It's an honour to be asked to be here tonight to deliver the Hugh Stretton Oration for 2025. Last year productivity commission chair Danielle Wood spoke about the role of government policy in the rise of income inequality. The year before the Hon. Mark Butler MP spoke about the challenges facing an aging Australia.

Tonight, unfortunately, I am here to talk to you about spaghetti.

Some may ask why I – as a cook – am here to give a lecture on policy. Don't worry. I've asked myself the same question a few times, most recently just before walking on to this stage.

I first graduated from Adelaide University nearly 30 years ago with my undergrad in Science, before following that with by Bachelor of Laws a few years later. For about half of my time since then I worked as a lawyer, and the other half I've worked as food writer and cook who also does a bit of stuff on the telly.

Science is the process of understanding and making use of the natural world.

Law is the process of regulation that governs correct behaviour within a society.

And policy is the design of a course of action undertaken with the intent of producing an anticipated result.

Food – I am glad to say – is the most direct combination of those three things.

Growing an Appetite for Good Food Policy

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2025 Hugh Stretton Oration

In modern society we don't take food very seriously. Sad but true.

Food is found in the lifestyle pages of our newspapers and on lifestyle networks on TV. That's where I spend the bulk of my career, writing affordable recipes you can read over breakfast in your morning paper, cookbooks you can buy to change up Tuesday dinner, or making TV shows where you can sit on your sofa and travel to Norway, China, Singapore or Japan and feel inspired by the different ways the food we eat has manifested in the societies we've created around the world.

We consider food to be a bit of fun. Light entertainment. In our latest election campaign the question of food arose precisely once regarding a gaffe over the price of eggs.

When I was graduating from law school here, as someone interested in food I looked into whether there were areas of food law I might be able to move into only to be told there really wasn't much of it beyond general liability, product labelling and recall.

The reality, however, is that for most of human existence, we have structured entire societies around food. And as such most of the policy and regulation that human societies have placed on themselves has related to it.

We can go back even further than civilisation and society, because at a biological and evolutionary level the food we eat is what makes us human.

Let me start off with a cooking question. How do you make food taste good?

To me this is the threshold question in cooking, and it isn't asked nearly often enough.

Taste is the most important thing in cooking

As lay-people we don't understand taste very well. We confuse it with "flavour" which is the sum total of perception as it relates to our food, combining taste with aroma and texture. But at a scientific level taste is very specific – and in fairness slightly circular in its definition.

Taste is the process of sensory perception, detection and interpretation of chemical stimuli through taste receptors.

We have just 5 basic categories of taste receptors, which means we taste just 5 things – saltiness, sweetness, sourness, bitterness and umami. That combination of basic tastes is fundamental to cooking not just because it makes a delicious dish, but because those five tastes are the story of humanity itself.

The basic seasonings that you have next to your stove, might well mirror these tastes. Salt, sugar, perhaps some vinegar or citrus, and maybe some umami seasonings like stock powder, soy sauce, MSG or Worcestershire sauce. It's the balance of these tastes that makes food taste good.

Let's compare taste with aroma. Add coriander, mint or parsley to food and it doesn't matter if you add a pinch or a kilo, their aroma will make your food smell more or less like coriander, mint or parsley. Those ingredients – while heavy in aroma – don't contain much in the way of the molecules that affect taste. Compare that with salt, sugar or soy sauce. Add a pinch or a kilo of these to your food and that will be the difference between food that tastes good, or very, very bad.

Cooking has been the process of codifying our biological tastes into a methodology relevant to the way our societies live. We think things taste good because there is an evolutionary benefit to them.

We taste saltiness because billions of years ago every living thing on the planet crawled out of the same, sodium-based primordial soup. We share our taste for saltiness with just about every other animal because salt is how we regulate fluid and create the electrical impulses that allow some parts of our bodies to communicate with others.

Fast forward a few billion years and some of the life that crawled out of the soup had become primates, getting the majority of their calories from fruits and vegetables. Our taste for sweetness – short-chain carbohydrates – attracted us to sweeter, higher calorie fruits which gave us an evolutionary advantage over other primates who might not have been so lucky to have a taste for sweetness.

If we had evolved from carnivores, we would perhaps have lost the taste for sweetness along the evolutionary path like so many other animals like sea lions, hyenas and great cats. Even today your beloved moggy at home has absolutely no ability to taste sweetness and only appreciates a saucer of milk not for its sweet lactose, but for its salts, fats and proteins. Most adult cats are actually lactose intolerant.

Even just two of our five tastes – saltiness and sweetness – has taken us across billions of years of evolution. But add sourness to that and things start to get very specific.

Somewhere along the evolutionary line, one of our primate ancestors had a mutation in its genetic code that prevented it from producing ascorbic acid in its cells. Ascorbic acid is what we call Vitamin C. Now here's the important part. That mutation conferred no benefit, but that primate didn't die. It was getting enough Vitamin C in the form of fruit and other sour foods that it never missed it.

To this day, there are only a handful of animals that can't produce Vitamin C – a couple of species of birds, guinea pigs, fruit bats and anthropoid primates like us humans. That one genetic quirk that occurred

millions of years before humans even existed means that now we love vinegary salad dressings, and a squeeze of lemon on our fish and chips.

Next is umami. The taste of savouriness that is triggered by amino acids like glutamate and substances like inosinate and guanylate. It was once thought that our taste of umami was a potential marker for protein, but modern scientific thinking hypothesises that it is in fact a taste for food manipulation. A taste for cooking itself.

The umami tastes we enjoy come from plant, meat and fish, and it's a key part of our taste for breast milk. As omnivores it's important in our preferences for a wide range of foods. In our cuisines it's created by processes like cooking, fermentation and aging. Processes that kill harmful bacteria while, at least in the case of fermentation, allow beneficial bacteria to thrive.

A taste for umami created by food manipulation is an evolutionary advantage – making our food safer, more nutritious, more bioavailable and populating our microbiomes with necessary and beneficial bugs.

With four of our five tastes accounted, the human story becomes even more clear.

- We're animals on Earth
- That evolved from fruit eating primates
- Where somewhere along the line one of us lost the ability to synthesis Vitamin C
- But we are omnivores, who developed the intelligence necessary for food manipulation.

Before I get to bitterness, one thing I'm often asked is – what about spiciness? Isn't that a taste? And if it isn't why do we like chilli and pepper and those kinds of things?

Spiciness has been historically considered a taste in many cultures, from Ayurveda to Chinese medicine, but the difference is that spiciness is sensed by receptors like TRPV1, nociceptors whose role is in the detection of tissue damage by sending us signals for pain and temperature.

This is why the capsacin in chilli and the piperine in pepper are described as hot. Interestingly TRPV1 is also activated by ethanol, which is why we describe drinking whisky or high-proof vodka as a "burning" sensation.

But that spiciness isn't considered a true "taste" scientifically doesn't make it any less important to humanity. An aversive sensation like pain is a clear evolutionary advantage. But then why do we like it?

A taste scientist once described to me the common preference for spicy foods as being like a rollercoaster. It's exciting, and the evolutionary benefit of being just a little adventurous with food is what has led human beings to every corner of the world, to try new ingredients and thrive in more different environments than any other living species.

Our last true taste is bitterness, and I think it tells the most beautiful story of what it means to be human.

Bitterness is an aversive taste. It exists to tell us that something we are about to eat might be poisonous, and if we just avoided bitter foods that would be the end of the story.

But we don't. Like spiciness, we love bitter foods and drinks. We love beer, brassica vegetables like broccoli, cabbage and brussels sprouts. Bitter gourd. Chocolate and the tea and coffee we drink religiously in the mornings – far from being things we avoid, bitter foods are the ones we crave and form lifelong connections with.

We don't start out like this.

If you're a deer (of the four-legged variety), you're born and within about 10 minutes you're standing on shaky legs. Half an hour later you're walking along, and you already know from the tastants eaten by your mother during the period of your gestation, what is good to eat in your environment.

Humans are very different.

Our big heads that hold our wonderful big brains mean that we are born essentially useless. It takes not minutes, but years for us to learn to walk and far longer to learn what to eat. We only survive because we are part of a social unit. A family. A tribe. A society.

With the possible exception of chocolate which is processed to be more sweet than bitter, as children we don't like bitter or spicy foods. But over time we learn to like them, a skill taught to us through observation and experience together with the people around us.

It's an evolutionary arms race: plants evolve to be more bitter so that fewer animals will eat them, and we animals in turn evolve mechanisms to learn to like that bitterness. Of course, these days we're cheating. Our brains are so big that we have been able to control plant evolution through agriculture, and we control the selection for genetic traits for bitterness, sweetness and other tastes.

The first thing that started you on your road to liking coffee was watching your parents drink a cup of it and not die. It seems ridiculous but that information was hugely important to your understanding of a thing that if you were to just taste it without context, you would assume to be highly poisonous.

Then years pass and you start to associate the morning smell of coffee with comfort. In your 20s you have positive experiences with your friends going out to cafes, and then perhaps the buzz of caffeine when you start drinking it makes you feel a little happier. Before you know it, you're an adult and the idea of going a day without coffee is absolutely terrifying to you.

I often tell parents that if you want your kids to like vegetables, the best way to do that is to eat a brussels sprout in front of them, not die and wait 20 years. I'm not even joking. Because of the arms race vegetables are inherently bitter to varying degrees, and a child not liking the taste is not bad behaviour, it's biology. We know these tastes can take years to learn, through behavioural reinforcement of positive experiences.

Conversely, the best way to ensure that your kid will hate vegetables long into adulthood is to sit them down and force them to eat them.

I've made more than a thousand episodes of food TV shows and I've spoken with thousands of people about their food likes and dislikes, and I can tell you that almost every food aversion can be traced back to a traumatic experience with that food in childhood. As if the job of being a parent wasn't hard enough.

Perhaps some of you are now wondering what this all has to do with food policy.

Well, the point is that for humans, food is social.

From our taste of umami leading us to food manipulation, spiciness allowing human societies to thrive in multiple environments, or learning to like bitter foods over decades as a familial or social unit – food policy – deciding what food to eat, what is good for you, and what's good for our society is quite literally a part of our biology.

Early Food Policy

Perhaps the earliest examples of food policy we have were painted on cave walls tens of thousands of years ago. We may never definitively know why cave paintings were made, but what we do know is that the vast majority of these feature animals like deer, bison and mammoths – herbivores that were the food targets of early hunters – and not sabre-toothed cats, lions and wolves, the predators that were likely threats or competition. Of all the aspects of life those artworks could portray, the way humans interact in relation to food was the most important.

Of course, the oldest continuous food culture in the world is right here in Australia, and we know that there have been complex food rules in Indigenous culture for tens of thousands of years.

Prohibitions on eating totemic foods that varied from clan to clan. Cultural practices of reserving certain foods or parts of animals for certain members of a group. I don't suggest that I speak for any of these cultural groups but it's easy to see how these rules and policies could have been vital to ensuring not just health of individuals and groups but ongoing environmental and resource management.

Food has also been ubiquitous in religious policy. From the prescriptions of kosher eating, to foods that are considered halal and haram.

> Leviticus 19:10 – You are not to harvest all the way to the corners of your field or pick every grape from your vineyard. Any grain that falls to the ground should not be gathered up.
>
> Leviticus 19:23 – A tree planted for its fruit is not to be used for its fruit until its third year of planting. In the fourth year, the fruit is dedicated to the Lord, and it's only in the fifth year that it can be eaten.

Food was such a focus of early law and policy that parts of the bible really do sound a little like the Yates Garden Guide.

Again, I do not mean to speak for any of these religions, but you can quite easily make a case for why religions as the governing law for a society would be very concerned with agricultural policy, or health, and why religions with origins in the Middle East may have considered water-intensive pig-farming as unclean, while religions that developed in areas with greater availability of water might not have retained those same prohibitions.

I'm ethnically Chinese and I started brewing rice wine when we found out my wife was pregnant with each of our three children. I used that wine to cook what's known as confinement dishes after the children were born, like stewed chicken cooked with ginger.

It's certainly not a religious, superstitious or even nutritional belief for me, but as a cultural practice this process of making wine, ladling it out of jars, getting on your hands and utensils, and cooking with it would have been clearly beneficial post-partum in a time before reliably clean water supplies and a scientific understanding of germ theory.

Food as Power

Food has been a central source of power for most of civilisation.

In feudal Europe, power and wealth was measured in bushels of wheat. In China, it was unhusked grain measured in dan, shi or hu. In Japan, provincial lords had their wealth calculated in koku of rice.

The common thread between these systems was that while these commodities may have been considered fungible economic units, they were ultimately centred around people. One koku of rice was roughly the amount of rice that one person would eat in one year.

Commodities such as iron and gold were of course also traded, but ultimately power, whether political, military or economic, was a factor of people, and that made food a matter of ultimate importance.

Through the agricultural and industrial eras, this is how things were, and it's only very recently that the basis of power has shifted from people to commodities like oil, capital and more recently, information.

The nations with power over those things are generally food secure and mostly in surplus so the importance of food as a measure of power has fallen drastically in our societies.

Even up until a couple of hundred years ago everything in human society centred around food. Nearly every festival or key event celebrated harvests, equinoxes and other agricultural happenings.
It was once left as offerings to the gods and now we see food as an imposition. A chore. Cooking is something we do begrudgingly. We try to avoid it as much as possible.

This is not a lecture about economics, but politicians and policymakers will always be concerned with power, and the ability to provide food is no longer the measure of it for the most powerful nations.

Let's talk about spaghetti bolognese.

The Origins of Bolognese

The food we eat has always told us a lot about ourselves.

In the same way that the simple biology of our tastes represents an extraordinarily detailed story about human evolution, the food that is on your dinner table each night can tell us a lot.

Spaghetti bolognese is so ubiquitous in Australia that some consider it our national dish.

Some might believe that Australians simply fell deeply in love with a little known northern Italian dish and adopted it as our own, but that's not how this works.

The dish we know as spaghetti bolognese likely originated in the USA, the product of southern Italian migrants adapting a more tomato-based Sicilian and Neapolitan cuisine to fit an environment that had greater and more affordable availability of American pork and beef.

The name was probably borrowed from Bologna as a recognition that the dish was more meat heavy and more reminiscent of northern Italian ragus than the southern Italian cuisine at the time.

Spaghetti bolognese ended up on Australian dinner tables because post-war migration from Italy saw a rise of Italian influence in Australian food, from cafes to olive oil. The rise of American cultural soft power in the same period meant that many American foods like pizzas, hamburgers, coffee and spaghetti bolognese started to become fashionable in Australia. Before WWII Australian food culture was far more influenced by the tea, scones and pies of England.

But food is not just cultural. Spaghetti bolognese tells us that we have a similar agricultural profile to the USA. A wheat belt in WA, affordable beef farmed in QLD, and tomatoes grown and canned in Victoria. We also have a nationalised economy that brings all these things together around the country.

At a household level it tells us that we had at the time of spaghetti bolognese's rise a relatively large proportion of households with at least one stay-at-home parent who was at home for the 2-3 hours of time needed to chop and simmer a bolognese sauce to feed a big family, and we also had suburban houses with a footprint sufficient to have enough kitchen storage space to keep not one but two big pots needed to make the dish.

When I was growing up in the 80s and 90s, bolognese was a weekly staple in many households – mine included. 30 years later, its popularity has dropped significantly, not because we don't like the taste anymore, but because its quite simply become less suitable for modern Australian life.

The average household size in Australia has dropped from 2.9 to 2.4 between 1990 to 2025, meaning that large pots of simmering bolognese are less useful to us. More of us live in apartments with smaller kitchens, meaning it's not as easy to store two large pots. Rising household costs means more dual income families, and fewer stay-at-home parents means that the time required to simmer a bolognese is something that for a lot of families is now only realistic on a weekend.

Decreased popularity of carbohydrate consumption in higher income households means that spaghetti bolognese has further shifted to being a more working-class dish.

And here I'm just using one dish, to reverse engineer a explanation of Australian life as well as general demographic and economic trends.

But historically the role of food and cuisine has been completely the other way around. Rather than using food to interpret lifestyle, food was a manifestation of it, and as policy it was used to communicate health, cultural and economic information.

If you were a home cook in the 1970s bolognese became part of your regular dinnertime rotation because it fit with your lifestyle and solved your problems.

If the rise of spaghetti bolognese occurred largely organically, let's look at this from another angle.

A Breakfast of Champions?

What did you have for breakfast this morning?

Was it toast, cereal, bacon and eggs, maybe a glass of orange juice and a cup of coffee or tea?

All of these are what we might call "traditional" breakfast foods in Australia today, but how traditional are they?

Toast and eggs have been staple foods for thousands of years. Many countries around the world will have eaten breakfast made from leftover carbohydrates, and eggs that can be easily collected from domestic chickens and stored at hand. Bakeries might open early but we eat toast for breakfast culturally because it's a way to prepare stale bread from the day before.

The spread of coffee can be traced from Africa, arriving in Europe through Venetian trade with the Ottoman Empire, then to the Americas with Italian migration and ultimately to Australia through American soft power and inbound Italian migration of our own.

Tea in Australia obviously came via England as a product of transcontinental trade since the 1600s running through to the Opium Wars.

But cereal, bacon and orange juice are far more recent additions to our breakfast canon – and they give us a clearer, and more worrying indication of how food policy or the lack of it can affect our lives every day.

Cereal was invented in 1863 by Dr James Caleb Jackson, a sanitorium operator in New York who developed "granula" as a bland food to be incorporated into the diet of people with long term physical or mental illnesses, primarily in the puritanical belief that it would prevent masturbation.

Forget RecipeTin vs Brooki, In what might be one of the most successful instances of recipe plagiarism ever, his recipe was stolen by a Michigan sanitorium operator named John Harvey Kellogg, who changed one letter from "granula" to call his product "granola". Corn flakes followed a few years later and the rest is history.

Orange juice as a breakfast food was popularised in the US in the early 1920s when vitamins were just being discovered, and took off when one of the first health influencers, Dr Elmer McCollum advocated consuming more citrus to avoid acidosis. McCollum was quite wrong and acidosis cannot be prevented or treated by citrus. And ironically, McCollum had scurvy as a child, and despite his advocacy for orange juice he is credited by some as discovering Vitamins A, D and E, but not Vitamin C.

Bacon also became a breakfast food in the 1920s when Edward Bernays, ad-man and nephew of Sigmund Freud was engaged by the Beech-Nut Packing Company, a New York based food processor, to increase their bacon sales. His strategy was to write to 5000 doctors to ask them if a "heartier" breakfast could be "healthier". Most answered positively and this was spun into a campaign to pair bacon with eggs for breakfast.

The repositioning of bacon as a breakfast food is often called the most successful advertising campaign in history, but that's not quite the whole story.

You may have heard the phrase "breakfast is the most important meal of the day. That was actually a Kellogg's advertising slogan from the early 1900s. While it might not be nutritionally true, from an economic perspective it absolutely is.

We woudn't be happy eating spaghetti bolognese every day of the week, but as consumers we're happy to eat the same cereal or glass of orange juice for breakfast day-in-day out. Control the breakfast market and you have consistent demand, perhaps for life.

Each of these three breakfast foods may have been positioned as such in the 1920s, but they truly took off after 1933 as part of Franklin D. Roosevelt's New Deal, which enacted the first of the US Farm Bills to provide generous subsidies and stabilise commodity prices following the Great Depression.

I truly cannot tell you how much I DO NOT want to talk about US politics, but it is impossible to divorce the effects of these government policies from the political importance of the states that are reliant on these industries.

America's two main orange growing states of California and Florida account for a whopping 84 electoral college votes. More than a third of the total votes that decide the US presidency.

Fuelled by dominant market position and generous government treatment, Florida produced persistent orange surpluses throughout the 1930s and 40s, and when government researchers developed orange juice concentrate in the 1940s, the orange juice market went into overdrive. By the 1980s fully a fifth of all Americans consumed orange juice every single day.

The development of concentrate was a godsend for American orange growers, allowing them to make use of frost-damaged fruit and completely control production levels and sale prices whether they had a bumper crop year or a damaged one. Frozen orange juice concentrate remains a listed commodity to this day.

Iowa has 9 electoral college votes, and its Iowa Caucuses as the first test of public opinion are considered a crucial first victory in all American presidential campaigns. It's also the US' largest producer of both pork and corn.

Fans of the 1983 Eddie Murphy film Trading Places might remember that the entire film was about financial wheeling and dealings around pork belly futures and frozen orange juice concentrate.

US farm subsidies have had an enormous impact on how Americans and even Australians eat. From the switch from cane sugar to corn syrup, to the production of cooking oils and, allowing agricultural swing states to provide a cheap and ample supply of the carbohydrates and fats that form the cornerstone of the ultra-processed food industry.

I am not demonising any of these things. Not corn syrup (which is not the bogeyman many would have you believe), certainly not seed oils (which are the current subject of an extraordinary amount of quackery), and honestly not even the processed food industry, but I raise them only to explain how politically motivated policy can have profound consequences.

From imagined moral panic to actual health crisis, ultra-processing is what took the original dour anti-masturbatory cereals to colourful sugar-laden morning treats targeted primarily at children.

Times, however, are changing. The Chicago Mercantile Exchange stopped trading pork belly futures in 2011, a reflection of the declining relevance of bacon to the American breakfast and therefore the economy. Orange juice consumption, too, has fallen dramatically in the 21st century over concerns with its sugar content, which is on par with non-diet soft drinks.

The Case for Stronger Food Policy

The great problem with the declining power of food is that beyond the affordability of groceries and the economics of agriculture, there is little appetite for government to engage at a policy level with the human experience of food.

Food as economic power put us – human beings – at the centre of policy, and now one of the principal criticisms of modern politics is that it prioritises power in the form of oil, money and information over the people from which, in a democracy, that power is sourced.

The difficulty is that food is intensely personal and in that respect I can understand the hesitancy with which policymakers approach food. Not one of us in this room would feel comfortable with the government prescribing how we should eat. Food is so personal and so cultural and – importantly – so different from household to household, that it is difficult to know even where to start.

But while it might be difficult to know where to start, there is greater risk in failing to do so.

Where policymakers vacate the battlefield and choose not to engage on what I believe to be our most valuable policy tool for achieving positive social, environmental and health outcomes there is a long list of

influencers, conspiracy theorists and corporate interests that are desperate to fill us with fear and sell us everything from processed food to supplements, based on balance sheets instead of science.

I've worked with health authorities in most Australian states trying to communicate a message of healthy eating, and while they fight a good fight, the odds are not stacked in their favour. Health is one of the last areas of government where food still holds some limited importance in the eyes of policymakers, and at a policy level we're not winning.

So what is the answer?

While there is plenty that traditional diets can teach us about the power of food to communicate health, culture and economics, they aren't the solution to a modern problem. If bacon and eggs and orange juice from the 1940s and 1950s and spaghetti bolognese from the 1990s are already losing their relevance to our society in 2025, centuries old food cultures can be little more than an anachronism. Food is a constant evolution and our approach to it must similarly evolve.

To my mind, food is not the problem. The problem is that people have been superseded by energy, capital and information as the sources of power. Food therefore far from being the problem is in fact a part of the solution, by bringing people back into the centre of policymaking – to remind policymakers that our democracy vests power in those people.

We most often talk about food in the context of health, but what I hope I've been able to show you is that the connections and dependencies of food are much more broad.

We don't need to seek to prescribe how people eat. Any effort to do so would certainly be met with significant resistance.

Instead, food policy should be entrenched in planning, to avoid the creation of suburban food deserts. Food policy should be vocal in competition law, so that we can all have access to affordable produce. We shouldn't talk about resources and mining separate from agriculture when they both relate to land and water use.

Food policy should be found throughout the human lifespan – from child care to aged care and in a manner that treats it more seriously than simply asking the question how much it would cost.

Our education system should focus on producing happy, healthy people equipped with the tools for life and who can cook themselves a meal, rather than simply producing workers to be fed into an economic model where they can generate financial productivity, but can't boil an egg.

Of course it should play a central role in healthcare, but not just there but also in multiculturalism and social cohesion.

I understand the old saying that to a hammer everything is a nail, and as a cook to me, everything is food.

But from the basics of our evolutionary biology to the economics of what we put on the table, food tells the story of our humanity. And to ignore the importance of food in our policy landscape, is to ignore the importance of humanity itself.

14 May 2025