

How to feed a city - and change the world

How to feed a city is a really interesting question. It's one we don't tend to think about very much which is odd because, if you think about it, a city the size of London has to have enough food to create 30 million meals and it's got to have been produced somewhere. It has got to be transported, it has got to be bought and sold. Somebody has got to cook it. We eat it. Of course, that's the bit we are conscious of and then the food disappears somewhere down the waste system and it goes out of consciousness again. When you think that every city on earth this process has to go on every day it's really extraordinary that we managed to feed cities at all. You know, I think it's fair to say that it really is the engine of civilization the feeding of cities. So why is this extraordinary thing that we do not really in our consciousness. Why don't we think about it very much? And I think the basic reason for this comes down to distance.

In other words, say you had bacon and eggs for breakfast, where did that bacon and eggs come from? You know that the thing on your plate of food on your plate is a sort of microcosm of the world. You know and if it was an egg you know the chicken that laid it might have been in somewhere, a different country and, and the food that the chicken ate could have been growing thousands of miles away. So although our relationship with food is incredibly intimate and is obvious to us were actually eating, in fact the reality behind it is vast and unknowable to us. And this is really what industrialisation has done to the food system. And it's a phenomenon that I call the urban paradox, because if you think about it, you know we live in cities as we know since 2006 more people have been living in cities than in the countryside globally. We don't really think about what it takes to sustain urban life and yet without a productive hinterland, the countryside if you like to use an old-fashioned term that produces the food for the city, cities couldn't survive. The paradox is that the bigger cities grow and the more we live in them the further and further away we get from our sources of food, both mentally and also physically.

Part 1. Back to the beginning

I find with big questions like this it often helps go back to the beginning and try to understand how we got here. And in the case of cities it really goes back to the advent of agriculture 12,000 years ago or so. And it took place after the last ice age in an area of the world in the ancient near East called the fertile crescent and it's called fertile crescent because it's, was, fertile. It was full of the antecedents of modern wheat and barley, grasslands, and it was crescent shaped. And it was here that people began to experiment with, with a radical new way of feeding themselves basically. Instead of hunting and gathering, in other words instead of following food around they came up with the radical idea of staying in one place and harvesting grasses. Of course it wasn't easy but critically in terms of the evolution of urbanity if you're going to feed yourself from grass, you've got to be the spot when it ripens and hence we get the beginning of static farming settlements dotted around the fertile crescent, as I say, and elsewhere in the world indeed.

So these farming settlements which used to dot around the fertile crescent gradually grew big enough that we can really call them cities. There's a particular group of them

are in what is now Iraq used to be called ancient Mesopotamia at the base of the Tigris and Euphrates rivers, where the river is basically brought fertility to what was not a particularly fertile area. And these farming settlements evolved into, yes I mean you can really call it sort of city 1.0, you know. The first urban settlements on earth and also therefore our first view of how one feeds a city, which is obviously, these settlements grew up around the discovery of a new food source, which was grain. So we can really say that grain was the first food of cities and actually the interesting thing is that it remains the food of cities now.

Anyway it's interesting to look at these first settlements and say how did they solve the problem of feeding themselves. The first obvious thing to say is that they farmed and the second thing that we can see if we look at a map of the city of Ur, one of these original cities, is that it is very small. It is about 400 m across the main urban area. It is very compact. You can't see it very easily on a map but actually you know that the fabric was extremely close. There is almost no open space within the city at all. Obviously it was on a river and as I said before the river was what brought fertility to this land. But also you know, water for irrigation. So the first urban earthworks ever were, in fact, the banking of the river and the, the draining off of it into fields. And they had a very complex irrigation system that, that lasted the whole year.

Interestingly as well in the centre of the city, and again you can see it very clearly on the map, the biggest building is a temple. And actually what temple did is not only serve the gods and create the sort of symbolic structure for the city but also organise the harvest. So it was the temple that decreed which fields would be harvested first, which brought the grain into the middle of the city, offered the grain to the gods and then stored it in an enormous municipal granary, baked it in Temple kitchens and then served it back to the people of the city during the course of the year. So really what we can say is that the first attempt to feed a city consisted of something like a self-sufficient city state with a dense urban core, with farmland all around with a river running past and with what you might call a large, spiritualised food distribution hub in the middle.

Part 2. Rome

Not all ancient cities were like that and famously Rome went in completely the opposite direction. It had about 1 million citizens by the first century A.D. and then the question arises how do you feed the big city in the ancient world?

If we look at a map of Rome's food regions, the regions that were feeding the city, it's extraordinary and it's basically the whole of the Empire, as we know that encompassed the whole of the Mediterranean coast, quite a bit of the Black Sea, the north Atlantic coast as well. And really the only way Rome was able to feed itself was by importing food over water. And this is quite key actually because in the ancient world, if you think about it, transporting food for a million people - that's a lot of people - overland would have been impossible for Rome. Just think of enough grain to feed that many people sort of going over jiggly roads on ox carts and stuff, completely impossible. In fact, it was about 50 times cheaper to transport food over sea than it was over land, which is why it was economic for Rome to import grain from Carthage and North African coast - more economic indeed [than] to bring it in from say 20 or 30 miles out of the city on the Italian mainland. So really this is how Rome pulled off the trick.

Of course, it was a big militarised operation and in fact you could argue that the city continued to expand because it continually needed to find more and more places that it could get grain from to feed itself. Famously it defeated Egypt and Carthage and those were very, very key grain, grain producers for, for the city. In fact, if we look at the map that shows where Rome's food came from its really extraordinary I mean we can see that it was not only importing grain, but it was importing oil, it was importing pork, liquamen, which was this kind of fermented fish sauce that Romans were obsessed with - a bit like modern Nampla - and even fresh oysters from Britain at one point at the height of Empire. And the other thing that the map tells you that's really interesting as well is that no other city the size of Rome could have existed in this enormous area because Roma was sucking all the food out and eating it itself. And what's what really fascinating to me is that you know Rome actually, eventually ate itself to death, basically. So in a sense the whole sort of expansion and then collapse of the Roman Empire ultimately is a sort of model for how city can you know suck the nutrients out of an enormous area and then you know deplete to the point that it effectively dies.

Part 3. Modelling the city

The first person to really ask the question how a city feeds itself in a formal way was a German landowner and geographer called Johann von Thünen. And in 1826, he wrote a book called *The isolated state* which really asked the question okay if you've got a city and it's surrounded by a ubiquitous fertile featureless plain inhabited only by logical profit-seeking farmers - so it's a bit like the Netherlands in some respects - he said how will the productive hinterland naturally evolve. And it's actually really interesting because what he discovered, it's all an economic model effectively, is that right by the city it only really makes sense to grow fruit and vegetables because fruit and vegetables are a high-value food. They go off very quickly so you can't transport them a long-distance and also because it's a high value food the farmers can afford the high land rents just around the city fringes. And last, but very much not least, the market gardeners can make use of human and animal manure from the city to enrich the soil and, and bring their fruit and veg on ahead of season. So, he said you know around the city you would have market gardening.

Then there's another band of food production, which he says, would have to involve grain because grain is, as we've discovered before, the food of cities but interestingly is very, very heavy in terms of its value and therefore after about 20 miles of transport it's no longer economic to transport it overland. So that naturally limits the size to which a city can grow.

And in the outer band he said could be livestock pastoring because basically the animals can walk into the city. They can provide their own transport. So actually the meat for a city can come from hundreds of miles away, and indeed this was the case in the preindustrial world. A lot of London's beef came from Scotland, for example. A lot of Rome's sheep came from Puglia. So this was normal. You know the whole of the countryside was covered in drovers' roads and so on.

Now the interesting thing about von Thünen is basically he said the only way that a city could grow beyond this economic model, was if it was navigable river, or on the sea obviously, because then the bounds of food production could expand because it was a lot cheaper to bring the food in by water. Now von Thünen is a bit dry, maybe. He's very interesting if you're sort of thinking about food but it's much more interesting if you

relate what he says to a real city. So I'm a Londoner and so for me trying to understand how London fed itself historically is really interesting through the lens of von Thünen if you like.

If we look at a map of London in the pre-industrial era and there's a fantastic map by John Ogilby, which is actually done in 1676, so it's just after the great Fire and its first accurate map of London. And you can map on, literally street by street, how the food is coming into the city. Now the interesting thing is, of course, London is on a navigable river, so it was one of those cities that von Thünen predicted would be able to grow beyond this limited size. Of course, it grew huge and became the biggest city in Europe by the 17th century. You can see it logically of course that the grain to feed the city, the most important food of all, is going to be coming in by river. In fact, you can see it coming in. It goes to these two main ports on the River of Queenhithe and Billingsgate and then you can see it travelling up trying to get to Cornhill, which is where the grain exchange was, and then running through the middle of the city you've got Cheapside, which is the main market where the grain was also a bought and sold.

And then the street leading up from the river to Cheapside is called Bread Street and obviously you can tell that you know bread was being bought and sold on the way up into the middle of the city. So it really is like a flow of food going through the streets of the city. Fish is obviously also coming in by river. Billingsgate, of course, famously remained London's main fish market until the 1980s, extraordinarily. And again, the rivers, the roads leading up from the river, the names tell you Fish Street and Fish Street Hill, there's one called Friday Street, which is where you went by your fish on a Friday, because the eating of meat was forbidden. So again you can just imagine the streets leading up from the river full of fish. Samuel Pepys famously bought a salmon from the market and then wandered up Fish Street Hill, and decided, met a mate and they decided to go to off to a tavern and to have it cooked and eat it on the spot.

So there's this sense of the city being really, really full of food. And the other main food type meat, of course, is not coming in by river. It's coming in from places like Scotland and Wales where they had what Adam Smith called unimproved land or pasture, in other words. You know the cows eat the grass, and then they wander into the city mainly from the north-west, which is why Newgate was originally, meat market of London. And then when that wasn't big enough they moved outside the gates to a smooth field Smithfield – which, of course, remains a market, London's main meat market even today, extraordinarily.

And this is something else which is really fascinating about the food ways of cities is that once they're established they very rarely move. There's an incredible inertia to food in the city and this is because for the blindingly obvious reason you can't decide to stop the food supply while you work out how to do it better. You know it's got to come in every day. So I think you know looking at maps like the Ogilby map of London and indeed any map of any city in the preindustrial era you get this incredible sense that, you know, the cities were flowing with food and also physically shaped by food. And that also nobody living in a city like that could have been ignorant of where their food came from because literally, you know, if you're gonna eat beef for dinner, you probably seen the cow sort of mooing as it moved past you, you know, the day before, to be slaughtered in the city.

So I think the organic quality of cities was very much more obvious in the preindustrial world and there was a much greater level of reality about what food was because it was simply inescapable effectively. And there are some amazing images of Smithfield, you know, London's main meat market, before it was closed, so turned into, was still a livestock market effectively until the mid-19th century. And there could be something like up to 10,000 animals in this one space, you know, and 180 slaughterhouses all round. So you can imagine what that was like, in fact there was an amazing description of it in *Oliver Twist*, where Oliver walks through, you know, past all these bleeding carcasses and just, you know, the noise and the smell the, you know, sounds of that much, you know, animal brute reality in the middle of the city. So I think this is really what we've lost with the advent of industrialisation, which is really where the whole business of feeding cities changes completely.

Part 4. Industry, food, railways & cities

The really big change in the feeding cities came in the 1830s with the advent of railways. And if you think about everything we've been talking about up to now it's really about geography. You know it's about geography limiting the size to which cities can grow, where they can grow it, how the food can arrive in, in the middle of the city. And with the advent of railways all this really gets turned on its head, in three key ways actually I would say.

The first is that of course because you know you can now transport food long distances and keep it, therefore, fresh because it's coming in very quickly, you basically emancipate cities from this geographical tie. You know, so cities are emancipated from geography. They can now grow really any size, shape and place they, they want to. So that's the first thing.

The second thing is invisibility, if you like. So we've just been looking at, you know, what Smithfield market was like in the mid-19th century full of you know animals and absolutely sort of packed with food. Food in it's real state as it were. Now those animals are going to be slaughtered out of the city and are going to arrive in the middle of the night in a train but actually the case of Smithfield went underground. And it is going to arrive as carcasses. So you've no longer got that direct connection with the food and no longer do people walk down streets where, you know, pigs and chickens and so on are sharing the same space as them - so invisibility.

And the third thing, equally important, is that up to this point and I haven't actually talked about it very much, but you know the political control of the food system was absolutely vital in the preindustrial city. In Rome's case, for instance, you know, the Emperor was responsible for feeding the people and this was his greatest responsibility. This is why Tacitus said that Augustus, you know, won over the people when he conquered Egypt and, and gave them grain. So the political concentration which really was every city's biggest headache suddenly disappears, because it was always very, very difficult to control the food system, and city authorities now phew, thank goodness we don't have to think about that any more. Let's hand it over to these wonderful new food companies who are going to do all work for us.

So these three things really set the sort of the tone for the way cities are going to be fed ever afterwards.

Part 5. From grain to meat

So if we look at maps of London after the era of the railways it's, it's extraordinary what a transformation this, this creates. So a map of 1840 London, you know, you can still see the city as this fairly compact blob not much bigger in fact than the Ogleby map show 200 years earlier. And then very, very quickly over the course of just a few decades the city starts to expand. It starts to sort of come out along sort of the lines of the railways and become, you know, really a large metropolitan area for the first time. And of course, as this is happening to cities like London in other parts of the world the agricultural industrial landscape is also expanding in a similar way. Critically what the railways do is they open up large expanses of grasslands in places like North America, South America, Australia and so on to the possibility of grain production because for the first time it's possible to it grow grain and then transport it with railways to the coast or to cities, to the market. So this is the beginning of an enormous transformation of all of those New World landscapes and critically what it meant was that for the first time there was a massive global grain surplus. You know there was so much grain people didn't really know what to do with it.

And then somebody came up with the brilliant idea, of well 'brilliant' in inverted commas shall we say, of feeding the grain to animals, which is not something that you know, cattle, for instance, are designed to eat. They're, they're ruminants, they're, they are great at eating grass, but they can tolerate being fed grain. And so we get this beginning really of, of meatpacking. Meatpacking, so-called, because originally the, the hogs that were fed on grain were pigs were actually not only fed on it but then packed in it so that they could be transported. And that then transformed into a whole new industrial model of how to create beef cheaply, effectively on this enormous grain surplus. Extraordinary landscapes like, you know, in Chicago in the United States, which became a kind of depot for the whole of the mid-west. You know all the grain coming into the city and then these vast feedlots with the hundreds of thousands of cattle. In fact, 17 million cattle were being produced by 1870 in Chicago and then getting canned or increasingly frozen and shipped out all over the world to places like London. And this really is the beginning of the model of meat production that we have now. In fact, you know something like 90% of the, the meat that's, we eat in industrial countries is actually fed not on grass which is what cattle is designed to do as I said, or evolved to do, but on grain and soy. In fact, something like a third of the global grain harvest now goes to animals rather than directly to humans. The vast majority of soy beans that are grown are fed to animals. And when you think that we could feed about 10 times as many people if we ate the grain or the soy directly rather than passing it through an animal first, it's not a very sensible model but that's how the system has evolved. That's what we've now got.

Part 6 Beyond 'cheap' meat

So this way of feeding cities - it's interesting if you think about it - we're still eating grain in the city, it's still the food of cities, but it's just passing through an animal first. And there's a very sort of interesting and weird relationship between cities and meat consumption, actually, which comes out of the industrial era. There's this, this fantasy really - it is a fantasy - of 'cheap' meat which, in fact, is not cheap at all it's just cheap because all of the true costs are externalised. One of those costs is the degradation of soil. All of those fantastic prairies and pasture lands that were for thousands if not millions of years kept stable and fertile by this local ecology of you know grazing

animals and very, very rich pasture, get replaced by an incredibly unstable unfertile structure which is the monocultural production of, of plants that are ploughed up and, and re-sown every year.

And of course, in America there's, you know, the writing was the wall when there was a terrible series of droughts in the 1930s and basically these enormous, you know, the dustbowl. You know these enormous clouds of soil just blowing in the air. And half of the midwest just lost its top soil, never to be replaced. So that the signs were there, I mean this is actually interestingly the beginning of the organic movement. You know this the first time people began saying hang on, maybe this is not such great idea and you got the beginning of the organic movement both in Britain and America as a result of the dust bowl. But of course by then the momentum of, you know, this, the fantasy, the lure of cheap food and everyone can eat lots of meat, which is always a very privileged food, was just locked into the psyche. It was also locked into the economic structures, into the industrial structures, and of course cities kept developing. You know, not only were they now expanding by virtue of the railways but motorcars had come along. You know, you get these enormous kind, I mean are they even urban – it's a very good question - you know the opposite of city 1.0, which is this kind of little compact little blob of the urbanity surrounded by countryside. You now get, you know, suburbia with, with little houses and sort of gardens. You know sort of 10 times the size of a house and then the next house, you know sort of spread out - really land hungry, a lot of it really very, very fertile land as well.

And the whole principle now begins to change about how cities are fed. So with that kind of landscape you know you can't possibly feed that kind of landscape with sort of high streets and markets in they way the traditional city was fed. And, in fact, what gets invented around about this time is a completely new paradigm for a sort of, of, of food system that that feeds urban areas. It's to do with as I say that the vast concentration of feedlots but also with a whole new discipline really which is called food logistics. You know, how do we move food around. And of course processed food is very different to fresh food and this is another aspect of industrialisation is that with canning and freezing and so on the ability to preserve food - you can actually have food sitting on the shelf for months before somebody comes along and buys it.

So instead of the food having to come, you know, into the middle of the city and everybody having to walk and sort of, you know, sort of deal with this in the open air, as used to be the case in traditional city, we now get the invention supermarkets, which happens in America in the 1920s.

And this is basically a box that doesn't come into the city at all. It sits somewhere else on a highway junction probably. It's full of processed foods so nothing ever goes off. But it's extremely cheap because you've eradicated the human. And instead as I say of some friendly market where everybody goes to meet one another and sort of chat over the latest kind of, you know, beans and potatoes you drive out to this box and you basically sort of read the labels and the food speaks to you and sells itself to you and you come back with a bunch of stuff that you don't really know what it is. You haven't seen it. You haven't smelt it. You're just you know surrounded by packaging, and very artfully designed packaging that probably made buy twice as much as you intended to buy before you went to the supermarket in the first place. So it's the beginning of a really profound sort of distancing between us not only in the sort of the means of production of food but actually us and food itself. You know the thing that sits on your plate is no

longer knowable. You know it could have come from anywhere. It could be anything. You really don't know and we no longer trust our instincts to tell whether it's good or not because we haven't bought it and smelt it. We haven't met a human being when we, you know, exchanged, you know, pleasantries in a market. We just bought this thing off a shelf. So it really is the beginning of our modern relationship with food, which is, as I say, profoundly distanced.

Part 7. The city paradox

So we've really got ourselves into a bit of a fix to be honest because really since industrialisation we've, we've behaved as if living in cities and feeding cities is fine. You know, it's, it is completely solvable. You know, we've, we've behaved as if we've solved the problem. Whereas, in fact, the complete reverse is the case. We're trashing the planet. Something like 20% of global arable land is, is degraded now because of this monocultural production. We're depleting the earth of water reserves. Something like 70% of available fresh water is used in irrigation of farming - a lot that from non-renewable sources like ancient aquifers and so on. We're contributing vast amounts to, to greenhouse gases through food and farming probably something like 30% is associated with farming and deforestation associated with creating yet more, either grazing for cattle or more usually more fields to grow feed for cattle. So it's not good the planet at all.

The other irony of the industrial food system is although there's much more food around the quality is nothing like what it was. It's amazing if you look at studies of, you know, the, the nutrient content of a carrot now as opposed to what it was 50 years ago. It's got a fraction of the minerals in it because of the way it's produced. The kind of fat that's in industrially produced beef is, is omega-6 rather than omega-3. You know, it's, it's we're changing the whole balance of what we eat. And it's not good for our health. And of course, it's very unequal as well because if you think about the shift of food systems being something that was politically controlled to being something that is controlled by the free market then food no longer goes - you know it's no longer sort of incorporated if you like in the culture of how a city lives. It is no longer, you know, visible and, and basically done in a fair and democratic way. I mean arguably it was never done democratically but there was this sense of the city and all its citizens being fed. Whereas now what we've got is basically if you're rich you, you get to eat, if you're not you don't. And you know this, this phenomenon of food deserts, which is really of a result of the industrialisation of the food system, which is that the food goes where the money is. You know, so you can look at maps of cities like New York and you can kind of see the posh bits of Manhattan have got loads of fresh food in them whereas areas like Harlem and the Bronx have almost no fresh food at all.

Food is no longer available and it no longer flows in the same way that it did. It simply follows the money. So it's inequitable, it's unhealthy, and its ecological disastrous effectively. And really the question then is I mean what are we going to do about it, because this this way of feeding ourselves is going global. You know, whether you call it the industrial system or the Western diet but you know the whole package which is to do with thinking food is cheap, not really caring about it very much, wasting up to half of it - which is you know basically in America a half of the food produced is wasted - and we're not far behind in Britain, you know. And not understanding that food is really the centre of everything. It's how we evolved. It's the centre of life. It's the centre of society. It's the centre of civilisation. The most important thing that we have to do together, and

we've just forgotten what this is. So really the question is a) not only what we going to do about this but actually how can we start to reframe the problem of how to feed ourselves as something bigger actually. The question is really not how we going to feed ourselves but what kind of life we want to leave because you know, if you want to lead a good life, you have to have food at the core of it and you have to have good food at the core of it.

Part 8. Rethinking food & the city

So the question of how to feed ourselves is really a question of how we should live. And in a way the only crumb of comfort that I can sort of offer at this point is to say that this is not a new question. In fact is probably the oldest question humans have had. You know, how do we live? And, and obviously how do we feed ourselves a big part of that question. There's a long tradition as well with cities –people have always realised, really since the beginning, that feeding a city wasn't easy and therefore the question of how it was all going to keep going was, was, was a big issue. In fact, if you look back as far as Plato, you know Plato's Republic is really you know asking what an ideal society is but he's also sort of recognising that - he lived in Athens, which was one of those city 1.0 as I talked about earlier, in other words a city state or polis, dense urban blob with the countryside around it, and Plato recognised that there was a limit to how big, the, the ideal city could grow before really what you wanted to do was to say you, you and you go off and found another city were big enough thanks very much.

And interestingly, he came up with a figure of roughly 30,000 as you know – plus slaves by the way – but anyway roughly 30,000 citizens as kind of the ideal size for a city. And this figure actually keeps recurring in utopian thinking. It's very interesting if you look at Thomas More's Utopia written the 16th century as a sort of critique of London at the time, which is already growing big as I said it could because it was on a navigable river. Thomas More also sort of invents this fantasy world called Utopia where really, there is, the way people live is in a series of semi-independent city states - again limited in size about 30,000 – arranged in a network, so that every city was about a day's walk from every other one. Actually the really interesting thing about Utopia is that everyone was food mad in other words they also had gardening competitions and everybody farmed - men, women and children farmed. It was the only activity that everybody in Utopia did. So even though Thomas will didn't frame it in this way, really, you know, I think you could say that you know his whole concept of how an ideal community might live was very, very food based, actually. It was shaped by food.

And another very similar example from, from the early 20th century, Ebenezer Howard's Garden City is really like Thomas More with railways. You know, so he also says, you know, we've got to stop building these big metropolitan splurges and we've gotta have a series of semi-independent city states, limited in size. He also comes up with 32,000 in his case, with one capital of 58,000. And all of these cities would have dedicated farmland around them, held in trust for the cities so when when land prices rose the city would actually benefit. It is an extraordinary radical model. In fact it couldn't be father apart from what we think of as garden cities, which is kind of pretty suburbia with nice cottagey looking houses and of course the irony is that you know, cities, Garden cities like Letchworth did get built but not according to Howard's modelling. In fact, he stormed out in protest off the project because the bit they didn't do was the really important bit which was having the dedicated agricultural land actually considered part of the city.

And that really is the problem with Utopia and I mean if you look at the word it actually has a double derivation from Greek. It can either mean good place or no place. And I remember sort of thinking when I was researching utopia that's a real shame because you know it's the best tradition got about thinking about how to live in a multidisciplinary way and we can't have it. That's actually not a lot of use. But actually, I thought while it's interesting that all of these utopian visions actually do have food at their heart so what would happen if we just kind of took the food bit out and used that and I invented this word Sitopia, which basically means food place. Thinking actually we live in Sitopia already. Our cities are shaped by food, our societies are, our houses are, our daily habits are. What would happen if we just thought of ourselves as living in Sitopia - not a very good one - and then used food is a kind of medium or lens to say how can we make a better Sitopia.

Part 9. Creating sitopia

So how do we make a better Sitopia. Well, really we have to think about food as something that flows through our lives all the time. You know, if you think about a city the foods come from somewhere. You know, it's come from the land or the sea. It's been through some distribution centre. It goes to market or supermarket, gets bought and sold. Maybe is already being cooked, maybe we cook it. We certainly eat it, that's how we sort of encounter this flow. And then of course we might waste it. But eventually it ends up back in the land or you know the system again. So this is what we're dealing with. This flow can be addressed, it matters, you know, how all of these bits come together and it what's interesting is that, you know, it's not that mechanical, because actually every element of that circuit, if you like, affects every other and is affected by every other via habits, thoughts, beliefs, preferences - something you might summarise as food culture. The way we think about food. The way we value food. So if we value food differently and begin to behave differently that flow will change and the effects of it will change. So you're dealing with active system. You're dealing with a system that you can actually intervene in - that we do intervene in because we eat every day.

And then if you think about food culture and in a broader sense, you know, it really is about you know as I say the values that we have but also you know the food that we during a day or a week or a month, you know, what that represents in terms of the world, you know, the big picture. It really does have a profound real effect on whether people have good jobs. You know whether landscapes are conserved or eroded, and also on it whether we, you know, exchange, you know, loving moments with one another by cooking for other people or sharing food. So the way food is embedded in our lives really matters not only to us and to our quality-of-life but to everybody else on the planet. It's all connected basically.

Part 10 Good food = good life

One of the things that becomes very obvious if you think about food or through food for any length of time is that you can't have a good life or a good society without a good food system. So the question then is what does a good food system look like. And what's interesting, if, if you look at the one that we've got now, it really looks like a tree. You know, so you've got lots of producers up here and then you've got a narrow bit which is really, you know, effectively the supermarkets but also sort of large agribusiness companies and then you've got lots of consumers at the bottom. So the producers and

the consumers of whom there are millions are separated – I'm talking about the industrial food system now - by a very narrow trunk and the trunk is power, effectively. Because, you know, if you have to go through a supermarket or you have to go through a big agribusiness company as a producer to reach a consumer you don't have much choice about how to make that connection. And it, it doesn't really represent the way one would want to see a structure if you imagine a democracy. A democracy, you know, as imagined by all those utopians is a sort of system where everybody really can reach everybody else you know that's kind of how the theory of the free market works.

So if we want a food system that reflects democratic fairness if you like we can't have a food system that looks like a tree. In fact what we've got to do is find ways of joining those producers and those consumers. Many, many ways until we have a web, you know, a mesh where basically everyone can reach everybody else. How do we get there? Well, you know, we have allowed a huge amount of power to be consolidated in very, very few people within, in the way that the food system's developed. We have to address that. There's many, many ways of doing this. You know we need better legislation. We need international agreements. There should be checks on how big and how powerful food companies can grow. I mean, there's nothing more important than the food supply. As all of these ancient politicians knew but we seem to have forgotten.

So we need to address the power in the trunk and we need to democratise the food system and there are extraordinary projects all over the world where people are actually doing this. You know, and I think for me, the best description of the way to effect this change is the one that Carlo Petrini, the founder of Slow Food came up with. He said we mustn't just be consumers of food, we must be co-producers - which means we must actually take an active part in how our food is made. And you can be a co-producer in many, many ways. I mean simply valuing food and therefore as I say thinking about where you're going to send your food money matters but also growing your own, cooking more, thinking about food, caring about it and then joining these sorts of projects which are growing up all over the world, where people start to take a really active part in in the way their food is produced for instance something like a community supported agriculture farm, is a farm where people actually pay the farmer ahead to grow their food and they might even go on to the farm and help him, help him harvest. You know so its a really active way of actually getting involved in the, in food production again.

Food Co-ops where people get together and they, they have direct links with farmers. They say we will buy your food. We will give you a guaranteed market and the farmers actually come and deliver to them directly. So it's really making those connections much more directly and, and, and sort of bringing the human back into the food system again. And it's extraordinary how these food projects actually then become something more than that. They become about social renewal. They become about actually rediscovering what it is to live in a community - you know why to bother in the first place.

And I think the last set of examples I'd like to mention are you know ones all over the world again historically where there's been a crisis - you know like London during the war or Cuba after the fall of the Soviet Union or indeed Detroit after the car industry has left - where people have to start growing their own food because they realise they're gonna starve otherwise. And then out of the growing of food and a new set of awareness of you know' that were in this together comes. So, I think that kind of, you know, the

valuing food really lies at the centre of remembering why we live with other people it really come to the core of how we came together to live in cities in the first.

Part 11. Re-engaging cities with food

So the question is where does this leave us with respect to cities? You know, is it really a good idea to live in them? And I think you know most of us would say that cities are extremely beneficial. They're really the heart of civilisation. But clearly we can't go on thinking about them as something - entities that somehow, that magically exist in their own right. And I think, you know, there are two aspects of this.

The first is that the cities that we've built still have amazing productive capacity within them. I think this is what examples like London during the war, Cuba and Detroit show. You know, so food growing within cities is not only - you're never going to solve the whole problem, you can't feed a city from within itself - that's what the urban paradox tells you but actually bringing some kind of food growing into the city does remind us of where our food comes from and we re-engage with this extraordinary process of, you know, the circle of life of which we're part. So I think that is the great value of many, many urban food growing projects going on all over the world.

But the other thing, the bigger idea really I would say, is that we have to rethink cities. You know, we have to rethink the city as an organic entity, as something that is symbiotically connected to the productive world, to nature. And you know really you are, I mean, again amazing projects going on all over the world where people are starting to incorporate the idea of you know green cities and productive cities in the whole process of building new urban areas. And that's really exciting and important as well, but in the end I think it all comes down to, whether we're talking about the city or the countryside, it really comes down to this question of how do we want to live, you know. And our most important relationships are on the one hand with one another and on the other with nature. You know food brings those two things together and I think you know since we are clearly going to carry on living in cities we have to remember that they're only one half of the really important relationships in our life.

And I mean I had personal experience just last year, actually, for the first time in my life I actually got home - I live in the middle of London as is probably obvious as I keep talking about it and I just acquired this little bit of roof space you know outside staircase that leads up to my flat. It's tiny and I, I honestly had no anticipation of being able to grow anything on it but I thought let's give it a go. Got these seeds of these extraordinary Danish cucumbers, actually a friend of mine sent them over from Denmark and planted them in a couple of grow bags and I really couldn't believe it, you know. Over the course of three months as this space that's been barren for the last 20 years suddenly had a vast kind of Jack and the Beanstalk plants on it with these huge cucumbers like marrows. I mean I actually produced 10 kg of food, of these delicious cucumbers which I then pickled, and am still eating them now, months later, off this tiny previously barren space. You know, for me, I mean I know people always go on about how sort of epiphanic it is to grow your own food. I mean I'm here to tell you it really is and, you know, that's just the sort of one example if you like and how, you know, the fecundity of the world is just there. It's just on our doorstep if we can only just reconnect with it and rethink how we live through it, we can all lead better lives.