Cookbook, written by Larry Wall. While, in his

opinion, "Cooking is the humblest of arts", both cooking and programming languages can be used "not merely (for) getting the job done, but doing so in a way that makes your journey through life a little more pleasant" (Wall in Christiansen & Torkington, 1998). One of the nicest things he has to say within this analogy is the hope that Perl recipes will be passed on to future generations, much like traditional recipes written by grandmothers in old, dusty handwritten cookbooks.

*Recipes for Mastering Python 3*

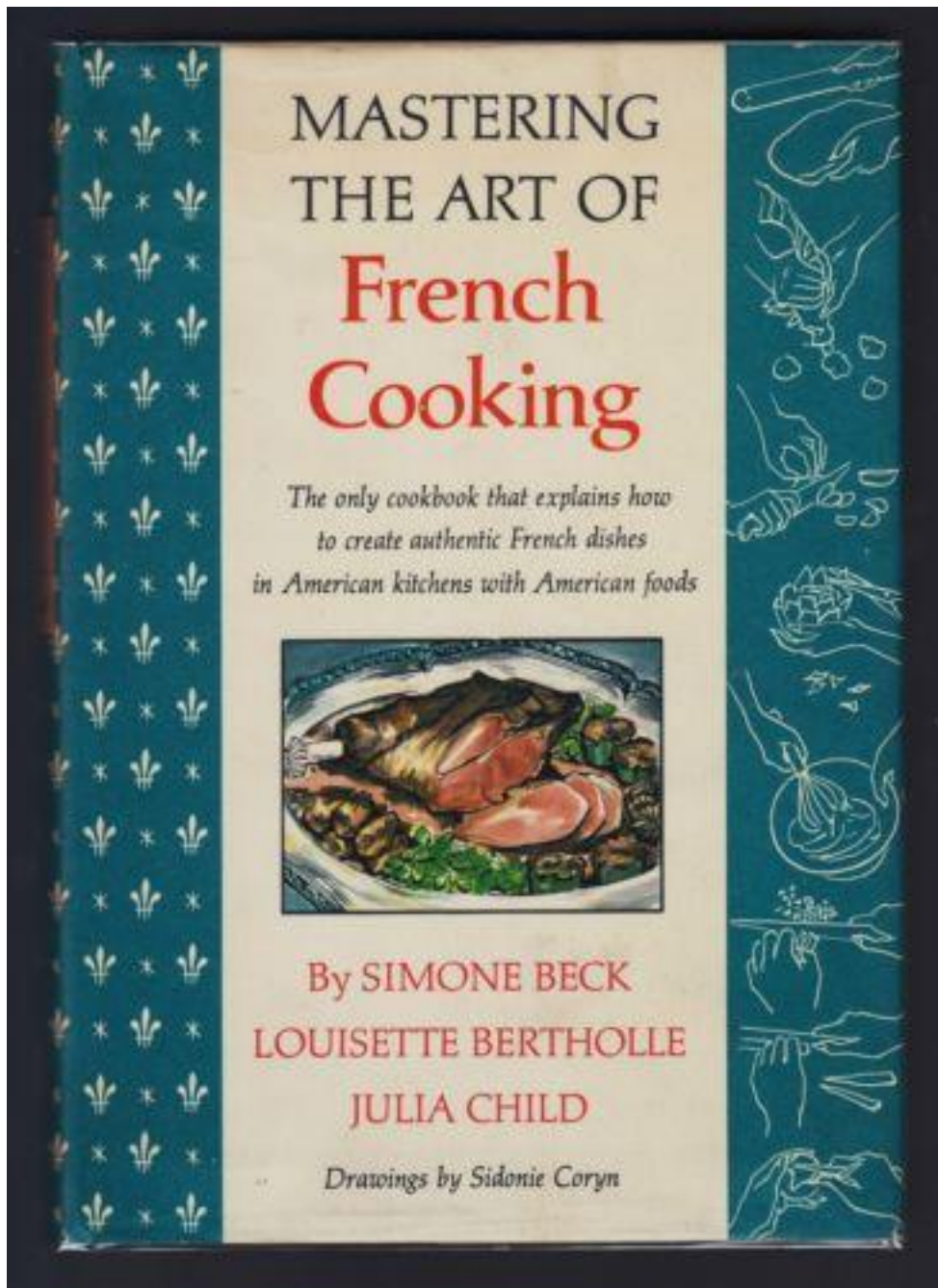
**3rd Edition**



# Python Cookbook<sup>®</sup>

**O'REILLY<sup>®</sup>**

*David Beazley & Brian K. Jones*



While the previous example is bound to give all programmers a warm and fuzzy feeling, there are plenty other encounters with cooking analogies in the world of technology. On the one hand, there is a tendency to idealize the figure of the geek, the nerd, the misunderstood genius who prefers to hack away at his computer rather than face the real world. The geek has integration issues outside his community, where he has trouble understanding the ways

of the world. Portrayal of men (since the geek figure is always a man) as useless in the home, clumsy, inexperienced, only further reinforces the idea that it's the woman's role to stay on top of these domestic activities. Here's a telling example of this view, from a cookbook written specifically for this demographic: "Hackers, makers, programmers, engineers, nerds, techies-what we'll call "geeks" for the rest of the book (deal with it)-we're a creative lot who don't like to be told what to do. We'd rather be handed a box full of toys or random electronic components [...] and let loose to play. But something happens to some geeks when handed a boxful of spatulas, whisks, and sugar. Lockup. Fear. Foreign feelings associated with public speaking, or worse, coulrophobia."(Potter, 2010)

On the other hand, there is the tendency to explain programming and algorithms using cooking as an analogy. This oversimplification is nothing new in terms of pedagogic methods, but in this case it makes the assumption that everyone is accustomed, familiar and comfortable with cooking, which is often not the truth. In his book *Algorithmic Adventures. From Knowledge to Magic*, J. Hromkovic attempts for an entire chapter to find similarities between all aspects of an algorithm and cooking. The definition of the algorithm is meant to bridge the gap: "an algorithm [...] provides simple and unambiguous advice on how to proceed step by step in order to reach our goal." (Hromovic, 2009). However, throughout the rest of the chapter, I found the analogies more and more forced, making the entire explanation more confusing than it was intended. In another example, the author of a blog post is quick to note that "Programmers are the master chefs of the computing world - except the recipes they invent don't just give us a nice meal, they change the way we live"(Curzon, 2017). His claim seems to be: the two are similar, but, of course, cooking is infinitely more trivial than programming, because the latter has life-changing capacities.

In other technology communities, such as the completefoods.co platform, the recipe has been reduced to a spreadsheet. In the hope that it will make life easier and more efficient, complete food enthusiasts have gathered on an online platform to share their extremely technical recipes for meal replacements, with ingredients measured down to a single gram, linked directly to an Amazon checkout basket. You can add tasty ingredients such as potassium chloride, grass-fed whey and choline bitartrate to your fresh batch of DIY powder, ready to be mixed with water and enjoyed for every meal. This style of food production gives people the illusion that they have more control over what they consume. In real life, this approach to consumption has several issues - from the obscuring of food production, to over-reliance on corporations for sustenance.

## Disconnecting the mind from the body

### Socio-political context for the development of meal replacements

The rise of products branded as innovative foods has largely happened in the last decade, originating from Silicon Valley. The latest innovations, such as meal replacements, make promises for an empowered self, with full control over what one puts in one's body. Companies place a lot of emphasis on a scientific approach to selecting ingredients for a particular product, and brand their products as technologically advanced food items. But the process

# NerdShake 2.0 Vegan

by Luschgy  Last updated July 8, 2017  Copy

Overview Reviews <sup>2</sup> Comments <sup>1</sup> [Recipe Editor](#) [Buy from Amazon](#)

Amount	Ingredient	€ / day	Source
200 g	Instant Oats	€0.55	<a href="#">Amazon DE</a>
100 g	Maltodextrin	€0.34	<a href="#">Amazon DE</a>
20 g	Gerstengras	€0.35	<a href="#">Amazon DE</a>
1 pill	Mega Mineral *	€0.10	<a href="#">Amazon DE</a>
1 pill	Vitamin D3	€0.02	<a href="#">Amazon DE</a>
36 g	Rapsöl	€0.04	lokal
4 g	Natron (E500)	€0.04	<a href="#">Amazon DE</a>
15 g	Flohsamen	€0.42	<a href="#">Amazon DE</a>
2 g	Kaliumchlorid (E508)	€0.02	<a href="#">Amazon DE</a>
15 g	Sonnenblumenlecithin	€0.35	<a href="#">Amazon DE</a>
70 g	Recharge Protein F98 *	€0.56	<a href="#">Amazon DE</a>
25 g	Soy Protein Isolate	€0.39	<a href="#">Amazon DE</a>

Amounts for:  ▼ **Total Daily Cost:** €3.16 [Add Ingredients to Amazon Cart](#)

Figure 5:



of producing or sourcing the ingredients is almost never exposed, thus further obscuring the processes involved in food production. One notable example is the company Huel, which created a video on YouTube titled *How Huel Is Made*, but failed to actually show their process. Instead, the video described its packaging and delivery system, a fact that was quickly noted in the comments section as disingenuous.



David Boodoo 2 months ago

Customer: "Hey McDonalds, how do you make your burgers?"  
McDonalds: "Oh simple, we just put the burgers on the grill, then-"  
Customer: "No no, like, how are THE ACTUAL BURGERS made?"  
McDonalds: "...then we take them off the grill and dress them up and serve it straight to you!"  
Customer: "that's your answer?"  
McDonalds: "Official answer."  
Customer: "I wish I hadn't asked."

I love Huel. On my 4th bag of the stuff. But when your video titled "How it's made" doesn't show me anything about how it's made, I'm now concerned with your ingredients and processes MORE THAN IF I'D WATCHED THE VIDEO! It feels like you're trying to fool me. Which is both worrying and insulting.

Figure 6:

The celebration of not having time to tend to your bodily needs properly, and at the same time putting so much emphasis on giving the body personalized nutrition in the most pleasureless way is, of course, a paradoxical incongruity. At the same time, the idea that you are solely responsible for your well-being, and that you can control your health and efficiency with the right consumer habits is another heavily promoted concept. Trying to reconcile and adopt all these suggestions for how one should live their life is almost impossible, and leads to burnout. However, startups in Silicon Valley and all over the world are more than ready to provide products to any imaginable issue that can be identified, in order to achieve their prescribed quality of life. This is problematic in many ways, because it completely ignores other factors that influence our lives, such as social class, income, education, access etc, while promoting efficiency and production as the main goals to be achieved by humans.

## Nutrients > Food

Technology startups did not invent meal replacements, nor fortified foods. These products came on the market for various reasons historically, most importantly to deal with various nutrient deficiencies. In some cases, the nutritional value of food is reduced through various processing methods. For instance, in the case of white flour, the husks removed in the process of milling wheat contain nutrients like niacin, riboflavin, folic acid and iron. The same nutrients are added back into the flour, increasing the price of the product, and enabling flour producers to make all sorts of health claims.

Nutritionism is the basis of all iterations of products trying to *disrupt mealtimes*. As expressed by Huel's community manager, "We wanted to strip it back to what the actual purpose of food is to provide nutrition (...) People are very focused on taste now - does it taste good? That is not the primary purpose of food"(Turk, 2018). Nutritionism and the food industry in general have, for decades, capitalized on people's fears and confusion related to food. They created the problem, and then promoted a product to allegedly solve it.



Today's companies which produce and sell meal replacements and other innovative food products present a number of health claims, including complete nutrition, better concentration, disease prevention, etc. But the lack of unaffiliated long-term scientific studies, and the association with nutritionists that sit on the board of directors can raise suspicion in anyone. The fact that the food industry is able to make such claims can be traced back to the 90s, when the United States Congress passed a couple of laws, FDAMA (Food and Drug Administration Modernization Act) and DSHEA (Dietary Supplement Health and Education Act), which gave more freedom to the food and supplements industries to introduce new substances into their products without much pushback from the Food and Drug Administration (Nestle, 2013).

Looking at food as simply fuel for the body means completely disregarding the entire culture that has grown around food in every part of society. This phenomenon is described by Marion Nestle as reductionism, which, in this context, refers to reducing food to containers of nutrients. "Techno-foods offer a reductionist approach to choosing a healthful diet" (Nestle, pp 334) which only encourages food producers to come up with more and more products to sell to those who find this view appealing.

## The rise of meal replacements

The way we transform nature for our personal purposes does change the way we interact with each other. Developments in food production are changing the way we relate to the world around us. On the other hand, food can also be designed with a specific purpose or

atypical environment in mind. Notable examples here are MRE packages created specifically for soldiers in combat who do not have access to any other food for a long period of time, and space food created for astronauts; in short, instant food, which has been a fascinating topic for generations.

The latest instant food craze comes in complete foods, or meal replacements. Most commonly in the form of a powder meant to be mixed with water, these products claim to contain all necessary nutrients, and can thus replace normal meals. Rather than being specifically designed for a harsh environment, meal replacements target young professionals who can't find the time, or desire, to prepare and consume a traditional meal throughout the day. By consuming a meal replacement shake for breakfast and lunch, one does not have to sacrifice time, or nutritional value, in order to be able to keep going about their daily work. The companies producing these products, largely startups owned by technology entrepreneurs, promote them as solutions to a large variety of problems: lack of time, inconvenience of cooking, *food voids*, which is all the times one doesn't have direct access to a meal when hungry, world hunger, climate change, etc.

Meal replacements are often promoted similarly to software or hardware, rather than food. They have different iterations, such as Soylent 1.0, 1.1, 2.0 and so on, prominent lot numbers, and improvements are described as "**fixing bugs**" (Widdicombe, 2014).

In my research of meal replacements I looked at the development and rise of the brand Soylent, the first one of its kind. The product was developed in Silicon Valley by a couple of computer scientists who were looking for their breakthrough in the startup world. They were all young white males with no cooking experience, who were surviving on frozen fast food, and were frustrated by the quality of their meals and the time it took away from their day (Widdicombe, 2014). Taking the approach of an engineer in a social vacuum to this problematic situation, they came to the conclusion that traditional nutrition is very inefficient. The best way to go about this, according to them, is by reducing food to its most basic elements. This comes across as the ultimate life hack, as it allows them to further release themselves from their human bodily needs and exist purely for the purpose of being efficient in their search for profit. In this way, food preparation and consumption necessary on a daily basis is reduced to a minimum.

After Soylent's astonishing success, and due to the fact that their product could not be shipped outside the US because it didn't meet food regulation standards, many similar products appeared on the international market. In the UK, Huel is making huge profits by selling products with an extremely similar design to Soylent. In the Netherlands, Joylent (later JimmyJoy) came as a clear imitation of the original brand. Their childish, colorful and cartoonish designs are associated with "**the stereotypical nerd who rarely leaves the house because he does not want to interrupt his game**" (Roodenburg, 2018), a completely different approach than the sleek, minimalist and modern look of Soylent and Huel.

An analysis of all these different products has led me to some conclusions. The rise of meal replacements came from not from a desire to improve food, but to disregard traditions and disrupt the food industry. The products are also a techno-solutionist representation of Silicon Valley ideologies. They promote a quantified lifestyle, of an individual that is highly efficient and productive, both professionally and outside of work. They promise to

employ the benefits of technology to solve all common problems of daily life, including some that people might not even consider problems. And going even further, they pledge to work towards improving people's health and solving food waste and world hunger.

## **Chapter 3 - Our prospects beyond today**

### **Efficiency, body discipline and the road to conquering death**

Following current trends in technology can give us an insight into the direction our society might be going. Among the latest points of focus in the mainstream technology world, I identified 'meal disruption', genomics, 'the quantified self', nootropics and geriatrics. The wish to disconnect the weakness of the body from the sharpness of the mind is present in all these iterations of technology. These topics are also connected with the frustration of not being able to change some aspects of our life, such as the need to eat, rest, and the inevitability of death. These issues are of great interest especially within the small circles of the world's millionaires, some of which have invested fortunes into research and development.

In the view of Ray Kurzweil, the famous self-proclaimed futurist, the body deserves no respect in its fragility, and all its shortcomings can be conquered through the intelligence of the brain (Transcendent Man, 2009). In the future he envisions and predicts, a transhumanist future, the body as a unique physical entity has no place, when our minds will be able to explore many new worlds and inhabit virtual bodies, while holding vast amounts of universal knowledge. This view is in clear contradiction to feminist notions of situated knowledge (Haraway, 1988). We cannot possibly talk of an universal knowledge, when the production of it, and its beneficiaries, exclude most of the population.

In the same idea, and relating back to the topic discussed in the previous chapter, meal replacements represent an ideological universal solution to the problem of the body. In my view, they play the role of a consumer market-friendly product which comes as an introduction to bigger and more valuable in terms of profit issues, such as disease and getting old. Like universal knowledge, universal nutrition cannot represent a solution the the nutritional needs of the entire planet. The solutions currently provided by companies which produce meal replacements are not as sustainable, affordable and appealing as they claim. Even though companies such as Soylent pride in collaborating with the World Food Program to provide meals for those in need, I believe that corporate solutions are not what the world needs to deal with its most pressing problems, such as climate change, poverty and access to food and water.

### **The future does not belong to us**

In recent years, more and more money and intelligence have been invested in Silicon Valley into studying the human body. The focus is not so much on curing diseases such as cancer and diabetes, but specifically on curing the one 'disease' affecting the upper classes: growing old. The richest of the rich are deeply invested in making themselves live as long as possible. The most likely implication of this plan is that anti-aging technologies will only be available to the elite, and will not benefit the rest of the world in any way.

At a health symposium in Los Angeles, Joon Yun, a doctor and hedge fund investor in longevity research announced: "I have the idea that aging is plastic, that it's encoded [...] If something is encoded, you can crack the code. (...) If you can crack the code, you can hack the code!" (Friend, 2017). In the same view, Google has started a whole new secretive company, Calico, dedicated entirely to this purpose, considered "one of the first funders of transhumanism" (Fuck off Google wiki).

Transhumanism represents "The belief or theory that the human race can evolve beyond its current physical and mental limitations, especially by means of science and technology." (Oxford dictionaries) The main goal within this belief is to overcome human physical limitations, so that our minds can ascend to the Singularity. The aging body, with its physical needs, is a problem that current tech biohacking companies are trying to solve. As one of the major players in technology, Google Ventures has also become one of the main investors in life sciences, including food technology companies such as Soylent (Popper, 2013).

Biohacking is the practice of "biological experimentation [...] done to improve the qualities or capabilities of living organisms especially by individuals and groups working outside a traditional medical or scientific research environment"(Webster Dictionary). This notion comes from the view that the body is simply another machine we can hack into. This view is repeated over and over again by founders of various life-improving brain-enhancing death-repealing companies. The examples are many: "You monitor and manage the human body and then do small-level system upgrades. [...] Before you do a hardware upgrade, should't you make better use of the hardware you have right now?" (Wortham, 2015). Since, according to transhumanist ideas, the current state of the human body is at an early phase of development, there is still a lot of space for evolution. People who identify themselves as biohackers are experimenting with various ways of enhancing their awareness and brain function, as well as incorporating food innovations into their diets. For some, such as Mathijs Diederiks, from the YouTube channel futurefood, it is clear that traditional foods and ways of consuming them are part of an archaic diet. He described his view on futurist foods and their role in our lives in an interview, when asked about the portrayal of cooking and eating as a hassle:

"M.D.: It makes total sense if you look at the current zeitgeist where everything is about optimization, everything is very career-driven. It echoes into everything we do. [...] That constant flux of presenting yourself, staying up to date, maintaining that ongoing energy, food has to find its place within that speed. That's what's happening in our society, everything is sped up. As humans, we haven't evolved in the last 15-20 years, we are still slow in terms of digestion... so I completely understand why these products are popular." (Strete and Diederiks, 2018)

But this enhanced future was never meant to be for everybody. Since there is no such thing as *trickle down transhumanism*, and these bio-technologies will most likely remain financially prohibitive for most of world's population, only very few will actually benefit from them. "While people of color, trans folks and the poor struggle to live within the timespan they're allegedly already allotted by virtue of living in an industrialized nation, a handful of powerful white guys promote themselves as humanitarians for trying to extend the already long lives of the favored few. There aren't many futures more chilling to me than one in which not



Figure 7:  
22

even the march of time can free us from our oligarchs" (Shane, 2016). Even Bill Gates has recently warned the world that gene editing technology will only contribute to even greater inequality between the rich and the poor (Court, 2019).

Within this intense focus on the performance of the mind and the resilience of the body, there is immense pressure on individuals to keep up. Anything less than maximum efficiency feels unacceptable, and indulgences are frowned upon. Seeking pleasure and satisfaction in life is pushed to the very limited amount of *leisure time* one has these days outside of paid work. In fact, it is more appreciated if that time is spent instead in self-development activities such as exercising and tracking your progress, or following the advice of self-help books (Morozov, 2013). This constant pressure of being efficient can lead to extreme anxiety and burnout, which push human beings towards the dreaded low levels of efficiency they had before they started improving every part of their life.

What role could food possibly have in a transhumanist world, where humans would have finally freed themselves from their corporeal restraints? (McKie, 2018) Perhaps it is inevitable to believe that changes in what we now think it means to be human are coming. And the making, eating and sharing of food are inherent to human nature. What kind of food can sustain these evolved bodies, what can be sufficient fuel to a mind that works beyond any current abilities? Can we consider today's complete, instant and hyper-processed foods an attempt to answer these questions?

## The role of pleasure

In a world where the mind primes over the body, ingesting food for any other reason than sustenance does not seem to have a place. However great the attempts to develop neural networks that mimic the workings of the human brain in machines, and to create anthropomorphic robots that talk and even have a citizenship, a machine would still not be able to appreciate the joy, pleasure and complexity of a cooked meal. This idea is beautifully covered in Ellen Ullman's essay *Dining with Robots* where she imagines explaining to a robot the intricacies of cooking to a specific standard, the relation to a certain utensil to the food it's meant to be used for and the pleasure of sitting down and entertaining guests at a dinner party. She reflects on the incredible network of associations that people make when thinking of food: the name, the history, the origin, the memories, the feelings connected to it, and how one could explain all this to a machine.

But the real problem she identifies is pleasure, or the lack thereof. She asks: "Can a robot desire? Can it feel pleasure?". A system can be described as *happy* when it has everything it needs in order to function properly and efficiently. Humans have always strived to overcome their limitations, and become faster, more efficient, more organized, more machine-like. We've created machines to perform in ways we wish we could, and changed the world around us, including of food, to suit this vision better. Ullman looks at the world around her, inside a supermarket, surrounded by perfectly engineered produce and hygienic packaging and sighs: "Life is pressuring us to live by the robots' pleasures[...]. Our appetites have given way to theirs. Robots aren't becoming us [...]; we are becoming them."

## Food Hackers and low-tech solutions for the future

An alternative to Silicon Valley's view of food hacking comes from a European group of hackers, who collaborate under the name Food Hacking Base. Their work focuses on food sustainability by using traditional preservation and food production methods to enhance the value of food, and to provide people with the necessary skills and understanding to reach a good level of self-sustainability.

In December 2018, I participated in the 35C3 conference in Leipzig to see their work. I was interested in their claim of combining traditional food making techniques with current advances



in technology.

I found them to be one of the most welcoming spaces in the conference, with an impromptu built open kitchen. Every day, they offered workshops in various techniques, from kefir and tempeh making to probiotic drinks and beekeeping. They also added their hardware knowledge into the mix, by building their own devices, such as incubators for ferments. Their approach of providing people with skills and simple solutions like increasing the nutritional value of food and using few resources to produce sustainable food, as well as their collaborative, DIWO approach to cooking is quite valuable, and a beautiful alternative to mainstream techno-solutionism.

Today more than ever, with only over a decade to limit the disastrous effects of climate change, food alternatives are incredibly important. By the end of the century, global vegetable and legume production could fall by 35% due to water scarcity and other effects of climate change, and will have similar negative effects on livestock and seafood (Cho, 2018). These



changes will inevitably increase inequality, with access to food and water becoming more scarce in certain parts of the world. Cooking, preservation and other low-tech skills could become crucial in dealing with food scarcity, as well as knowledge of local ingredients and techniques, since climate change will also have an effect on global food transportation (ibid). Communities focused on sharing skills and nutritional information freely and democratically have more value in times of need than corporations which target the upper classes, who already have increased access to resources.

## Conclusion

Regardless of whether futurist predictions on transhumanism and the singularity come true, I think it is very important to reflect on their implications - ethical, political, environmental, even spiritual. There is no doubt that technology will continue to develop at levels faster than any other time in history, and that it will change the way we relate to the world. However, it is unlikely that most of us will experience such a high level of immersion with technology, that we'd be able to dramatically change our bodies and minds in the near future.

A more likely scenario is this: in the next decades, climate change will increasingly affect global food production. Some of the foods we are now used to eating will become harder to find and more expensive. Food will become an even larger field of technological exploration, with new ways of growing, producing, processing and distributing food being developed. There will be even more technology companies producing products meant to help us cope with these new circumstances, claiming to contribute to a better world in one way or another.

Increased life expectancy and health, something that Silicon Valley works hard towards, only increases the need for nourishment. Our bodies will still need nutrition from good food, and it is unlikely that most of the population will turn towards synthetic foods. The importance of communities and organisations that dedicate their work towards a more fair distribution of food, skills and knowledge will grow, faced with increasing levels of inequality. At the end of the day, we might have to take the matters into our own hands and learn how to prepare and preserve our food, and how to share the labour and the meals more equally among ourselves.

## Appendix

### Manifesto

Based on Michael Pollan's eater's manifesto: **Eat food. Not too much. Mostly plants.** I would add a couple of more rules: \* read about food. Read labels, blog articles, news articles, cookbooks, history books, social sciences books. Chances are you'll find some new information about what you're eating, why you're eating it and where it came from.

- be critical of diets, food fads, miracle foods, complete foods, especially foods that are so overprocessed that you can't recognize it's components anymore.
- use your kitchen, embrace failure. There is no better way to learn to make your own meals than to fail at it first.

## References

- Anonymous (n.d.) In CS4F. Available at <http://www.cs4fn.org/programming/recipeprogramming.php>
- Cairns, K., Johnston, J., Baumann, S. (2010) Caring About Food: Doing Gender in the Foodie Kitchen. *Gender and Society*, Vol 24, pp 591–615.
- de Certeau, M., Giard, L., Mayol, P. (1998) *The Practice of Everyday Life, Volume 2: Living and Cooking*. Minneapolis: University of Minnesota Press.
- Cho, R. (2018) How Climate Change Will Alter Our Food. [blog] *State of the Earth* [online]. Available at <https://blogs.ei.columbia.edu/2018/07/25/climate-change-food-agriculture/> [Accessed 15.02.2019]
- Christiansen, T., Torkington, N. (1998) *Perl Cookbook*. Sebastopol, CA:O'Reilly
- Court, E. (2019) Bill Gates warns that nobody is paying attention to gene editing, a new technology that could make inequality even worse. In *Business Insider* [online]. Available at: <https://www.businessinsider.nl/bill-gates-says-gene-editing-raises-ethical-questions-2019-1/?international=true&r=US> [Accessed 10.01.2019]
- Cultural Appropriation. (n.d.) In: *Oxford Dictionaries* [online] Oxford: Oxford University Press . Available at: [https://en.oxforddictionaries.com/definition/cultural\\_appropriation](https://en.oxforddictionaries.com/definition/cultural_appropriation) [Accessed 07.12.2018]
- Curzon, P. (2017) A Recipe for Programming. [blog] CS4FN [online]. Available at <https://cs4fn.wordpress.com/2017/05/13/a-recipe-for-programming/> [Accessed 15.02.2019]
- Dodd, A. (1887) *The Republic of the Future or Socialism a Reality*. New York: Cassel & Company ltd
- Dolejsova, M. (2016) Deciphering a Meal Through Open Source Standards: Soylent and the Rise of Diet Hackers. In: *alt.chi*. San Jose:CHI 2016.
- Emma (2017) The gender wars of household chores: a feminist comic. *The Guardian*. [online] Available at <https://www.theguardian.com/world/2017/may/26/gender-wars-household-chores-comic>. [Accessed 29.01.2019]
- Ferdman, R. (2015) The slow death of the home-cooked meal. In: *Washington Post*, [online]. Available at: [https://www.washingtonpost.com/news/wonk/wp/2015/03/05/the-slow-death-of-the-home-cooked-meal/?noredirect=on&utm\\_term=.ab16236b1588](https://www.washingtonpost.com/news/wonk/wp/2015/03/05/the-slow-death-of-the-home-cooked-meal/?noredirect=on&utm_term=.ab16236b1588). [Accessed 22.01.2019]
- Friend, T. (2017) Silicon Valley's Quest to Live Forever. *The New Yorker*, [online]. Available at <https://www.newyorker.com/magazine/2017/04/03/silicon-valleys-quest-to-live-forever>. [Accessed 28.11.2018]
- Gowles, N. (2016) Food Tech Is Just Men Rebranding What Women Have Done for Decades. *The Guardian*, [online]. Available at <https://www.theguardian.com/technology/2016/apr/01/food-technology-soylent-slimfast-juice-fasting> [Accessed 05.12.2018]
- Haraway, D. (1988) Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective. *Feminist Studies*, Vol. 14(3), pp. 575-599
- Hromovic, J. (2009) *Algorithmic Adventures. From Knowledge to Magic*. Berlin Heidelberg:Springer Verlag

- Juskalian, R. (2018) Inside the Jordan Refugee Camp that Runs on Blockchain. *MIT Technology Review*, [online]. Available at <https://www.technologyreview.com/s/610806/inside-the-jordan-refugee-camp-that-runs-on-blockchain/> [Accessed 14.02.2019]
- Kera, D., Denfeld, Z., Kramer, C. (2015) Food Hackers: Political and Metaphysical Gastronomes in the Hackerspaces. In: *Gastronomica*, Vol. 15(2), pp. 49-56
- Leave it to the Beaver (1957). *Revue Studios*.
- McKie, R. (2018) No Death and an Enhanced Life: Is the Future Transhuman? *The Guardian*, [online]. Available at <https://www.theguardian.com/technology/2018/may/06/no-death-and-an-enhanced-life-is-the-future-transhuman.> [Accessed 06.02.2019]
- Morozov, E. (2013) *To Save Everything, Click Here. The Folly of Technological Solutionism*. New York: Public Affairs.
- Nestle, M. (2013) *Food Politics: How the Food Industry Influences Nutrition and Health, 3rd Edition*. Berkeley: University of California Press
- Novak, M. (2013) How Yesterday's Feminists Invented the Food of the Future. *Paleofuture Gizmodo*, [online]. Available at: <https://paleofuture.gizmodo.com/how-yesterdays-feminists-invented-the-food-of-the-futu-510350651> [Accessed 13.01.2019]
- Pollan, M. (2008) *In Defense of Food. An Eater's Manifesto*. New York: Penguin Press
- Popik, B. (2013) *A woman's place is in the kitchen*. [Blog] The Big Apple. Available at [https://www.barrypopik.com/index.php/new\\_york\\_city/entry/a\\_womans\\_place\\_is\\_in\\_the\\_kitchen/](https://www.barrypopik.com/index.php/new_york_city/entry/a_womans_place_is_in_the_kitchen/) [Accessed 29.01.2019]
- Popper, B. (2013) Understanding Calico: Larry Page, Google Ventures, and the Quest for Immortality. *The Verge* [online]. Available at <https://www.theverge.com/2013/9/19/4748594/understanding-calico-larry-page-google-ventures-and-the-quest-for> [Accessed 14.02.2019]
- Potter, J. (2010) *Cooking for Geeks: Real Science, Great Hacks, and Good Food*. Sebastopol, CA: O'Reilly Media
- Roodeburg, L. (2018) *Food Is Fiction*. Rotterdam: Nai010 Publishers
- Rosler, M. (1975) *Semiotics of the Kitchen*
- Shane, C. (2016) Life extension technology gives us a bleak future: more white men. *Splinternews*, [online]. Available at: <https://splinternews.com/life-extension-technology-gives-us-a-bleak-future-more-1793857274> [Accessed 06.12.2018]
- Sharma, S. (2018) Going to Work in Mommy's Basement. *Boston Review*, [online]. Available at <http://bostonreview.net/gender-sexuality/sarah-sharma-going-work-mommys-basement> [Accessed 05.01.2019]
- Smith, S. (1997) Engels and the Origin of Women's Oppression. In: *International Socialist Review*, Vol. 2
- Strete, A. and Diederiks, M. (2018). Interview with futurefood.io
- Tiku, N. (2016) Startup Workers Say No to Free Food, Hell Yeah to Intermittent Fasting. *Buzzfeed News*, [online]. Available at <https://www.buzzfeednews.com/article/nitashatiku/intermittent-fasting> [Accessed 05.12.2018]

- Transcendent Man*. (2009) [film] Unknown:Barry Ptolemy
- Turk, V. (2018) Powdered Food is Back Again to Take on Sandwiches and Cereal. *Wired*, [online]. Available at: <https://www.wired.co.uk/article/huel-liquid-food-replacement-new-flavours> [Accessed 05.12.2018]
- Ullman, E. (2017) *Life in Code. A Personal History in Technology*. New York: Farrar, Strats and Giroux
- Vester, K. (2015) *A Taste of Power: Food and American Identities*. Oakland: University of California Press.
- Widdicombe, L. (2014) The End of Food. *The New Yorker* [online]. Available at: <https://www.newyorker.com/magazine/2014/05/12/the-end-of-food> [Accessed 07.12.2018]
- Woodcock, J. (2017) Subjectivity in the “Gig Economy”: From the Entreprenariat to Base Union Militancy. *Pervasive Labour Union, Special Issue: The Entreprenariat* [online]. Available at [http://ilu.servus.at/ilu\\_issue11.pdf](http://ilu.servus.at/ilu_issue11.pdf) [Accessed 13.02.2019]
- Wortham, J. (2016) You, Only Better. *New York Times*, [online]. Available at: <https://www.nytimes.com/2015/11/15/magazine/you-only-better.html> [Accessed 07.12.2018]
- Zuboff, S. (1988) *In the Age of the Smart Machine*, Basic Books