

# The Guardian



## The trouble with fake meat

From beetroot burgers to hoisin 'duck', imitation meats are everywhere. But are these substitutes any healthier for us to eat?

**Bee Wilson**

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**I**t looked like a burger from the cartoon *Scooby-Doo*: frilly green lettuce, neon-red slices of tomato, a yellow square of melted cheese, darkly caramelised onions, homemade ranch sauce and thick pieces of roasted portobello mushroom. The bun was as puffy as a pillow. The whole comforting edifice was so tall it needed to be held in place with a wooden skewer. There was so much savouriness going on in this burger - all of it good - that I hardly noticed the thick brown patty at the centre.

I was having dinner with my family at a hip new burger place in Cambridge called DoppleGanger. You order your food on touch screens as if you were at McDonald's. From the thin fries to the craft beers and homemade ketchup, you could be in a cool West Coast burger shack. The difference is that everything at DoppleGanger - from the hoisin "duck" strewn over a plate of fries to the rashers of "bacon" - is vegan. Taking the first juicy bite of burger, my nose and mouth were telling me "beef", even though I knew that I was eating textured soy protein.

As a meat eater, I have never been especially interested in fake vegetarian burgers. When I am trying to eat less meat (which is often) I'd rather have a grilled flat mushroom in a bun, which is delicious in its own right, than some weird slab of fakery. But this burger at DoppleGanger

made me think again. If my senses could be fooled into thinking that I was eating a meat burger - and a very delicious one at that - then why should I ever need to eat a “real” burger again?

Alfy Fowler, the chef and owner of DopplesGanger, is a 28-year-old former art designer who sees vegan burgers as one way to rethink our relationship with food. And he is not alone. His is one of a new wave of eateries not only marketing themselves as vegan but doing so via “fake meat” offerings. These are part of a wider, rapidly growing fake-meat sector, driven by a population that is increasingly turning to veganism for both health reasons and ethical ones.

The takeaway service Just Eat reported that demand for vegetarian options among its customers grew by 987% in 2017. When Greggs launched its mass-market vegan sausage roll - containing a “bespoke” Quorn filling - at the start of January (or Veganuary), it created such a stir that for a few days there seemed to be something that people on social media cared about more than Brexit. The Greggs vegan roll achieved the distinction of being spat out by Piers Morgan on breakfast TV.



Piers Morgan tries a vegan sausage roll on ITV's Good Morning Britain. Photograph: ITV

Walk into the average supermarket and you will now see a bizarre array of processed vegan products that never used to be there - from pasties to imitation “chorizo” sausages. Quorn - a fake meat made from mycoprotein - has been sold in Britain since 1985, but only in the past few years has it started to be sold in such a gallimaufry of versions, from vegetarian “ham” to nuggets, from fake turkey and stuffing to steak and gravy pies.

In the chilled vegetarian aisle there are now plant-based “meatballs”, “burgers” and “goujons”. You could wear your hands out making all the air quotes required to cover these vegan “meats”. Quorn has also replaced the meat versions of nuggets and hot dogs on many school dinner menus.

It's not that the concept of imitation meat is anything new. For as long as there have been vegetarians - or people too poor to buy meat - there have been mock meats of one kind or another. For centuries in Russia cooks have made an aubergine puree that goes by the name of “caviar”. Or consider the Welsh Glamorgan sausage made from cheese, leeks and bread crumbs, which became popular during the second world war when meat was rationed.

The difference with the new fake meats is that, thanks to developments in food technology, many of them have become uncannily realistic in both texture and appearance. All the major supermarkets are now pushing increasingly plausible meat-free versions of animal proteins, from “flaky” fish to burgers oozing with beetroot juice.

Advocates of the new fake meats such as the Beyond Burger - and its main rival in the US, the Impossible Burger - claim they are a boon for the environment and for human health. One of

the founders of Impossible Foods, Dr Patrick Brown, has said that his vision is to eliminate the inefficient and cruel demand for animals as food. “We now know how to make meat better - by making it directly from plants,” Brown has said. Indeed, for some consumers, these fake meats are what they have long been craving - a sustainable answer to our meat-obsessed food culture that simultaneously offers different flavours and textures other than lentils and vegetables.

The existence of realistic fake meat products raises interesting questions about what meat really is. When we say we love meat are we really talking about a set of nutrients? A certain flavour or texture? Or a set of cultural memories of shared meals such as Christmas turkey and Easter lamb? A culture that is much more advanced along the fake meat route is China, where for centuries Buddhist cooks have made ingenious “roast goose” and “duck” and even “intestines” from layers of wheat gluten and tofu. Chinese food expert Fuchsia Dunlop tells me that the “bleeding’ burgers” of modern-day Britain “have the same purpose as Chinese Buddhist imitation meats”, of enabling people to eat vegan food without making dramatic changes to their eating habits. The difference, she notes, is that traditional Chinese fake meats tend to be made from tofu, mushrooms and other ordinary ingredients, whereas some of the new fake meats of the west “are manufactured with possibly unhealthy additives”. And this is where the huge and ever-growing enthusiasm for fake meat becomes somewhat tricky.



Vegan burgers, like DoppelGanger's *Crunch*, can be indistinguishable from their meat counterparts. Photograph: Karen Robinson for the Observer

Concern for our health is one of the main reasons we are now buying vegetarian sausages and burgers in such quantities, according to survey data. The catch is that there is not necessarily anything particularly healthy about a vegan hotdog. Many see them as just another set of overly processed industrial foods in a world that is already awash with what food writer Michael Pollan calls “food-like substances”.

Jenny Rosborough is a registered nutritionist who worries that vegan “meats” are perceived as automatically being healthier. Rosborough points out that meat-free burgers contain on average even more salt than meat burgers: 0.89g per serving as against 0.75g. Rosborough also notes that when switching to these products you also need to consider what nutrients might then be missing from your diet, such as iron and B vitamins.

“A vegan hotdog is probably no better for you than a meat one,” says Renee McGregor, a registered dietitian who works with athletes and is the author of *Training Food*. As a vegetarian, McGregor sometimes uses tofu sausages but feels they do not deserve the “health halo effect” they sometimes get, just on account of being vegan. “The key thing is that any food that has been highly processed should be eaten mindfully - so not necessarily avoided completely, but I wouldn’t recommend a vegan sausage weekly due to the high salt content and most likely list of additives and preservatives,” says McGregor.

I started to question the healthiness of some of the new generation of vegan burgers after I ate a Beyond Burger, as served at the Honest Burger chain. While eating the burger - which came with guacamole and “pulled” barbecued jackfruit - I was stunned by how close it felt to meat in my mouth, with its rosy pink hue and fragile flesh-like texture. But it felt nothing like meat to my digestive system.

Half an hour after lunch, I started to have griping stomach pains and a horrible junk-food aftertaste. When I looked up the ingredients, it occurred to me that had they not been marketed as quasi-meat I would never have chosen to lunch on “pea protein isolate, expeller-pressed canola oil, refined coconut oil, water, yeast extract, maltodextrin, natural flavours, gum Arabic ...”

Clearly not everyone reacts to the Beyond Burger this way. Plenty of vegans will have enjoyed it without any ill-effects. But I can’t help feeling that the novelty of these products means that their effects on human digestion are relatively untested. Quorn products warn you on the packet that the mycoprotein “may cause intolerance” in some people.

So can we actually say whether these fake meat products are healthier than meat?

I consult Dr Fumiaki Imamura, an epidemiologist at the MRC Epidemiology Unit in Cambridge. He notes that there is “no evidence” from large-scale studies that specifically looks at such products. He directed me to a Harvard study from 2016 which suggested that people who ate more plant protein and less animal protein had lower overall risk of death, but the plant protein in the study was mostly beans, pulses and nuts rather than Quorn “bacon” strips.

Then again, maybe the consumers of fake meats do not expect them to be particularly healthy, any more than I am prioritising health on those hurried nights when I sling fish fingers in the oven for my children. My sister, who lives in the US, is a big fan of frozen vegan nuggets of various kinds, but for her they are mostly about convenience (and animal rights).

She is one of the busiest people I know and has three kids, two of whom are vegetarian, as is she. If health were her only consideration, she would make wholesome dinners of lentil dal or vegetable chilli. But her younger girls won’t eat most cooked vegetables and she would find it exhausting to cook different meals to suit their different preferences every night alongside homework. “So I give them raw veg with whatever quick thing, and that’s often vegan hotdog.”



Fry's vegan artisan smoked hotdog. What is real? Photograph: Nigel Deary

Maybe the most pressing question raised by vegan fake meats is not why they aren’t better or healthier, but why the meat that they are choosing to ape is itself so highly processed and poor in quality.

Faced with the choice between a “regular” frankfurter and a vegan one, can we really say which one is “real” and which is not? Herta, the leading brand of pork frankfurters boasts that it is 74.5% pork. The rest of it includes wheat fibre, pea protein and dextrose - the same kind of industrial ingredients you would find in many fake meat products.

Back at DoppleGanger, Alfie Fowler tells me that he feels that the soy patties he serves are more authentic in their way than most of what is consumed as “meat” in modern Britain. In one of the bars where Fowler used to cook, they served a bar snack of “chicken goujons”. He could see on the packet that these goujons were only 50% chicken with the rest made up of wheat gluten and various additives, yet the customers who bought them believed they were eating meat. “Meat has become so cheap that it isn’t really meat any more,” Fowler observes.

Defenders of meat will say - with good reason - that an unprocessed home-cooked grass-fed leg of lamb is a far more “natural” and nourishing thing than a Quorn burger. But the question is what to do if you lack the cash for grass-fed lamb.

In the developed countries of the world, including Britain, about half of all meat consumed is now made up of processed meat products, from pork pies to kebabs, because this is the kind of meat the average person can afford. If your idea of “meat” is a nugget, I increasingly agree with my sister that it might as well be a vegetarian one.

The bigger question is why we remain so hung up on this thing - “meat” as the yardstick for our meals. Given that most meat is so highly processed and cruelly produced, why do we still prize its flavours and textures?

The rise of fake meat is not yet a true food revolution because it leaves our preferences untouched. The real change to our food culture will come the day that someone designs a steak that tastes like a carrot.

*Bee Wilson is the author of The Way We Eat Now: Strategies for Eating in a World of Change, to be published by Fourth Estate in March*

## **Real v fake: a taste test**

**Bee Wilson tried a range of products with her daughter and her daughter’s friend, both aged 15, plus her nine-year-old son.**

**Fry’s Vegan Artisan Smoked Hot Dogs (£2.50 for six from Sainsbury’s) v Herta Frankfurter hot dogs (£2 for 10 from Sainsbury’s)**

**HEALTH** The vegan hotdogs are lower in fat.

**TASTE** There wasn’t much in it. The teenagers loved the pork hot dogs but agreed that if they were smothered in fried onions and mustard in a bun, the vegan ones would be fine, even if the skin was a bit thick and the texture a tiny bit grainy.

**Cauldron Lincolnshire Sausages (£2.50 for six) v Sainsbury’s Taste the Difference Lincolnshire Pork Sausages (£2.50 for six)**

**HEALTH** The pork was markedly higher in saturated fat (8.4g as against 0.8g per 100g) and also high in salt.

**TASTE** We all preferred the pork ones, but only just. “The veggie one tastes like stuffing,” said one of the teenagers. The nine-year-old couldn’t tell which was which at first. The Cauldron ones had a pleasant sagey quality but lacked the sticky mouthfeel of pork.



Fry's Vegan Artisan Smoked Hotdogs Photograph: Fry's

## Quorn Crispy Nuggets

(£2 for 300g) v Birds Eye Wholegrain Crumb Chicken Nuggets (£2 for 458g)

**HEALTH** The Quorn nuggets were much higher in salt, which may explain why they were tastier.

**TASTE** The Quorn nuggets were a revelation. All four of us preferred them to the chicken ones both for texture and flavour.

“It’s nice and moist,” said one of the teenagers. The chicken nuggets tasted dry and bland by comparison.

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Cauldron Lincolnshire Vegetarian Sausages.

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Quorn Crispy Nuggets.