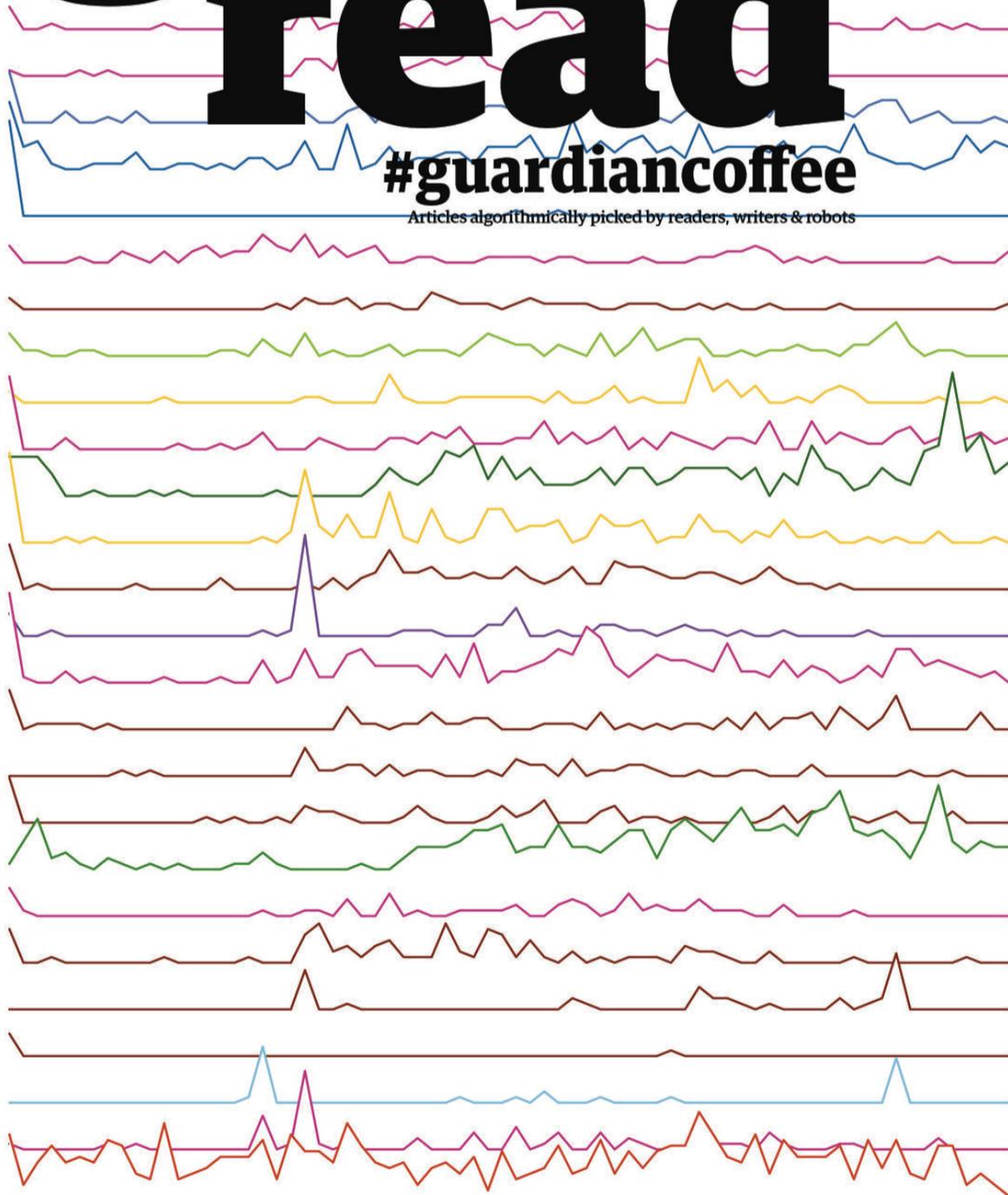


the long good read

#guardiancoffee

Articles algorithmically picked by readers, writers & robots





Introduction

Welcome to the Long Good Read. This is an experimental, almost entirely automated newspaper that uses an algorithm to pick the week's best long-form journalism from the Guardian. The idea was started by developer Dan Catt, print-your own newspaper service Newspaper Club, the design team at Mohawk and the technology editorial team at the Guardian. We've put this together for you to read with your coffee. Enjoy! And please do tell us what you think - what else should we include in our experimental, automatic newspaper? @thelonggoodread or hello@thelonggoodread.com

Spend time listening to anyone in the media industry, you might think newspapers are dead. In fact it's just pulse of the big media businesses around the newspapers that is growing weaker, with readership and advertising revenues falling and increased competition from new technology just a part of that.

But newspapers themselves are a delightful, tactile, luxurious technology in their own right. The success of Newspaper Club, which lets anyone cheaply print their own newspaper, shows that newspapers have been reclaimed in a way.

Its success is partly down to our curiosity about being able to professionally print in a format that used to be hard for an individual to access, but it is also part of a wider craving for tangible, physical products to compensate for our digital dependency. Our screen lives make much of our life feel overwhelming, yet at the same time we have nothing physical to show for it. And there's a real human pleasure in being able to make and hold something in your hands.

Editorially, we get enormous satisfaction in exploring and playing with new projects. It's not about finding a future for paper, but a future for the stories that deserve telling. Where shall we go next?

Jemima Kiss

Head of technology - editorial

The Guardian

theguardian.com/tech

This newspaper is in beta. It's an experiment in combining the Guardian's readers, writers and robots with Newspaper Club's short-run printing tools, to produce a newspaper that's completely unlike the daily Guardian.

We're only printing 500 copies, and it's just for #guardiancoffee, so it needed to be quick and easy to produce. 'One person, one hour' was the goal, and achieving that required automating as much as possible, while still retaining an editorial eye.

First, the team at the Guardian wrote a small tool to sift through the most popular and interesting long form content, as driven by website analytics, comments and social media.

A selection of these are then imported into Newspaper Club's browser based tool, ARTHR, and they're quickly laid out into templates designed just for this project.

Then, it's onto one of Newspaper Club's printing presses, where it's printed, packed, and delivered straight to #guardiancoffee and into your hands.

Of course, this isn't designed to replace the daily Guardian paper. It's an experiment to see what's possible at the other end of the spectrum, using new technology and techniques to produce a newspaper as quickly as a webpage.

And if you like it, wait a little while and maybe we'll be able to generate one tailored just for you.

Tom Taylor

Co-founder and head of engineering

Newspaper Club

newspaperclub.com/longgoodread

Everything's gotten a bit exciting this week. Newspaper Club have rolled out selling newspapers in their online Newsagent, and we've been invited to be among the first few newspaper offered for sale! Which means you can now go online and pay money for a copy of this very paper you're holding in your hand.

Which assuming you've picked this up in the #guardiancoffee shop is a bit odd, but there you go.

It's very much a fun loop back to the whole digital/physical thing. The Guardian is going online more and more, this experiment was all about "slow news" and pulling some of that digital content (some of which is web-only) back into the physical realm. And now this paper exists in digital form in an online shop waiting to be summoned via an incantation of cash, manifesting itself once more into our papery plane of existence.

Or maybe I'm just over thinking it.

Anyway, this weeks cover is a "Joy Divisualization" of the times articles by section were published over the last week. Each line represents 24 hours of a section, midnight to midnight. Where the lines are bumpy, that's when articles are being published. I did do a version with a key to the colours used for each section but form before function, it looks better without words messing it up.

Dan Catt

Developer

revdancatt.com

GPS creator Brad Parkinson calls for tougher penalties for satellite blockers

Fines for blocking GPS signals need to be toughened up to include jail sentences, say inventor of navigation system

By Alex Hern

Penalties for jamming GPS networks need to be co-ordinated worldwide as their importance grows, the technology's chief architect says.

Brad Parkinson, who led the project to create the global positioning system in the 1970s, has warned that increasing reliance on satellite navigation means the risk of damage caused by illegal or accidental jamming of the signals is unacceptably high.

"We found a jamming system in place at Newark airport, where they were testing the latest GPS technology for the blind landing of airplanes," the emeritus professor of aeronautics at Stanford University told the Guardian. "It involved the step of [ground-based] antennas, and unfortunately the New Jersey turnpike runs right by them. They would periodically, and always close to the same time of day, get jammed.

"It took them three months to pinpoint a trucker. [He] had gone online and for less than \$50 bought a little device that plugged into his cigarette lighter that he was trying to use to jam the GPS in his truck. He knew his boss was tracking him, and he was probably taking a digression to track his honey or something. But this device, its range was about a mile.

"That incident, what I call Newark 2, happened on the 4 August 2012. They nabbed him, they said he is apparently liable for a forfeiture, not a fine, in the amount of \$31,000." But in Australia, he said, "the impact on you would be one heck of a lot worse. In Australia, if you cause interference likely to cause prejudice to the safe conduct of a vessel it's five years in the jug [jail] and \$850k."

Parkinson said: "I'm calling for the community of nations to move to the Aussie-type penalties."

GPS has become essential to daily life, forming the basis of smartphone and in-vehicle navigation for millions of people worldwide. It was initially controlled by the US military, and only accessible via a descrambling system, but President Bill Clinton unscrambled the signal in May 2000.

In the UK and Germany it is illegal to sell or use GPS jammers - but it is legal to import or own them.

GPS signals are easy to jam because the signals from the orbiting satellites is so weak - equivalent to a 25-watt light bulb seen from the ground. The signal has to be amplified to pick it out from background noise. A jammer with an output of about 2

watts can block out the signal from the satellites for some metres - and more powerful ones would work over kilometres.

While the Newark incident presents an alarming prospect, the biggest issues caused by GPS jamming is likely to be in the maritime industry.

"The aviation people are much better protected because they don't depend on it," says Bob Cockshott, director of Position, Navigation and Timing at the ICT Knowledge Transfer Network. "They do, perhaps to a worrying level, at sea, but not in the air. In aviation they've never become dependent on GPS, it's always been an adjunct to the navigation system that they've already got, a lot of radio beacons in strategic points.

"At sea, they've become very much more dependent on GPS, to the point where some shipping lines instruct the captain to stop if the GPS isn't working. They say 'don't try and go anywhere, just stop and

wait until it comes back', because the crew isn't used to operating without GPS."

On top of increasing the penalties for owning and using GPS jammers, Parkinson argues that manufacturers of receivers, particularly in the maritime industry, need to start toughening up their devices.

One way is by simply looking at alternative signals, such as when Europe's GPS alternative Galileo or Russia's Glonass system. Another is by combining the GPS data with information derived from an inertial positioning system, which uses accelerometers and gyroscopes to attempt to discern how far the system has moved, and in what direction, from the last known location.

"The point is if you combine all of these things, a good set should be able to fly within 1km of jammer with a 10km range," says Parkinson. "That's what I call toughening."



A handheld GPS unit. Photograph: Alamy

Prizefighting in Monte Carlo with Ferraris, the Snake and the Princess

Watching boxing in Monaco can be a little perplexing. You traipse around in a sweltering suit to find a venue that doesn't seem to exist, then pull up a cheap seat near the local royal Aaron Gibson for The Queensberry Rules, part of the Guardian Sport Network

If you ever get the chance to fly into the Cote D'Azur airport in the off-season, try to glance down as you're coming in and take note of all that Mediterranean water stretching out towards the horizon, and all those cheerful looking palm trees on the shore, and yes, the Alps there too somehow, all snowcapped in the background. When you get on the ground, odds are that you'll be struck with that strange sensation one sometimes gets when passing through resort destinations in the off-season: that post-apocalyptic feel of emptiness, that paradise in winter (if you call 50F and partly cloudy "winter").

Though, the rainy streets of Nice will still have a certain charm to them, and in Vieux Nice you'll still find backpackers huddled inside at Wayne's Pub, and no one would deny that a pint on a rainy day has the potential for being a whole lot better than a walk on the beach, depending on your disposition. You'd be remiss, too, if you didn't take at least a cursorily stroll down the Promenade des Anglais, where your view of the sea and the grand old hotels lining it will be as devoid of herded tourists as it will be of the touring Victorian aristocrats who proceeded them.

Still though, if you've come this far, you'll probably go ahead and hop the 100 bus west down the coast 45 minutes to Monaco. (This bus ticket, implausibly, will set you back exactly €1.50. You could get down the coast in half the time if you took the train and were willing to part with a few more coins, but you might feel that you should go ahead and stick with the 100 and hold onto that currency. You'll need it where you're going.)

At 0.75 square-miles, Monaco is a perfect little income tax-lacking, blind banker-having, Mediterranean paradise for that certain type of person who has the means to avoid taxes and a fondness for bankers who don't ask too many questions. And though you aren't this type of person, you'll find yourself a decent hotel room at a winter discount with a view that looks straight out on to the Port of Hercules.

You'll have big white yachts with names like "Ester II" moored outside your window, and rows and rows more of them stretching out in either direction. You'll probably go ahead and go for a stroll along the docks as the sun is setting, trying not to be too obvious as you glance into the windows to see if their owners are really even there, or if this is merely a good place to store them so that they may be properly coveted by the masses. You won't linger though, as you'll have plans for the evening. There will be, after all, prizefighting in Monte Carlo that night, and you'll be attending.

As you're trying to iron out at least some of the wrinkles of your suit jacket, which you've been instructed to wear by the awkwardly constructed e-mail you received several weeks ago informing you that you had a seat reserved for the fights, you'll be somewhat troubled by the news articles about the fights that your friends are sending you, containing phrases stating that it will be held "in front of

Monte Carlo elites." That part about the "Monte Carlo elites" in particular will trouble you, for though you are fairly certain that you have a seat to the fight, you are even more certain that you are not a Monte Carlo elite.

You'll begin to question whether, perhaps, you had contacted the wrong person with your inquiry in the first place, and whether something has been seriously lost in translation. Still, as it will be too late for anything but staying the course, you'll stroll out in front of the port and past those big boats and on toward the venue for the fight.

As point of warning, a couple things might deter you along the way: First of all, though you'll be led along a steady path of banners advertising the fight, straight to the front door of the world famous Monte Carlo Casino, and though this front door will be flanked at either side with large posters advertising the fight, and though the words "Le Casino Monte Carlo" are on signs everywhere, and will even be printed on the ropes of the actual boxing ring, the fight will not, indeed, be held within the grounds of said casino.

When the men at the front door try to explain this to you, do not insist that this does not make sense, and that they must not have heard you correctly, due to your poor French, and then do not also go on to repeat it incredulously in English, hoping for a better result. This will only cause you to be even more late than you just realised you were.

Instead, walk the 20 minutes or so down the beach, sweating through your suit jacket even though the sun has gone down and the sea-breeze is cool, and keep your eyes open for the luxury restaurant called Salle Des Etoiles which, to repeat, is in a separate freestanding building not connected physically to the famous casino.

Do not be deterred by the lack of pedestrian-friendly terrain you encounter. If your nice shoes cannot handle a little sand, or if your legs balk at hopping a guard rail here or there, it is key not to dwell on it. When you reach the gated entrance where the black limousines and red Ferraris and Lamborghinis are pulling in, feel free to walk up and through it.

You may be especially alarmed that the long palm tree-lined road on which you find yourself walking has stone barriers on either side of it which prevent a human being from walking on the berm, and that you seem to be the only person walking down the middle of the road as luxury cars pass you on your right from behind, headed toward the restaurant, and then again from the front on your left, having deposited their masters at their destination.

Do not be self-conscious about the fact that you are the sole person approaching in this manner. If you keep at it, eventually the palm trees will give way and you will come to the end of a little mini-peninsula, at the end of which sits, right on the sea, the large cylinder-ish shaped building that houses the Salle Des Etoiles. Though you'll now be sweating and disheveled from your walk, go ahead and saunter in the open doors with as much purpose and confidence as you can.

In the first room you'll walk into, as fur coats are being passed off to coat checks and general milling about is occurring, walk to the first person you see who seems to be in authority, and in very poorly

constructed French sentences, explain how that whole e-mail reservation thing that went down a few weeks ago, and then sit back in amazement as, fumbling through a small box on the table in front of her, she produces an envelope that has printed on it, simply, your own name, preceded, possibly for the first time ever in print, with the title "Monsieur", and with the words "Monte-Carlo Boxing Bonanza" printed just underneath.

Take this and proceed immediately by following the stream of people through the next doorway, open your fancy little white envelope, which you'll promise yourself you'll save forever and then proceed to lose at the cafe later in the night, and remove the small slip of printed cardboard inside and hand it to one of the hostesses, who will proceed to personally show you to your own seat.

It is only then, as you follow your personal dressed-in-black seat hostess, that you'll fully appreciate the intimacy of the place. Though the ceiling is fairly high, a few stories up, perhaps, the radius of the room is not very large by sporting event standards. In the centre sits the boxing ring, and outward in several directions from it are placed folding chairs, 15 to 20 deep.

You'll be stunned to notice that, though you paid the least possible amount offered for the seat, in the belief that it would be a nosebleed seat, you are in fact in an aisle seat only six rows back from the ring. You'll also be pleased to see that the first fight of the evening, an amateur bout featuring a young local boxer, is only just about to begin, and that you have arrived just in time. Just in time, and not fashionably late, like the rather elegant woman dressed all in black, who walks past you, accompanied by five or six suited men, and takes her seat 20 feet from you.

As the amateur bout, a short three-round affair, is about to come to an end, you'll notice that quite a lot of the people around you seem to be looking at the woman in black. You'll be perplexed by this until, just after the ring announcer proclaims, not bothering to give the scores, that the judges have awarded the bout to the local kid, he makes the special announcement that Her Royal Highness, the Princess of Monaco, is in attendance tonight. At this, the woman in black, will rise to her feet and acknowledge the audience, and you'll realise that you and the Princess both have the same plans for this evening.

You should know, too, that you'll be seated next to two Brits, who came about their seats due to an untimely death in the family of the original ticket-holders, and who are on the tail end of a 16-month contract assignment in Monaco for an energy company. You'll notice how they are dressed much more shabbily than you are, and you'll all have a laugh as they tell how they, too, had walked up the centre of the road on the way up, and had been stunned to see the fancy apparel of their fellow attendees.

Soon, they will begin returning from the concessions table with extra beers, for you, and you will begin to return the favour on your own excursions to the table behind the rows of chairs. One of the Brits will tell you about his assignment just before the current one in Monaco, which was a two-year stint in Kazakhstan.

He'll talk too, about the challenging nature of

Kazakh culture, of how he believed that Kazakh men possessed a form of machismo that led them to feel the need to prove their strength through fisticuffs far too often for his own personal tastes, though he found his two years there to be quite irreplaceable. You'll find this interesting also, for as it happens, the headlining boxer in tonight's card is a middleweight from Kazakhstan named Gennady Golovkin, who is known for his near supernatural knockout abilities. He is the reason you'll be at this fight.

There will be four professional bouts before Golovkin comes out, and a switch will be thrown that will cause the walls of the room to shift away and reveal instead only glass, which in turn reveals the dark and sparking Mediterranean beyond the ring, and the starless sky above.

In the first professional fight, you'll see a Russian welterweight easily outpoint an Irishman, and in the second fight you'll witness, right in front of you, a Filipino flyweight savagely knock out a favoured South African. You'll turn around and crane your neck to see a replay on the big screen behind you, and when you do, you'll notice a woman in a black cocktail dress, sitting a few rows back, her hands over her mouth, in clear shock, with just a hint of tears welling her eyes. She'll follow your gaze to the screen and watch the replay, over and over, never removing her hand from her mouth. Suddenly you'll have a thought, and will turn your head in the other direction and look at the Princess. You'll want to see how she has reacted.

You are curious about how a princess is supposed to react to such an act of brutality. But as you see her, she is neither mortified, like the woman behind you, nor is she cheering, like much of the crowd. She is seated, stoic. Unmoved. If she reacted at all, you'll have missed it.

The woman behind you on the other hand will be difficult for you to get out of your head. At first you'll assume that she is a friend or relative of the South African, who, at this point, is up again and walking around. But then you'll be struck with the

thought that, perhaps, instead, this is the first time she has ever been to this sort of thing, and that, she is simply reacting as almost any person would, in any situation, to witnessing the wounding of another human being. You'll think for a moment how strange it is that, among these cheering spectators, this woman's reaction stands out to you as abnormal. You'll have a very strong urge to find out what the Princess is really thinking. But of course you never will.

In the next bout, a badly out of shape Argentinian cruiserweight will be stopped by a fighter from the Democratic Republic of the Congo. The Argentinian will be so portly that you will find it difficult to believe how he made weight in the first place. In the penultimate fight, an Australian middleweight will outpoint a Ukrainian.

And then Golovkin will come out. Suddenly, there will be Kazakh flags draped over shoulders, waved in the air, and held aloft and blocking your view. You'll be quite curious about where they all came from. Golovkin will fight a Ghanian fighter named Osumanu Adama, who will be tough man, and will be called "The Snake."

At 22-3, he'll enter having never been knocked out. That this will change tonight will not even be a question in your mind. You'll witness the Snake be dropped in the first round. And the sixth round. And the seventh round. All by different varieties of punches, all with stunning jaw-dropping power, as if Golovkin places them all in the style, time and place of his choosing.

Each time, The Snake will answer the 10 count and fight on, but shortly after the third knockdown, the referee will step in and call a halt to the whole thing. Even a hardened fight fan will agree that there is no reason to continue it.

In the confusion that follows the win, the singing, the music, the confetti blown into the air, you'll be unable to locate either the woman behind you or the Princess, and with your head swimming from too many rounds, you'll bid *adieu* to your new British friends and begin to retrace your steps back

from where you started, abandoning thoughts of dinner.

You'll have skipped several meals that weekend already, due to the prices you'll have seen on the menus outside of restaurants in Monaco. When you get back to the casino, you'll sit outside at the cafe again. You'll order a drink that cost more than a steak dinner back home, and watch Rolls Royces drive around the circle in front of the Monte Carlo Casino.

You'll order a second drink. With every order, your server goes out of his way to let you know that your request is more than welcome. Sometimes in several languages, just to be sure the message gets through. "But of course! *Mais bien sur!!*" You'll find yourself missing the waiters back in France, and that the wondering if that French inattentiveness that might be malice is preferable to what you are getting in Monte Carlo.

Finally you'll decide it's time to walk back to the Port of Hercules, back past the Ester II, and back to your bed. As you walk into the long tunnel of road that cuts through the deep rocky hillside, Ferraris race by at speeds beyond anything you have ever seen on public roads. You'll wonder what the odds will be that one will come up over the small cement divider that separates the road from the sidewalk, and take you out.

The next day, you'll check out of your hotel and not bother with the 100 bus. Given the amount of money you shelled out the night before on drinks, you'll find it rather quaint, cute even, that saving such a small amount of money was something that was important to you the day before. Besides, you'll have some doubts about whether you deserve it any more than whoever will end up with it, anyway.

You'll buy a ticket for the train back to France, and back to the rainy streets of Nice, and you'll find your way back to Wayne's Pub, where you believe people who are more like you spend their time. You'll find, though, that instead of joining their conversations, you'll sit at a small table near the wall and drink your pint, even though the place is packed with English-speaking expats. When your waitress comes to ask you if you want another drink, you won't stop speaking in your laughable French.

In your hotel room that night, well after midnight, the Super Bowl will just be getting underway. The broadcast will be in French. There will be almost no commercials. The Broncos will get routed until deep into the early French morning. You'll begin to think about the things you've done. The things you want to do. The things that perhaps you'll do. You'll think that life is a very interesting thing.

And then your mind will turn to an empty cubicle, waiting your return, and you'll know that all of this will be like a dream soon, something that never happened. And that no matter how hard you try, some things you just cannot hold on to. And then you'll turn, and walk out on to your darkened balcony, and stare off into the lighted foothills of the Alps, with a slight mist of rain in your face. This is how things work, you'll understand. And once again, very soon, you will neither cheer, nor will you be mortified. You will be seated, stoic. Unmoved.

● This article first appeared on **The Queensberry Rules**



Monte Carlo, Monaco: not your normal boxing haunt. Photograph: Graeme Robertson

Video games need more women - and asking for that won't end the world

Here are five common arguments against developers adding more female characters - and why they are wrong

By Keza MacDonald

I've been a Woman Who Exists in the Games Media for a pretty long time now, and female representation in games is something that, y'know, comes up quite often. The latest example involves the futuristic dungeon-crawler *Deep Down*, which Capcom is set to release on PlayStation 4. Recently, the developers appeared on a live web stream and seemed to suggest that there are no women characters in the game for story reasons. In response, VG247's Brenna Hillier unleashed a hilarious and white-hot tirade that beautifully skewers that mentality - do go and read it, it's highly enjoyable. (Capcom has since clarified the comments stating that there is only one character, not 12, but he is still male, of course.)

Here's something I've noticed: whenever you talk about female protagonists in games, you always hear exactly the same responses. Always. I'm not talking about the absolute meat-heads here; the ones who genuinely think that women aren't really proper people and don't welcome their presence online or anywhere. I'm talking about the people who don't seem to understand why this stuff is even an issue. Why is having female characters such a big deal? Aren't we living in a post-race, post-feminist world where we don't need to get so angry about these things?

Well, no, we're not, unfortunately, and though great progress is being made, it is important to keep these issues in mind if we're ever going to break through the narrow marketing-defined definition of what games and gamers are. So here are five of the most frequent responses to recurring requests for more playable women in games, and why they're misguided.

Adding female lead characters doubles the art budget

This is only true if the art budget is predicated on having one character, who is a man. In most other circumstances it would not magically cost more to make some of the characters female. It does not take more time to design and write a female character. Female actors do not cost more to employ. If you're doing unique performance capture for, say, four different male characters, it would not cost more to do unique performance capture for three male characters and a female character. Or even two of each! Bear in mind, too, that the budget for characters is only a fraction of a whole art budget for a game.

Sure, with heavily narrative-based games that include lots of cinematic sequences, there are budgetary considerations when providing players with a gender choice for the lead character. "In the case of something like *Uncharted*, you've got mesh data, texture data and possibly mo-cap data to duplicate," says the indie developer Byron Atkinson-Jones, who previously worked at Lionhead on the *Fable* series. "Also, would character interactions change based on gender? Would you have to ensure that the proportions of the male and female character are the same so that all gameplay elements remain the same - ie being able to jump and grab a ledge? But nothing is really that difficult to do in games, it's all down to resources, planning and willingness to do it. If the designer stipulates that the main character can be male or female from the start then the development team would build it that way."

Atkinson-Jones is currently having to consider this problem himself with his current title, *Containment Protocol*. He needs to get voice acting for the lead, but can't afford to employ both male and female actors. For larger studios, though, it's about thinking of story in a different way. The later *Saint's Row* titles, for example, allows for male and female characters, even letting players swap gender throughout the game. "I think all this requires is better self-awareness from developers," says Mitu Khandaker-Kokoris, of one-woman studio *Tiniest Shark*, recently responsible for the fascinating sci-fi social media parody, *Redshirt*. "If you are spending money on all kinds of variety with your male characters, then why is your budget not designed from the ground up to account for female characters too?" Rhianna Pratchett, lead writer on last year's *Tomb Raider* reboot, agrees. "It seems sheer madness that the industry is striving for more realistic (and expensive) graphics, but not more realistic worlds that actually depict half the Earth's population and an increasingly large chunk of gamers."

Thomas Was Alone designer Mike Bithell is currently working on a new game, *Volume*, and has decided to add the option to play as a female character. He reckons this will take less than two weeks of work to implement. There's a strange assumption that female characters would inherently change a game to the point where it requires a ton more work and money to create. Unless your entire code base is set up around interchangeable male characters (which is what, say, *Infinity Ward* claimed was the case with the *Call of Duty* series before the launch of *CoD Ghosts*) this just isn't true. "I don't recall seeing anyone even mentioning that the *Titanfall* beta has female avatar options," says Bithell. "It has zero effect on the enjoyment of the game for players who don't care, and a massive effect for those who do. Everyone wins."

Asking for more women characters will lead to tokenism and positive discrimination

In 2009, researchers at the University of Southern California carried out a comprehensive study of the 150 biggest video game releases - they discovered that less than 10% of game characters are female. Acknowledging the existence of women and reflecting that in video games is not positive discrimination. People are not asking for every single game to star a female protagonist; they are asking for more than literally one or two titles a year to star a female protagonist. They're asking for it to be an option. In no way is it tokenism to politely request that games more accurately reflect the makeup of the game-playing public and indeed society, instead of existing in a strange alternate reality where 90% of noteworthy people are white and male and have a number two buzzcut.

It's not just women who are fed up with always seeing the same kinds of protagonist in video games. It's pretty much everyone. Back in 2011, IGN superimposed different game characters' faces on each other and found them to be almost identical - a production line of young white men with cropped hair and tribal tattoos.

This didn't used to be the case, you know. Back in the 80s and 90s, people were just making stuff - the budgets and teams were smaller, and lead protagonists varied enormously as a result. It's only in the last console generation that marketing has developed such a tight hold on games that it defines what they are allowed to be before they're even made. Developers are told things like, "this kind of protagonist resonates with the demographic", "this kind of box art is best", "games with prominent women don't sell". Jean-Max Morris, creative director on Capcom's interesting sci-fi adventure *Remember Me*, claims to have been told by publishers that they wouldn't sign the game because of its female lead. It's a self-perpetuating circle that limits what games can do.

I've had people tell me, look, we've got the newly re-humanised *Lara Croft* and we've got *FemShep* and maybe *Faith*, can't we just be happy about that and celebrate it? Yes! Yes we can celebrate that. But we can also ask for more of it, please. That's not positive discrimination. And what's really frustration is the way that male gamers on Twitter and in comments sections tend to try to derail the argument by reaching ridiculous conclusions. Ask for more female characters and suddenly we're apparently demanding for all games to include women, or for strict government guidelines on representation. There is a lot of fear and insecurity. I am fairly certain we will avoid a future in which developers are sent to special gender awareness prison camps for not meeting their quota of female antagonists.

Women don't play RPGs/action adventures anyway so what does it matter?

This just straight-up isn't true any more. Look at me, look at my colleagues, look at Twitter, look at the audience of major games websites, look at the many, many pieces of research that show that women are 50% of the gaming audience in total and more than 20% of even the most traditionally male-dominated genres, look at Bioware and the Mass Effect series, look at the ever-increasing number of people who read and share articles like Brenna's, and tell me women don't care about video games, or that female characters don't matter to them (and plenty of men, too).

Also - and this is so obvious it's barely worth pointing out - more relatable characters would bring more women and more money into these genres. "Even if you accept the line of thinking that 'women just don't play these games' (which is obviously untrue!), then surely it would also make sense to accept that making your games less actively unwelcoming to women will potentially widen your audience," says Khandaker. "I am loathe to mention this kind of argument, because I think making diversity a 'business case' is really the wrong approach... I advocate for better representation and diversity in games not because it's a good business case for games, but because, simply, it is the right thing to do."

Fewer women than men play games in these genres, still. But ask yourself: isn't a lack of aspirational female characters in these genres likely to be a significant reason for that? I looked up to Lara Croft when I was a little girl. I looked up to her because she was all I had. It does matter.

Developers are afraid to put female avatars into games in case their clothing is criticised or they are accused of violence against women

Fear of doing something badly is a terrible excuse for not doing it at all. If you're scared that your female character will be ill-received, there are simple things you can do to minimise the chances of that happening: dress female characters like human beings rather than a teenager's wank fantasy and don't make them objects of fetishistic violence. For example, don't dress them up as slutty nuns and then make a trailer about a bald man graphically murdering them. Don't dress women soldiers in skimpy tops because members of your community fancied seeing some pixelated cleavage. Writing women is not some kind of dark art. If you've got a compelling male character in a story, changing the pronoun isn't going to change who they are.

"I understand this comes from a well-meaning place, but at the same time, we have a responsibility towards better representation," says Khandaker.

"We need to take ownership of that responsibility, and while I understand that it might be extra work, it's worth putting in that work towards doing your research, or even dedicating some budget to hiring a consultant (they do exist!) who can talk to you about your ideas for representing women and minority characters - it'll lead us all to a better, more inclusive, and compassionate place."

"There could well be a 'squishiness' factor behind putting female characters into violent scenarios, particularly in terms of AI," acknowledges Rhianna. "Developers can be a little bit nervous about getting female characters wrong (in fact getting any character who is not white, male and straight, wrong.) I think that involving writers and other narrative professionals early on in the process could help. We're used to imagining ourselves into the shoes of people who aren't us. I think that old phrase 'write what you know' unnerves people sometimes. It's more a case of 'write what you understand'. You understand a thing or two about living on this pale blue dot with other complicated, wonderful, maddening homo sapiens? Great, that's half the battle. Go forth and write interesting humans."

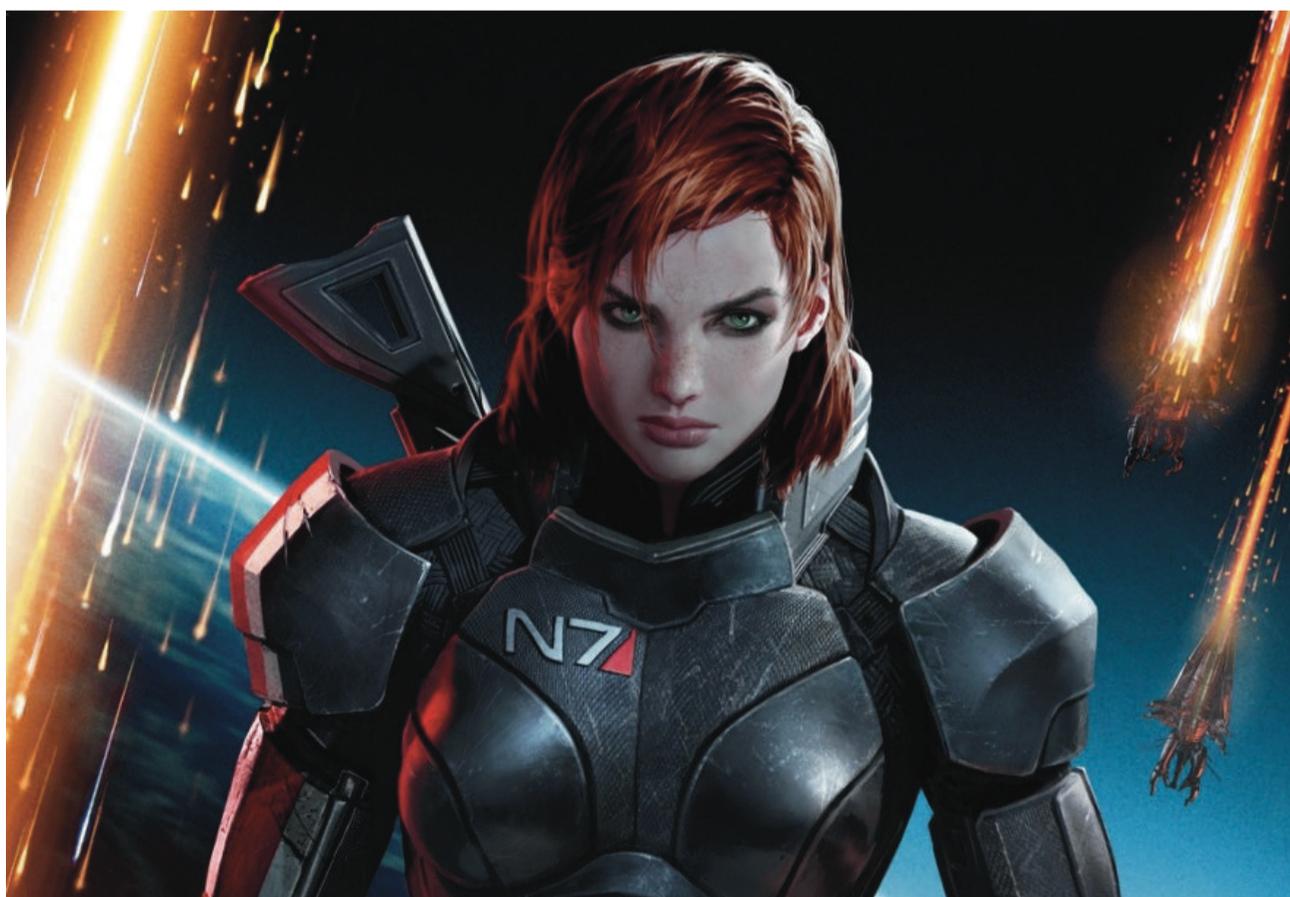
But it's not realistic to have all these powerful women

OK. So it is realistic for, say, Cole MacGrath to run around shooting lightning bolts out of his hands, but if he were a woman that would be preposterous? Here's what's actually unrealistic: fiction in which more than half of the population of Earth simply isn't present, or is only present in the background, as passive entities. That makes no sense.

I'm being a wee bit facetious, but the point stands that not having women in games is jarring. *LA Noire*, for instance, actually makes its version of 1945 more sexist than it was in reality. Cara Ellison goes into great detail on this here, but the LAPD was one of the most progressive police forces in America at that time and employed numerous female officers, and in postwar society there were many women doing the jobs that men had left behind - all of which is reflected in noir films of the period. The fact that *LA Noire* has no prominent women at all except dead ones and the lead character's mistress isn't an accurate reflection of history, it's deeply strange.

"Women are now able to become soldiers on the front lines for real, yet it seems impossible to get them into virtual warfare," says Pratchett. "It's a sad day when imagination is lagging behind real life."

Or, as Bithell succinctly puts it, "Tell that to the many women who serve in the military, in law enforcement, in any one of the relatively small number of professions depicted in video games. Or don't, because they have guns."



Developer Bioware provided both male and female versions of its lead character in the Mass Effect series of sci-fi role-playing adventures

Climate change is here now and it could lead to global conflict

Extreme weather events in the UK and overseas are part of a growing pattern that it would be very unwise for us, or our leaders, to ignore, writes the author of the influential 2006 report on the economics of climate change

By Nicholas Stern

The record rainfall and storm surges that have brought flooding across the UK are a clear sign that we are already experiencing the impacts of climate change.

Many commentators have suggested that we are suffering from unprecedented extreme weather. There are powerful grounds for arguing that this is part of a trend.

Four of the five wettest years recorded in the UK have occurred from the year 2000 onwards. Over that same period, we have also had the seven warmest years.

That is not a coincidence. There is an increasing body of evidence that extreme daily rainfall rates are becoming more intense, in line with what is expected from fundamental physics, as the Met Office pointed out earlier this week.

A warmer atmosphere holds more water. Add to this the increase in sea level, particularly along the English Channel, which is making storm surges bigger, and it is clear why the risk of flooding in the UK is rising.

But it is not just here that the impacts of climate change have been felt through extreme weather events over the past few months. Australia has just had its hottest year on record, during which it suffered record-breaking heatwaves and severe bushfires in many parts of the country. And there has been more extreme heat over the past few weeks.

Argentina had one of its worst heatwaves in late December, while parts of Brazil were struck by floods and landslides following record rainfall.

MDG : A ship washed ashore by Super Typhoon Haiyan at Anibong in Tacloban, Philippines A ship washed ashore by typhoon Haiyan at Anibong in Tacloban, Philippines, 5 February 2014. Photograph: Mark Tran for The Guardian

And very warm surface waters in the north-west Pacific during November fuelled Typhoon Haiyan, the strongest tropical cyclone to make landfall anywhere in the world, which killed more than 5,700 people in the Philippines.

This is a pattern of global change that it would be very unwise to ignore.

The Intergovernmental Panel on Climate Change last September pointed to a changing pattern of extreme weather since 1950, with more heatwaves and downpours in many parts of the world, as the Earth has warmed by about 0.7C.

The IPCC has concluded from all of the available scientific evidence that it is 95% likely that most of the rise in global average temperature since the middle of the 20th century is due to emissions of greenhouse gases, deforestation and other human activities.

The upward trend in temperature is undeniable, despite the effects of natural variability in the climate which causes the rate of warming to temporarily accelerate or slow for short periods, as we have seen over the past 15 years.

If we do not cut emissions, we face even more devastating consequences, as unchecked they could raise global average temperature to 4C or more above pre-industrial levels by the end of the century.

This would be far above the threshold warming of 2C that countries have already agreed that it would be dangerous to breach. The average temperature has not been 2C above pre-industrial levels for about 115,000 years, when the ice-caps were smaller and global sea level was at least five metres higher than today.

The shift to such a world could cause mass migrations of hundreds of millions of people away from the worst-affected areas. That would lead to conflict and war, not peace and prosperity.

In fact, the risks are even bigger than I realised when I was working on the review of the economics of climate change for the UK government in 2006. Since then, annual greenhouse gas emissions have

increased steeply and some of the impacts, such as the decline of Arctic sea ice, have started to happen much more quickly.

We also underestimated the potential importance of strong feedbacks, such as the thawing of the permafrost to release methane, a powerful greenhouse gas, as well as tipping points beyond which some changes in the climate may become effectively irreversible.

What we have experienced so far is surely small relative to what could happen in the future. We should remember that the last time global temperature was 5C different from today, the Earth was gripped by an ice age.

So the risks are immense and can only be sensibly managed by reducing greenhouse gas emissions, which will require a new low-carbon industrial revolution.

History teaches us how quickly industrial transformations can occur through waves of technological development, such as the introduction of electricity, based on innovation and discovery.

We are already seeing low-carbon technologies being deployed across the world, but further progress will require investment and facing up to the real prices of energy, including the very damaging emissions from fossil fuels.

Unfortunately, the current pace of progress is not nearly rapid enough, with many rich industrialised countries being slow to make the transition to cleaner and more efficient forms of economic growth.

The lack of vision and political will from the leaders of many developed countries is not just harming their long-term competitiveness, but is also endangering efforts to create international co-operation and reach a new agreement that should be signed in Paris in December 2015.

Delay is dangerous. Inaction could be justified only if we could have great confidence that the risks posed by climate change are small. But that is not what 200 years of climate science is telling us. The risks are huge.

Fortunately poorer countries, such as China, are showing leadership and beginning to demonstrate to the world how to invest in low-carbon growth.

The UK must continue to set an example to other countries. The 2008 Climate Change Act, which commits the UK to cut its emissions by at least 80% by 2050, is regarded around the world as a model for how politicians can create the kind of clear policy signal to the private sector which could generate billions of pounds of investment. Weakening the Act would be a great mistake and would undermine a strong commitment made by all of the main political parties.

Squabbling and inconsistent messages from ministers, as well as uncertainty about the policies of possible future governments, are already eroding the confidence of businesses. Government-induced policy risk has become a serious deterrent to private investment.

Instead, the UK should work with the rest of the European Union to create a unified and much better functioning energy market and power grid structure. This would also increase energy security, lower costs and reduce emissions. What better way is there to bring Europe together?

The government will also have to ensure the country becomes more resilient to those impacts of climate change that cannot now be avoided, including by investing greater sums in flood defences.

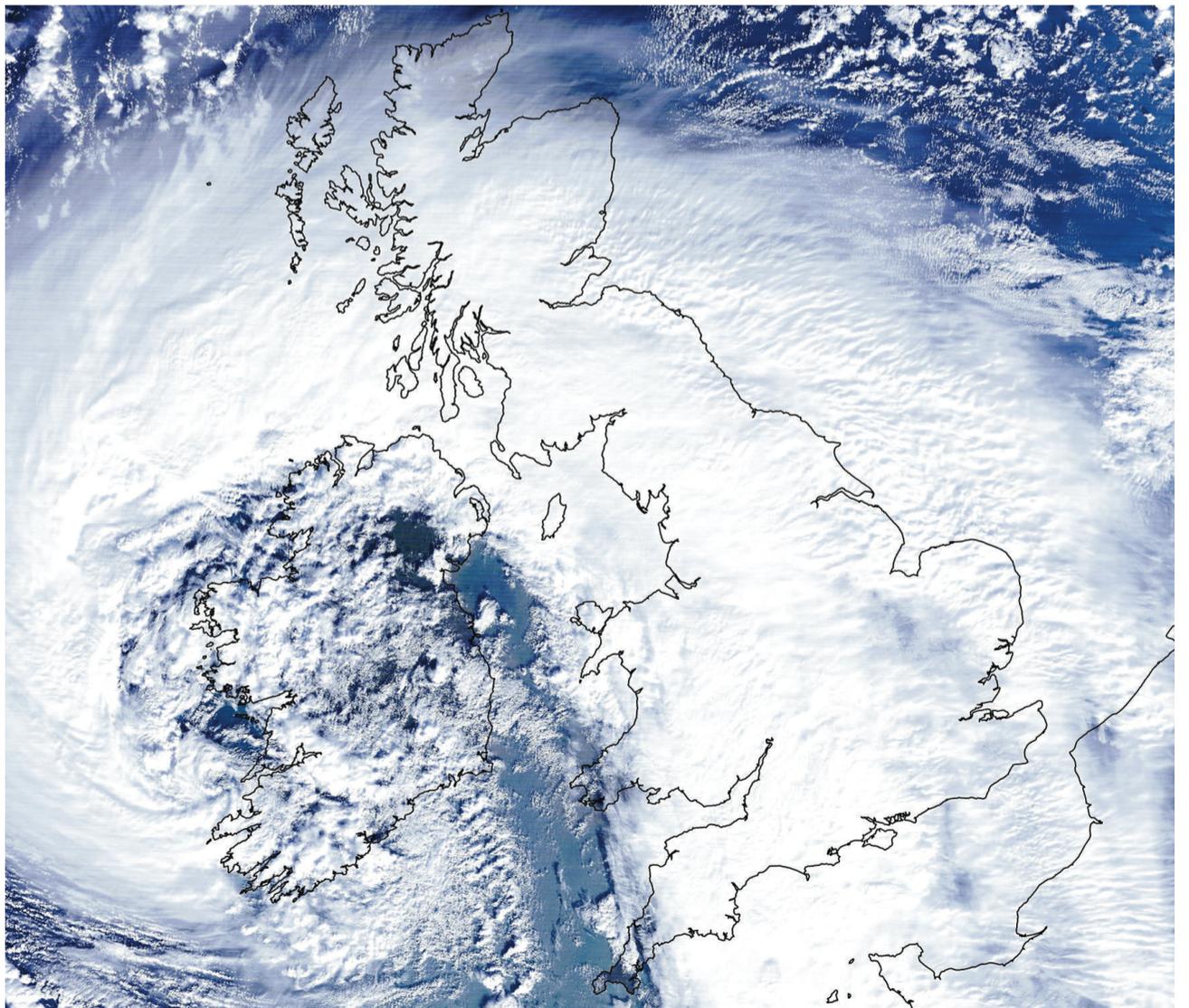
It should resist calls from some politicians and parts of media to fund adaptation to climate change by cutting overseas aid. It would be deeply immoral to penalise the 1.2 billion people around the world who live in extreme poverty.

In fact, the UK should be increasing aid to poor countries to help them develop economically in a climate that is becoming more hostile largely because of past emissions by rich countries.

A much more sensible way to raise money would be to implement a strong price on greenhouse gas pollution across the economy, which would also help to reduce emissions. It is essential that the government seizes this opportunity to foster the wave

of low-carbon technological development and innovation that will drive economic growth and avoid the enormous risks of unmanaged climate change.

● *Nicholas Stern is chair of the Grantham Research Institute on Climate Change and the Environment at the LSE and president of the British Academy.*



Satellite image shows scale of a storm about to hit the UK. Photograph: NEODASS/University of Dundee/PA

How we ended up paying farmers to flood our homes



George monbiot canoes across flood plain in hurley, berkshire Photograph: guardian.co.uk

This government let the farming lobby rip up the rulebook on soil protection - and now we are suffering the consequences

By George Monbiot

It has the force of a parable. Along the road from High Ham to Burrowbridge, which skirts Lake Paterston (formerly known as the Somerset Levels), you can see field after field of harvested maize. In some places the crop lines run straight down the hill and into the water. When it rains, the water and soil flash off into the lake. Seldom are cause and effect so visible.

That's what I saw on Tuesday. On Friday, I travelled to the source of the Thames. Within 300 me-

tres of the stone that marked it were ploughed fields, overhanging the catchment, left bare through the winter and compacted by heavy machinery. Muddy water sluiced down the roads. A few score miles downstream it will reappear in people's living rooms. You can see the same thing happening across the Thames watershed: 184 miles of idiocy, perfectly calibrated to cause disaster.

Two realities, perennially denied or ignored by members of this government, now seep under their doors. In September the environment secretary, Owen Paterson, assured us that climate change "is something we can adapt to over time and we are very good as a race at adapting". If two months of

severe weather almost sends the country into meltdown, who knows what four degrees of global warming will do?

The second issue, once it trickles into national consciousness, is just as politically potent: the government's bonfire of regulations.

Almost as soon as it took office, this government appointed a task force to investigate farming rules. Its chairman was the former director general of the National Farmers' Union. Who could have guessed that he would recommend "an entirely new approach to and culture of regulation ... Government must trust industry"? The task force's demands, embraced by Paterson, now look as stupid as Gor-

don Brown's speech to an audience of bankers in 2004: "In budget after budget I want us to do even more to encourage the risk takers."

Six weeks before the floods arrived, a scientific journal called *Soil Use and Management* published a paper warning that disaster was brewing. Surface water run-off in south-west England, where the Somerset Levels are situated, was reaching a critical point. Thanks to a wholesale change in the way the land is cultivated, at 38% of the sites the researchers investigated, the water - instead of percolating into the ground - is now pouring off the fields.

Farmers have been ploughing land that was previously untilled and switching from spring to winter sowing, leaving the soil bare during the rainy season. Worst of all is the shift towards growing maize, whose cultivated area in this country has risen from 1,400 hectares to 160,000 since 1970.

In three quarters of the maize fields in the south-west, the soil structure has broken down to the extent that they now contribute to flooding. In many of these fields, soil, fertilisers and pesticides are sloshing away with the water. And nothing of substance, the paper warned, is being done to stop it. Dated: December 2013.

Maize is being grown in Britain not to feed people, but to feed livestock and, increasingly, the biofuel business. This false solution to climate change will make the impacts of climate change much worse, by reducing the land's capacity to hold water.

The previous government also saw it coming. In 2005 it published a devastating catalogue of the impacts of these changes in land use. As well as the loss of fertility from the land and the poisoning of watercourses, it warned, "increased run-off and sediment deposition can also increase flood hazard in rivers". Maize, it warned, is a particular problem because the soil stays bare before and after the crop is harvested, without the stubble or weeds required to bind it. "Wherever possible," it urged, "avoid growing forage maize on high and very high erosion risk areas."

The Labour government turned this advice into conditions attached to farm subsidies. Ground cover crops should be sown under the maize and the land should be ploughed, then resown with winter cover plants within 10 days of harvesting, to prevent water from sheeting off. So why isn't this happening in Somerset?

Because the current government dropped the

conditions. Sorry, not just dropped them. It issued - wait for it - a specific exemption for maize cultivation from all soil conservation measures.

It's hard to get your head round this. The crop which causes most floods and does most damage to soils is the only one which is completely unregulated.

When soil enters a river we call it silt. A few hundred metres from where the soil is running down the hills, a banner over the River Parrett shouts: "Stop the flooding, dredge the rivers." Angry locals assail ministers and officials with this demand. While in almost all circumstances, dredging causes more problems than it solves, and though, as even Owen Paterson admits, "increased dredging of rivers on the Somerset Levels would not have prevented the recent widespread flooding", there's an argument here for a small amount of dredging at strategic points.

But to do it while the soil is washing off the fields is like trying to empty the bath while the taps are running.

So why did government policy change? I've tried asking the environment department: they're as much use as a paper sandbag. But I've found a clue. The farm regulation task force demanded a specific change: all soil protection rules attached to farm subsidies should become voluntary. They should be downgraded from a legal condition to an "advisory feature". Even if farmers do nothing to protect their soil, they should still be eligible for public money.

You might have entertained the naive belief that in handing out billions to wealthy landowners we would get something in return. Something other than endless whining from the National Farmers' Union. But so successfully has policy been captured in this country that Defra - which used to stand for the Department for Environment, Food and Rural Affairs - now means Doing Everything Farmers' Representatives Ask. We pay £3.6bn a year for the privilege of having our wildlife exterminated, our hills grazed bare, our rivers polluted and our sitting rooms flooded.

Yes, it's a parable all right, a parable of human folly, of the kind that used to end with 300 cubits of gopher wood and a journey to the mountains of Ararat. Antediluvian? You bet it is.

Twitter: @georgemonbiot. A fully referenced version of this article can be found at Monbiot.com

Flood area defences put on hold by government funding cuts

Protections for parts of Somerset, Kent and Devon worth millions of pounds were planned but not delivered

By Damian Carrington and Rajeev Syal

Flood-stricken communities, including those visited by David Cameron in the Somerset Levels and Yalding in Kent, have been left without planned defences following government funding cuts, the Guardian can reveal.

Undelivered defences, totalling many millions of pounds, also include schemes on the stretch of Devon coast at Dawlish where the mainline railway fell into the sea and near the nuclear power station at Hinkley Point in Somerset.

Ministers have been heavily criticised for cutting flood defence spending by almost £100m a year after taking power, but this is the first time specific projects affected by the cuts have been identified.

In the heart of the Somerset Levels, a £2.2m scheme to improve flood management on the Parrett, the main river draining the Levels, and the nearby Sowry river, was postponed and currently has no prospect of funding before 2020.

In March 2012, an Environment Agency (EA) report on the scheme said: "The [rivers'] combined function is of great importance to the effective management of floodwaters in the area."

Another scheme for the Parrett, near the village of Burrowbridge, was in line for £300,000 of funding from 2011-13 but has received nothing. The Parrett overtopped its banks by Burrowbridge in January and the village was cut off.

A third scheme for the river, called "Parrett Estuary - Cannington Bends", worth £6.2m, covered an area near where it meets the sea, just a few miles from the nuclear power station at Hinkley Point.

The defences, which were to be part-funded by Hinkley-owner EDF Energy, would have moved 536 homes out of "the very significant or significant flood probability category to the moderate or low category", according to EA documents. In 2010, the agency said the defences "urgently need updating" and the Cannington Bends area was heavily flooded

in 2012, but the scheme has received no funding under the coalition and is currently in line for only £792,000 in 2016-17.

The missing schemes were identified by the Guardian by comparing the flood defence spending plans for 2010-11, the final year of the last government's budget and a high-water mark for flood defence spending, with the plans for subsequent years under the coalition.

Royal Marines from 40 Commando help build a sandbag wall around a property in Moorland as they help with flood defences on the Somerset Levels near Bridgwater on February 7, 2014 Royal Marines from 40 Commando build a sandbag wall in Moorland near Bridgwater on February 7. (Matt Cardy/Getty)

In an interview with the Guardian the under-fire chairman of the Environment Agency, Chris Smith, welcomes the prime minister's recent "money is no object" remark to cope with the fallout of the storms, but wonders whether it will apply beyond the immediate crisis.

"I hope he will apply the same principle to the longer-term issues about improving our flood defences. One of the things that has worried me is whether flood defence is seen by the Treasury as a high enough priority," he says.

Lord Smith says there would have to be an annual £20m rise in the government's £600m flood defence budget, as well as any inflationary increase, just to maintain Britain's present level of protection.

Chris Huhne, the former energy and climate change secretary, claims in a Guardian article that the chancellor, George Osborne, was the driving force behind the cuts in flood defence spending in 2010. The chancellor was then forced to increase flood defence spending last June because insurance companies were threatening to withdraw cover for 350,000 homes at risk, Huhne claims.

Other undelivered flood defence schemes now identified include a project in Devon called the Dawlish Warren and Exmouth Beach Management Scheme, the goal of which was "to reduce tidal

flood risk to nearly 3,000 properties and the main railway into the south-west". It had been in line for £2.7m, but by March 2015 will have received only a third of that.

The village of Yalding in Kent began flooding on Christmas Eve, with people evacuated by boat and helicopter, and Cameron was heckled by angry locals during a visit a few days later. It had been in line for £200,000 of flood protection funding between 2011 and 2013, but has received nothing and there is no current plan for spending in the area.

It has also been established that about £5m is being spent between 2011 and 2015 on the Levels to improve the condition of seven sites of special scientific interest where otters, birds and important plants live, as well as to provide more storage for floodwaters. In total, about 1,500 hectares of water-dependent habitat are being improved, thereby avoiding heavy fines under EU environmental directives.

Flood defence funding rose sharply under the last government, following the recommendations of the Pitt review into the catastrophic floods of 2007. Under the coalition, annual spending fell to at least £90m below 2010-11 levels until 2013-14. In July 2012, the Guardian identified 294 flood defence schemes across the whole of England that had been in line for funding but had not gone ahead.

A spokeswoman for the Department for Environment, Food and Rural Affairs, which provides the funding for flood defences, said: "We have spent £2.4bn on flood management and protection from coastal erosion over the past four years. We will continue to build defences where they are needed."

Lord Smith says: "The agency works within clear government guidelines on where to spend the funding it is given to maximise the protection for people and property."

Lord Krebs, the government's lead independent adviser on adapting to the impacts of climate change, said: "Ministers are perfectly entitled to say 'look we just don't have enough money and we will have to accept a greater risk of flooding.' That is a

political judgment which needs to be made.”

But he said cutting flood defence spending was a false economy, as each scheme saved £8 in damage for every £1 spent: ”In the long term these measures pay for themselves.”

Krebs warned that without a change of approach to improve flood protection in line with the rising risk from climate change, the current ”firefighting” approach to the crisis would be the only one available. ”Up to now climate measures have been seen as a long-term issue and it is always difficult for gov-

ernments to think about long-term issues,” he said. ”But sometimes it takes a crisis like this to wake people up. Let’s deal with the short-term emergency, but I would be very sad if this was all put back in the filing cabinet afterwards.”

Link to video: Environment Agency’s Lord Smith ‘will not resign’ over floods response

In his interview, Smith accepts that the EA’s response to the flooding has not been perfect. He says it should have pushed harder for the money to dredge the rivers on the Somerset Levels, and he

should have visited the county earlier to show support. ”There was a whole rest of country to worry about. I was up on the Humber looking at the damage from the storm surge and elsewhere. But I probably should have gone to talk with people down there at an earlier stage.”

Smith says more than 5 million people in Britain are at risk of flooding, and that the government has to recognise the dangers. ”Flooding knocks out businesses, it knocks out employment, it costs a huge amount to restore. This is something quite apart from the human distress. Government has to give flood defence a higher priority.”

Small and medium-sized firms that have been flooded or suffered significant loss of trade will be able to apply for help from the new Business Support Scheme announced by the prime minister. A helpline is also being set up to provide advice.

Cameron said: ”The government is taking action across the board to deal with the clear-up and help hard-working people affected by the floods. Dealing with these floods will be a long haul, requiring a stepped-up national effort with the whole country pulling together. We will continue to help the people who need help and protect the communities that need protecting.”

The business secretary, Vince Cable, said: ”It is vital that small businesses affected by the flooding get assistance as quickly as possible. We know the insurance companies are working to process claims as quickly as possible and we will inform local authorities of their allocations from the Business Support Scheme on Thursday to assist businesses with clean-up costs or help them to continue trading.”

Large swaths of Britain remain on high alert, with severe flood warnings still in place along the Thames and in Somerset.



David Cameron, left, walks with Bridgwater and West Somerset MP Ian Liddell-Grainger on a visit to the county on 7 February. Photograph: Tim Ireland/AP

James Lovelock: 'enjoy life while you can: in 20 years global warming will hit the fan'

The climate science maverick believes catastrophe is inevitable, carbon offsetting is a joke and ethical living a scam. So what would he do?

By Decca Aitkenhead

In 1965 executives at Shell wanted to know what the world would look like in the year 2000. They consulted a range of experts, who speculated about fusion-powered hovercrafts and "all sorts of fanciful technological stuff". When the oil company asked the scientist James Lovelock, he predicted that the main problem in 2000 would be the environment. "It will be worsening then to such an extent that it will seriously affect their business," he said.

"And of course," Lovelock says, with a smile 43 years later, "that's almost exactly what's happened."

Lovelock has been dispensing predictions from his one-man laboratory in an old mill in Cornwall since the mid-1960s, the consistent accuracy of which have earned him a reputation as one of Britain's most respected - if maverick - independent scientists. Working alone since the age of 40, he invented a device that detected CFCs, which helped detect the growing hole in the ozone layer, and introduced the Gaia hypothesis, a revolutionary theory that the Earth is a self-regulating super-organism. Initially ridiculed by many scientists as new age nonsense, today that theory forms the basis of almost all climate science.

For decades, his advocacy of nuclear power appalled fellow environmentalists - but recently increasing numbers of them have come around to his way of thinking. His latest book, *The Revenge of Gaia*, predicts that by 2020 extreme weather will be the norm, causing global devastation; that by 2040 much of Europe will be Saharan; and parts of London will be underwater. The most recent Intergovernmental Panel on Climate Change (IPCC) report deploys less dramatic language - but its calculations aren't a million miles away from his.

As with most people, my panic about climate change is equalled only by my confusion over what I ought to do about it. A meeting with Lovelock

therefore feels a little like an audience with a prophet. Buried down a winding track through wild woodland, in an office full of books and papers and contraptions involving dials and wires, the 88-year-old presents his thoughts with a quiet, unshakable conviction that can be unnerving. More alarming even than his apocalyptic climate predictions is his utter certainty that almost everything we're trying to do about it is wrong.

On the day we meet, the Daily Mail has launched a campaign to rid Britain of plastic shopping bags. The initiative sits comfortably within the current canon of eco ideas, next to ethical consumption, carbon offsetting, recycling and so on - all of which are premised on the calculation that individual lifestyle adjustments can still save the planet. This is, Lovelock says, a deluded fantasy. Most of the things we have been told to do might make us feel better, but they won't make any difference. Global warming has passed the tipping point, and catastrophe is unstoppable.

"It's just too late for it," he says. "Perhaps if we'd gone along routes like that in 1967, it might have helped. But we don't have time. All these standard green things, like sustainable development, I think these are just words that mean nothing. I get an awful lot of people coming to me saying you can't say that, because it gives us nothing to do. I say on the contrary, it gives us an immense amount to do. Just not the kinds of things you want to do."

He dismisses eco ideas briskly, one by one. "Carbon offsetting? I wouldn't dream of it. It's just a joke. To pay money to plant trees, to think you're offsetting the carbon? You're probably making matters worse. You're far better off giving to the charity Cool Earth, which gives the money to the native peoples to not take down their forests."

Do he and his wife try to limit the number of flights they take? "No we don't. Because we can't." And recycling, he adds, is "almost certainly a waste of time and energy", while having a "green lifestyle" amounts to little more than "ostentatious grand gestures". He distrusts the notion of ethical

consumption. "Because always, in the end, it turns out to be a scam ... or if it wasn't one in the beginning, it becomes one."

Somewhat unexpectedly, Lovelock concedes that the Mail's plastic bag campaign seems, "on the face of it, a good thing". But it transpires that this is largely a tactical response; he regards it as merely more rearrangement of Titanic deckchairs, "but I've learnt there's no point in causing a quarrel over everything". He saves his thunder for what he considers the emptiest false promise of all - renewable energy.

"You're never going to get enough energy from wind to run a society such as ours," he says. "Windmills! Oh no. No way of doing it. You can cover the whole country with the blasted things, millions of them. Waste of time."

This is all delivered with an air of benign wonder at the intractable stupidity of people. "I see it with everybody. People just want to go on doing what they're doing. They want business as usual. They say, 'Oh yes, there's going to be a problem up ahead,' but they don't want to change anything."

Lovelock believes global warming is now irreversible, and that nothing can prevent large parts of the planet becoming too hot to inhabit, or sinking underwater, resulting in mass migration, famine and epidemics. Britain is going to become a lifeboat for refugees from mainland Europe, so instead of wasting our time on wind turbines we need to start planning how to survive. To Lovelock, the logic is clear. The sustainability brigade are insane to think we can save ourselves by going back to nature; our only chance of survival will come not from less technology, but more.

Nuclear power, he argues, can solve our energy problem - the bigger challenge will be food. "Maybe they'll synthesise food. I don't know. Synthesising food is not some mad visionary idea; you can buy it in Tesco's, in the form of Quorn. It's not that good, but people buy it. You can live on it." But he fears we won't invent the necessary technologies in time, and expects "about 80%" of the world's population to be wiped out by 2100. Prophets have been foretelling Armageddon since time began, he says. "But this is the real thing."

Faced with two versions of the future - Kyoto's preventative action and Lovelock's apocalypse - who are we to believe? Some critics have suggested Lovelock's readiness to concede the fight against climate change owes more to old age than science: "People who say that about me haven't reached my age," he says laughing.

But when I ask if he attributes the conflicting predictions to differences in scientific understanding or personality, he says: "Personality."

There's more than a hint of the controversialist in his work, and it seems an unlikely coincidence that Lovelock became convinced of the irreversibility of climate change in 2004, at the very point when the international consensus was coming round to the need for urgent action. Aren't his theories at least

partly driven by a fondness for heresy?

"Not a bit! Not a bit! All I want is a quiet life! But I can't help noticing when things happen, when you go out and find something. People don't like it because it upsets their ideas."

But the suspicion seems confirmed when I ask if he's found it rewarding to see many of his climate change warnings endorsed by the IPCC. "Oh no! In fact, I'm writing another book now, I'm about a third of the way into it, to try and take the next steps ahead."

Interviewers often remark upon the discrepancy between Lovelock's predictions of doom, and his good humour. "Well I'm cheerful!" he says, smiling. "I'm an optimist. It's going to happen."

Humanity is in a period exactly like 1938-9, he explains, when "we all knew something terrible was going to happen, but didn't know what to do about it". But once the second world war was under way,

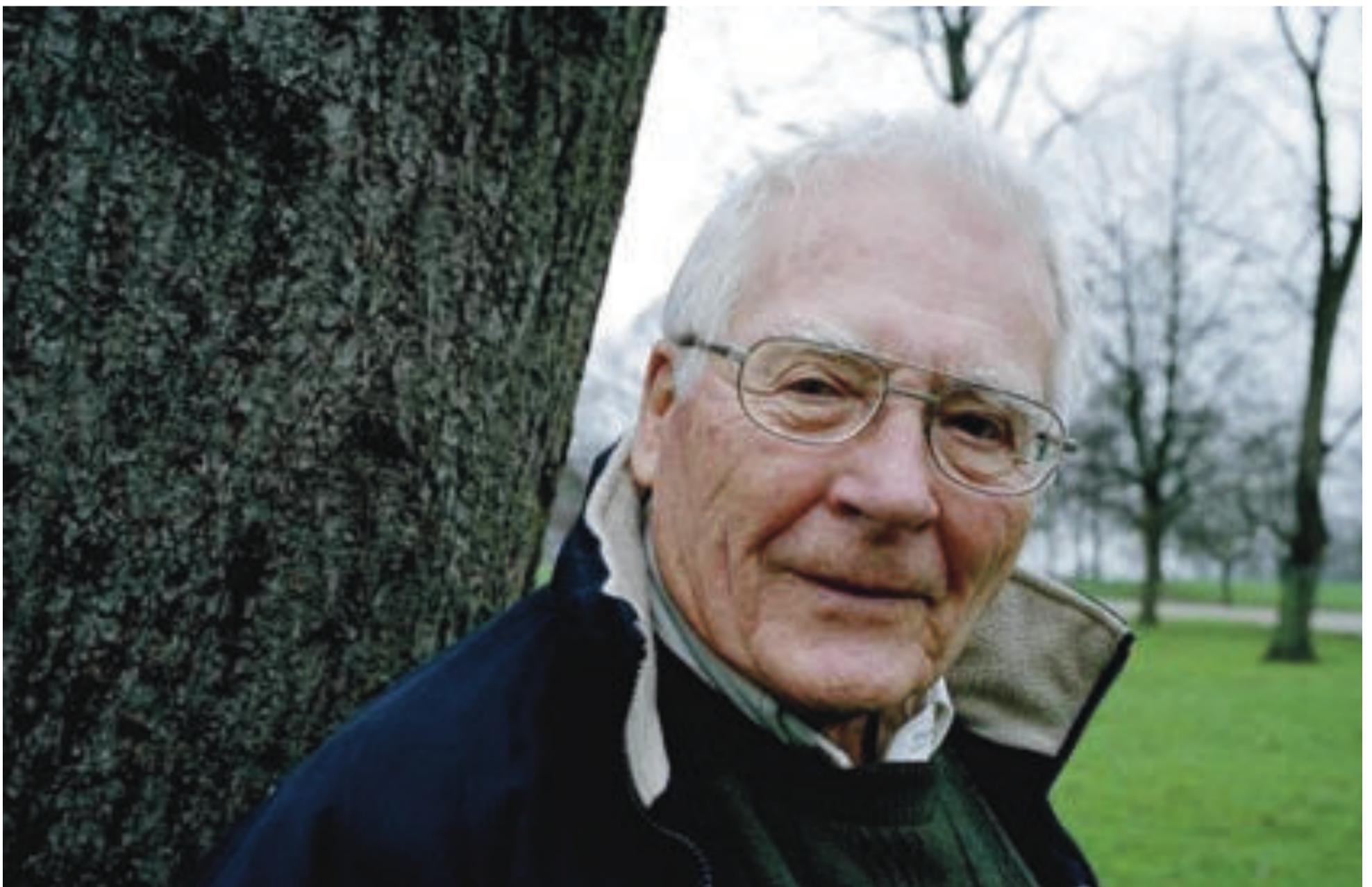
"everyone got excited, they loved the things they could do, it was one long holiday ... so when I think of the impending crisis now, I think in those terms. A sense of purpose - that's what people want."

At moments I wonder about Lovelock's credentials as a prophet. Sometimes he seems less clear-eyed with scientific vision than disposed to see the version of the future his prejudices are looking for. A socialist as a young man, he now favours market forces, and it's not clear whether his politics are the child or the father of his science. His hostility to renewable energy, for example, gets expressed in strikingly Eurosceptic terms of irritation with subsidies and bureaucrats. But then, when he talks about the Earth - or Gaia - it is in the purest scientific terms all.

"There have been seven disasters since humans came on the earth, very similar to the one that's just about to happen. I think these events keep separat-

ing the wheat from the chaff. And eventually we'll have a human on the planet that really does understand it and can live with it properly. That's the source of my optimism."

What would Lovelock do now, I ask, if he were me? He smiles and says: "Enjoy life while you can. Because if you're lucky it's going to be 20 years before it hits the fan."



James Lovelock. Photograph: Eamonn McCabe

Is it time to join the 'preppers'? How to survive the climate-change apocalypse

The floods and storms that have wreaked havoc across Britain this winter could be just the beginning, and now a growing number of people are making preparations for the end of the modern world. Here's what you'll need to do to stand a chance

By Leo Benedictus

We are getting close to what might be called The Noah Scenario. Last month was the wettest January in Britain since records began in 1767. So far this month has been no different, and the Met Office expects the wind and rain to continue until March. Climate change may be a gradual process, but people who live on the Somerset Levels or the banks of the Thames are getting a very sudden education in the value of arks.

It's unlikely that these floods will be the last such catastrophe, or the worst. Climate scientists expect bigger and more frequent extreme weather events throughout the coming century - not just wind and rain, but droughts as well. Nor is weather the only danger: pandemic flu, nuclear weapons, antibiotic resistance, environmental catastrophe and chronic food shortages could also offer dire threats to civilisation as we know it. You might not want to panic just yet, but you might decide that it is time to join the "preppers" - people who are secretly preparing to abandon modern life when the apocalypse, in whatever form, does arrive.

When do I abandon my home?

When you have no choice. When soldiers are on your street, your neighbours have begun to steal from you and plague-sufferers are camped in your drive - or perhaps slightly before all that. Preppers have a catch-all term for this moment: the SHTF scenario, in reference to the day when the Shit finally does Hit The Fan.

"It would be the last resort for me," says Steve, a 57-year-old prepper from Essex, who runs ukpreppersguide.co.uk. "Some people seem to think it's the first thing to do. The moment something happens, they grab their rucksack and off they go and live in the wild - but if you've ever tried that, it really isn't easy. Where I am at the moment, I probably have enough provisions to survive for about nine months. That doesn't include going out and getting your own food."

When the moment comes, however, you may not have much warning, so it is important to keep what preppers call a "bug-out bag" ready at all times. Ide-

ally, you'd leave at night, when you won't be followed. "The idea behind leaving your home is to get away from danger," Steve explains, "which means getting away from everybody and going under the radar, off-grid, so you can't be found - then just survive for however long is needed before you can come back to civilisation."

Should I move to Cumbria?

If you're worried about rain, Suffolk is Britain's driest county. But there you'll have to worry about the sea instead. Next driest is Bedfordshire, although it is also quite an expensive place to buy a house, while society still functions, so Nottinghamshire or Northamptonshire might be better if you're surviving on a budget. Be sure to have plenty of water butts in any of these places.

Alternatively, it might be simpler to live somewhere wet, but higher up. Each outbreak of catastrophic flooding brings with it a quieter outbreak of people feeling smug on hills, which never flood, and offer a good defensive position should you come under attack from hordes of wet, hungry or diseased people. Cumbria, Wales and the Western Highlands are some of the wettest parts of the UK. They are also very hilly, not too expensive, and reasonably remote from population centres, which makes them perfect for your purposes.

A quick word on the windiness of hills. This can be a good thing, allowing you to generate your own electricity if you put up a turbine. If you are worried about storm damage, however, then you will want to give thought to exactly where your house should be. "Our prevailing weather comes from the west," explains Nicola Maxey from the Met Office, "so if you're on the east side of a hill you're going to be protected from the prevailing winds." Thus located, with several months of food, electricity and water-purification supplies, your house should be a good place to wait for calamity to pass.

What should I take?

This is the most-discussed question of all among preppers, and you'll find many packing lists for bug-out bags online. Water, fire and light, hunting and survival tools, food and cooking equipment, medical supplies, maps, communications, clothing, shelter, weaponry, miscellaneous useful items and the bag itself are the major categories for consideration,

which should give you an idea of how much you have to buy, pack and think about. As always, the trade-off is between having all the equipment you need and being able to carry it. If you're going alone, that makes things harder, although a group is harder to feed.

"Any bug-out bag should be equipped with at least seven days' food in the form of MREs - that's dehydrated Meals Ready to Eat," says Steve. "It's a bit like Pot Noodles, but on a more advanced level. It's very easy to take a week's supply. But along with that you're going to need methods to trap and snare animals, and potentially to shoot them. We're not allowed many firearms in this country, but even a basic catapult will help."

You'll also have to consider secrecy, which, after all, is the whole point of the exercise. For instance, you should avoid lighting fires to cook your food because they will make you visible. Instead, you are better off taking a small alcohol stove. When it comes to what you'll live in, caves are good. The trouble is there aren't enough of them, so you'll need to bring a tent, and learn to camouflage it. Over time you may want to build a larger and more comfortable shelter around that, although it is also an advantage to stay mobile.

The luxury option would be to buy one of the many decommissioned bomb shelters or observation posts that come on to the market from time to time, or perhaps just your own bit of tunnel. Some, such as the Dartmoor observation post that sold for £17,400 in September 2012, are little more than a buried cupboard. Others, such as the Burlington Bunker in Wiltshire, are vast complexes capable of housing several thousand people. That went on sale in 2005, and was probably out of your price range. Having bought a bunker, it will of course need to be stocked up with several months' supplies, and perhaps its own bug-out bag in case you have to leave. Don't forget some boardgames and a psychiatrist.

Will I have to live in the woods?

Think carefully about where to go, and give yourself several options. You'll need a piece of land - perhaps only a few acres - where you can hide and find enough to eat and drink. In the UK, it is difficult to hide in open country, so woodland is good. "Anywhere that's secluded, that's probably the key to survival," Steve says. "Get as far away from people as possible, and stay there. Don't make yourself known. I've got two areas I go to that are less than

five acres. Two forests absolutely full of wildlife, with a stream running along. If you can get near a river, you can fish.”

Another thing to bear in mind is the time of year. In the winter, food may well be scarce and water more abundant; in the summer, the reverse, so you may want to prepare an option for each season. You also need to consider how you’ll get there. One location may be perfect, but if you’re relying on petrol and roads, in the SHTF scenario it may be inaccessible. Give yourself at least one location you can walk to.

As practice for keeping themselves hidden, or just for the buzz, some people engage in an activity called “stealth camping”. Essentially this means sneaking into places they are not allowed to be, staying the night and leaving again without ever being detected. If you’ve bought your own bunker, obviously you don’t need to bother with this. Just make sure the hatch is strong, and that you can get there.

Could I disembowel a rabbit?

Getting the equipment and supplies is one thing, but being ready to use them is another. Steve regularly visits his planned bugging-out locations without any food or water, and practises living off the land for several days. “It really is surprising what a culture shock it is to go away for a week with nothing,” he says. “It’s not a jolly. A lot of people are armchair preppers. They’ll get the equipment and they’ll read the book, but they won’t go out and practise. But that really is the key to being prepared - making sure you can do what you think you can do.”

Can you, for instance, shoot a rabbit, skin it, field-dress (ie disembowel) it, and cook it, perhaps in the rain, with just a pocket knife? Can you set traps for fish? Do you even know what wildlife is in your chosen area, which offers the most meat, and which is easiest to catch? Do you know how to tell whether or not water is safe to drink? If you make yourself ill by doing any of these things wrongly, are you medically skilled enough to treat yourself? Can you mend your clothes, or your radio, or your tent? Most of these skills are not difficult to master, they just need “practice, practice, practice”, according to Steve.

Should I take my family (and could I eat them)?

This is tricky, because even starting the conversation is a point of no return. “One of the key elements is not telling anyone that you’re a prepper,” Steve says, which is why he won’t share his surname. “If every man and his dog knew, and then if there was a disaster, they’d all just say: ‘Don’t worry. We’ll go round there. Steve’s got it all.’”

On the other hand, survival is much easier in a group. You can carry more, and do more. What’s important, however, is that everybody shares your vision and is equally dedicated, so the team does not disintegrate. “You don’t want any hangers-on,” says Steve. “Someone who is skilled medically is a big plus. Someone who’s mechanically minded, someone who can cook and hunt and fish - several people with different skills is ideal.”

So who can you trust? If you can trust your family, take them, but perhaps make a contingency plan for which one you’ll all eat first, and discuss it in secret

with the others. (You might also make another plan about who’ll be eaten second, and discuss this with whoever’s left. If no one discusses eating anyone with you, distrust them all.) If your family includes any young children you are not prepared to eat then your chances of success are more or less zero, but you’re probably accustomed to that feeling.

Remember that shared planning as a group also means shared practice. Each person should focus on their special skills, but make sure that everybody is on top of the basics. “I drag my wife with me sometimes,” Steve says. “She doesn’t necessarily like it, but off we go. She doesn’t mind eating a nice bit of fresh rabbit, but she certainly doesn’t like the idea of skinning it or anything like that.”



Be prepared ... follow this guide and you could be the last one standing when it all goes really, really wrong. Photograph: Steve Parsons/PA

Loneliness is killing us - we must start treating this disease

A report says loneliness is more deadly than obesity - the challenge now is to help lonely people connect

By Philippa Perry

That loneliness is a health issue would not have been a surprise to Mother Teresa who once said: "The biggest disease today is not leprosy or cancer or tuberculosis, but rather the feeling of being unwanted, uncared for and deserted by everybody."

But now doctors have quantified the effects of the loneliness disease, warning that lonely people are nearly twice as likely to die prematurely as those who do not suffer feelings of isolation. Being lonely it seems, is a lot more worrying for your health than obesity.

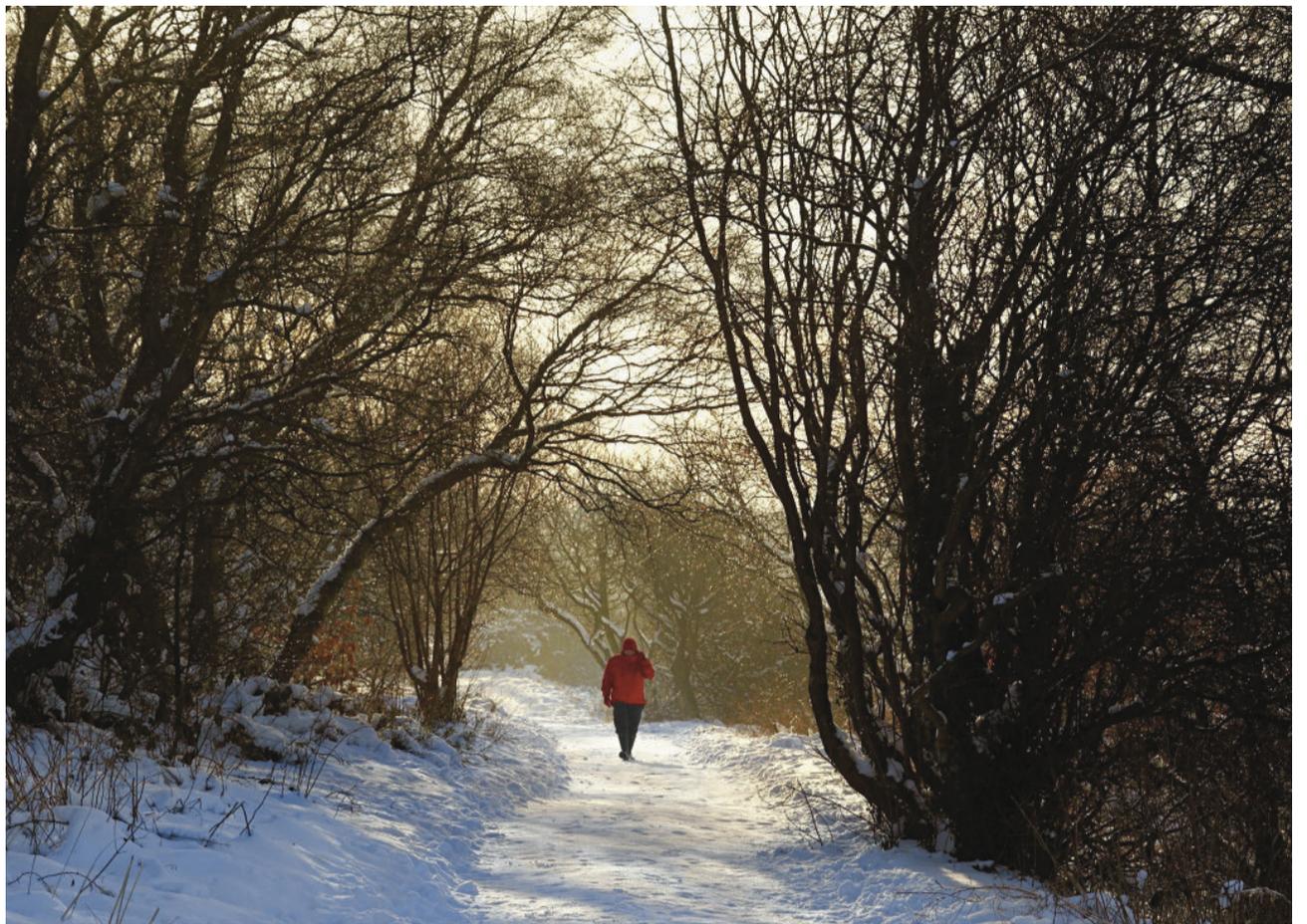
In a report called Rewarding Social Connections Promote Successful Ageing that Professor John Cacioppo presented in Chicago at the weekend, the effect of satisfying relationships on the elderly was measured.

Cacioppo's team found that friendships helped older people develop their resilience and ability to bounce back after adversity, as well as an ability to gain strength from stress rather than be diminished by it.

Not surprisingly, there is no corresponding good news for those less well connected to other people. Loneliness has dramatic consequences on health. Feeling isolated from others can disrupt sleep, raise blood pressure, lower immunity, increase depression, lower overall subjective wellbeing and increase the stress hormone cortisol (at sustained high levels, cortisol gradually wears your body down).

Older people can avoid the consequences of loneliness by staying in touch with former colleagues, taking part in family gatherings and sharing good times with family and friends, says Cacioppo. Moving away from an established community to retire to a seaside idyll could often be a mistake, but such good common sense probably doesn't go far enough.

The Lonely Society, a 2010 report commissioned by The Mental Health Foundation, cited a link between our "individualistic society" and the increase in common mental health disorders in the last 50 years.



'Feeling isolated can disrupt sleep, raise blood pressure, weaken immunity, increase depression and lower subjective wellbeing.' Photograph: Ocean/Corbis

It also drew on research showing that mental health problems occur more frequently in unequal societies where vulnerable people are often left behind. By squandering "social capital" in the individualistic pursuit of greater wealth, or treating social networks as incidental, are we neglecting a part of life that makes us happy and keeps us healthy for longer?

This report also quotes research that suggests lonely people often share certain characteristics: these include more of a history of loss or trauma and a childhood spent with negative, critical and harsh parenting.

Loneliness is often the core feeling that gives rise to emotions of anger, sadness, depression, worthlessness, resentment, emptiness, vulnerability and pessimism. Lonely people frequently feel that they are disliked, are often self-obsessed and lack empathy with others. They fear rejection and keep themselves at a distance, which feeds the loneliness.

People who are lonely often think that everyone else is doing OK while they are not. They think they are the only ones carrying a burden. I have had clients talk about putting their "game face" on rather than sharing truthfully about themselves. And it can be difficult to know when it is appropriate to make the move from the former to the latter.

So in an ageing society with more and more people living on their own, what is the solution? I believe that it is never too late to change, and that psychotherapy can help people to heal the wounds from their past and establish new patterns of relating to others. But a dependency on this specialist relationship may also develop, with the therapist becoming a substitute for developing confidants outside the consulting room.

I am on the advisory board of The Talk for Health Company Ltd (T4H) which is a social enterprise set up by psychotherapist Nicky Forsythe. It trains people in the loneliness-stopping skills of authentic sharing and empathic listening. After a short initial training, the groups set up long-term peer support systems that are proven to improve wellbeing significantly. The ultimate aim of T4H is to create networks of confidants where anyone can find a place to connect at a deeper level.

It seems that at least some GPs and health man-

agers do realise that combating loneliness is key to maintaining good health. A forward-looking scheme funded by the NHS in Islington will this year fund 12 Talk for Health programmes, offering 180 free places to Islington residents for adults at any stage in life.

People without access to such a programme could also consider joining a 12-step group such as Emotions Anonymous or Depression Anonymous, where they will be able to put aside their "game faces" and share truthfully about themselves on a deeper level. Unlike individual psychotherapy, the connections made in such groups can be integrated into the participants' lives beyond the group.

Such schemes can help people of any age to develop self-acceptance, making it easier for them to relate to others and connect on such a level that loneliness, if not eradicated, at least becomes less of a threat to health.

Infested: Living with Parasites; The Truth About Webcam Girls - TV review

This was gruesome and illuminating in equal parts, as Michael Mosley attached leeches about his person, looked at body lice in clothes and gave himself headlice

By Lucy Mangan

Sure, I came to last night's **Infested: Living with Parasites** (BBC4) for the gimmick - Michael Mosley chugging down larvae-stuffed cysts in order to infect himself with tapeworms? I'm there, and it was as phenomenally revolting as you could hope - but I stayed for the facts.

Did you know - as we came to, while Mosley's stomach acids dissolved the tough cyst-casings and released the eggs into his gut - there is a type of flat-worm that can only exist inside the lens of a stickleback's eye? Or that there's a louse called (for reasons that will soon become apparent - probably around the time the eggs lodge in various stretches of Mosley's commodious intestine and start to grow to their eventual four-foot length) the fish tongue louse? It enters through the gills, gloms onto the ichthyic tongue ("ichthyic" meaning "the sound I was making over the toilet bowl by this point as my own guts rebelled against the information being consumed"), sucks out the blood until all that remains is a withered stump and then installs itself as the tongue instead. All without so much as a by-your-leave.

Infested remained gruesome and illuminating in roughly equal parts as Mosley attached leeches about his person, looked at body lice in clothes, gave himself headlice (though rather unsportingly left it to his crew to play - deliberately-infected, I should specify - host to pubic lice, which do indeed look exactly like tiny crabs. In many ways, they were the most appealing things I've ever seen emerging from a nest of pubic hair, but we'll discuss that another time) and altogether went above and beyond the call of Reithian duty.

And all the time, while he took us through the evidence the three kinds of lice provide about when we diverged from gorillas, or the ruthless efficiency of the malarial microorganism that kills a thousand children every day, or investigating the possibility that human infection with feline parasites makes us prone to riskier behaviour and accidents, the tapeworm was growing. In fact, it turned out, it was three tapeworms, expanding segment by egg-filled segment in his warm, cosy viscera. Just when I thought I could stand it no longer, he swallowed the pills that would kill the unspooling horrors and save both him and us from the experience of them leaving his body through the nearest exit (yes, THAT one) in order to spread the non-joy.

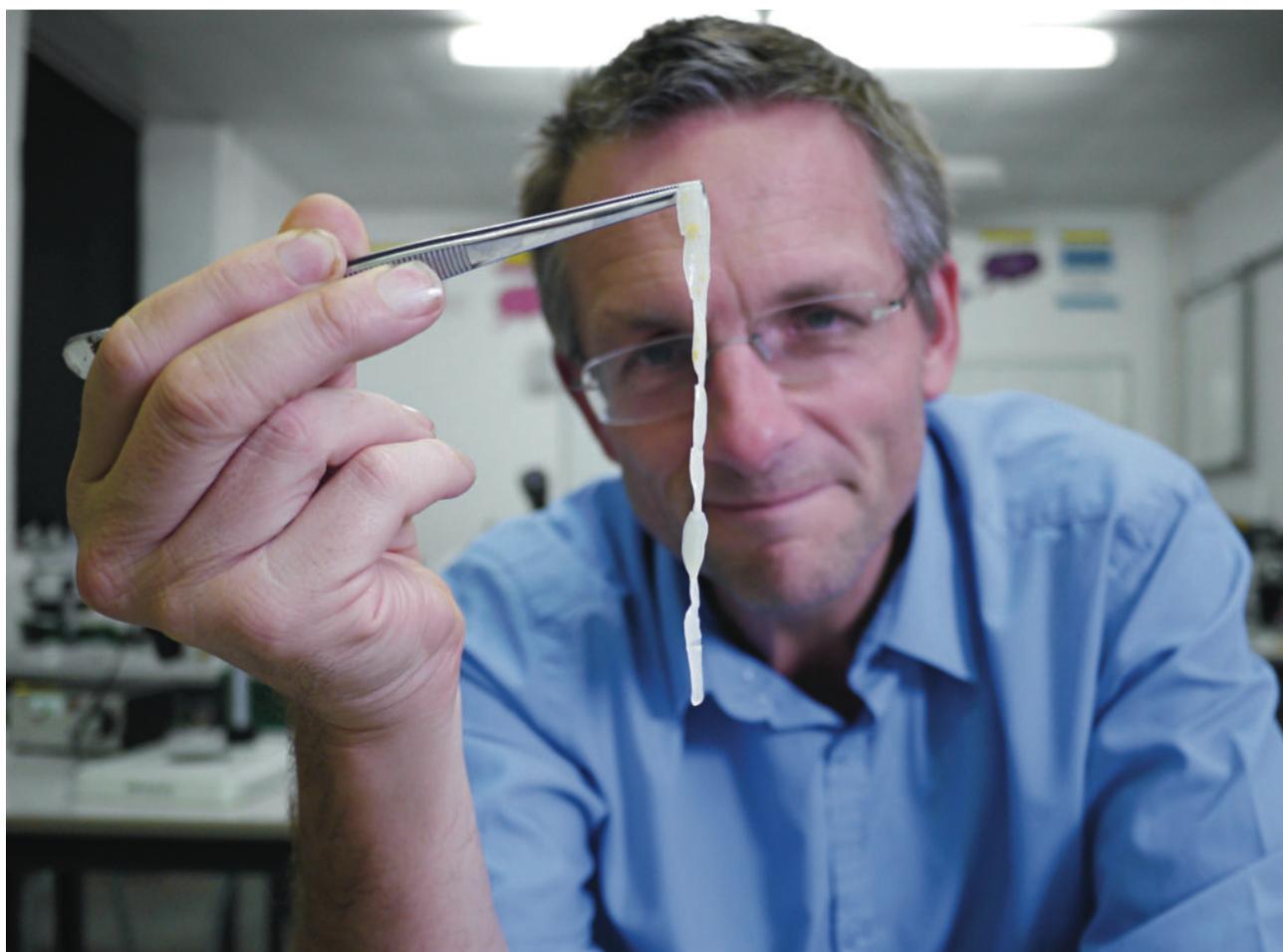
I learned much, and lost a little bit of weight. I really can't ask for anything more.

The Truth About Webcam Girls was an admirably unsalacious and untillating hour about three of the women who make up the panting, pouting army of thousands earning money by getting naked or semi-so (21-year-old Olivia is still cupping her vulva, as I believe Victoria Wood is saying somewhere in a parallel universe) in front of their computers for an equally heavily breathing army of one-handed typists at home.

Olivia hoped it would be a way of helping her make it big in the world of glamour modelling. Carla likes the money and attention but not the hindrance it becomes when trying to find a decent boyfriend. And for Sammie, her 12-hour shifts writhing to order for £3.50 a minute are a step up and out of the world of stripping and hardcore porn films to which a troubled upbringing had brought her ("I know how much pain I was in," she says when she finds an old DVD of herself. "So I'm not watching it"). It has all gone towards a new flat with her student girlfriend and a psychology degree for herself.

Carla seemed the most robust, although her apparent self-confidence didn't stop her taking up with the deeply unlovely Rob, who wouldn't accede to her requests for an evening cuddle on the sofa. "I sleep next to you. Don't you think that's e-fucking-nough?" he snarled. In the end, though, she decided he wasn't a keeper and returned to her more distant but appreciative admirers.

Whether Olivia would sink and whether Sammie would continue to swim and eventually reach a safer shore was, at the end of a quietly perceptive, respectful and intelligent film, unknown. You could only wish them good luck and start praying for our daughters.



Dr Michael Mosley holds up a piece of human tapeworm in **Infested: Living with Parasites**. Photograph: BBC/Nathan Williams

Dear Scotland: here are 76 things we'd like to apologise for, love England

Hadrian's wall, Culloden, the poll tax, Jacob Rees-Mogg: yes, England has inflicted an awful lot of angst and pain on Scotland down the centuries - but, look, we still don't want you to leave

By Stuart Jeffries

We are so sorry Scotland

1 Sorry for calling every last one of you "Jock". We now know it's offensive, especially if you're a woman.

2 So sorry for the years of heartless Conservative governments that you never voted for that ripped the heart out of the Scottish mining, steel and ship-building industries, butchered public services and imposed an unwonted, dismal neo-liberal ethos on a land to which such a callous political and economic philosophy was inimical.

3 And for making you guinea pigs for Margaret Thatcher's disastrous poll tax, inflicting it on you a year before England and Wales, and then - somehow! - forgetting to backdate the rebate for the tax when it was abolished in the early 90s.

4 Sorry for the 1746 Dress Act that banned tartan, part of a sustained attempt by the British government in Westminster to ethnically cleanse the Highlands and eliminate Gaelic culture.

5 Sorry for thinking Culloden and Flodden were the same battle.

6 Sorry that some of us lift your kilts up at weddings. You know, to check. That's not on.

7 We're sorry for describing Andy Murray as Scottish when he was rubbish and British when he won Wimbledon. It's just that we don't win much.

8 Did you know the multiple Olympic medal-winning British cyclist Sir Chris Hoy is Scottish? You did? Sorry for only just realising that.

Culloden ... sorry. Culloden ... sorry. Photograph: Getty Images

9 We're so sorry for Claire Forlani's "Scottish accent" on last year's Dewar's whisky ads. Even we can tell her accent's more Twickenham than Murrayfield. To be fair, she is married to Dougray Scott, who is Scottish, and you'd have thought could have given her basic lessons. We're just saying.

10 We're so sorry we keep calling you Scotch. Scotch is whisky, Scottish is what you are. We get it. Finally.

11 So sorry we didn't call in the US ambassador to complain about disgraceful depictions of Scottish people in American popular culture such as Groundskeeper Willie, Scrooge McDuck and WWE wrestler Rowdy Roddy Piper. We should have told them that Scots aren't all mean, violent weirdos with mental health issues. But we didn't. Sorry.

12 Sorry for Private Frazer in Dad's Army. His depiction as a dour, mean, whiney undertaker was not the positive role model you deserve.

13 Sorry too for Mr Mackay, the prison warden in Porridge. And for Jim McLaren, the prisoner in the same sitcom who suffered lots of racist abuse for be-

ing black and Scottish while in HMP Slade. We didn't mean to suggest that Scots are either neurotically officious or violently criminal. But somehow we did. Sorry.

14 Sorry for David Cameron stressing his Scottish ancestry to belatedly ingratiate himself with you. Even we thought that was embarrassing.

15 Sorry for letting the Americans put their nuclear submarines in Holy Loch thus making Greenock, Dunoon and other blameless Scottish towns primary targets in any nuclear war.

16 Sorry, too, for putting Trident nuclear submarines at the Faslane naval base, thus once more transforming blameless parts of Scotland into a nuclear target. Perhaps in retrospect we should have put them nearer London.

17 Sorry, too, for that whole Balmoral thing. Bad enough for the Westminster government to ban the Highland tartan and try to eliminate Highland Gaelic culture. Worse to have your proud highland culture reappropriated and commodified by Queen Victoria who, with her consort Prince Albert, visited Scotland and liked it so much that she took one of the nicest parts of it for a royal residence. Apologies for the bitter irony of that.

18 So sorry for David Cameron's speech calling on Scotland to remain part of the UK. Perhaps in retrospect it wasn't a brilliant idea for an Old Etonian MP for a safe Tory Oxfordshire seat to speak at the Olympics velodrome in London rather than, you know, making his case for continued Union north of the border.

19 So sorry, what's more, for the 2012 Olympics. We know you paid for quite a lot of it and that most of it took place in London or nearby. With hindsight we can see that taking billions of the nation's taxes and paying them to huge civil engineering firms that build luxury flats that push up London house prices and fatten profits for property developers and local estate agents wasn't fair. If we'd been Scottish, we'd have been quite annoyed.

20 Sorry for Buckie, which was mentioned in 6,496 crime reports from 2010 to 2012. Even though monks from Buckfast Abbey in Devon say it's not fair to blame their tonic wine for crime in Scotland, we can't help but feel partly responsible.

21 Sorry for Jacob Rees-Mogg. You send us superb single malt whiskies and top-notch salmon, and what do we send to you? A plutocratic chinless wonder to stand as Conservative candidate in the overwhelmingly working class central Fife constituency in the 1997 general election, where Rees-Mogg came third and actually reduced the Conservative vote, possibly because he went canvassing with his nanny in a Mercedes. Twit. Sorry about that.

22 Sorry for being terrible neighbours. We should have followed the injunction inscribed on John Knox House in Edinburgh, namely: "Lufe God abufe al and yi nychtbour as yi self." To be fair we only re-

cently learned what it means when translated from Early Scots to modern English: "Love God above all and thy neighbour as thyself." If only we'd understood that last bit sooner!

23 On that point, so sorry for the three main Westminster parties saying: "Well, if that's how you're going to be you can't be part of our sterling currency union. Ner ner ner ner ner!". We're just terrible neighbours. Sorry again.

24 Sorry for beating your national team at rugby. We just thought fighting in mud over something that doesn't really matter before getting bevvied would be right up your street. Turns out we were wrong. Apologies.

25 Irn Bru - did we mention we love it? Especially now we learn it's not actually made from girders. Sorry - should have said so earlier.

26 Sorry about Hadrian's wall. True, the Romans built it to keep you out but we could have bulldozed it rather than conserving it as a world heritage site and symbol of how civilisation stops - as if! - at Carlisle.

27 Sorry for incessantly satirising Sean Connery for being a Scottish nationalist who lives in the Caribbean. It's not funny and it's not clever. It is hypocritical of him, but sorry anyway.

28 Sorry for suggesting that there was a Scottish mafia in the Labour party consisting of Tony Blair, Gordon Brown, Alistair Darling, Charles Falconer, Derry Irvine, Michael Martin and John Reid. Apart from the obvious fact that this would be the most effete mafia in mob history, it's unfair to suggest that there's a Scottish conspiracy to ruin Westminster. Or (sinister face) is there?

29 We are very sorry for what happened at the battle of Culloden on 16 April 1746, when the Jacobite rebellion was finally crushed. Following the Duke of Cumberland's "no quarter" order, hundreds of fallen Jacobite soldiers, not dead, were shot where they lay, others burned alive in human fire pits. Many were taken prisoner only to be summarily shot, one after the other. We shouldn't have done any of that.

30 Sorry too for what happened on the road to Inverness after the battle. Many of the Highlanders headed for Inverness and were hunted down and killed without mercy by Cumberland's dragoons. No wonder you call him "Butcher" Cumberland.

31 So sorry for our role in the Highland clearances that followed the defeat at Culloden and extended well into the 19th century, effectively erasing a whole way of life from the Highlands. True, Scottish aristocrats cleared their estates of crofters and other Highlanders to make more money from their land, but we were classic enablers. Sorry.

32 In fact, more than enablers. The Tenures Abolition Act 1660 ended the feudal bond of military service and the later Heritable Jurisdictions Act removed the virtually sovereign power the chiefs held

over their clan. Both these acts made it easier for Scottish landlords to clear their estates of Highlanders, and those pieces of legislation became law thanks to votes in parliament at Westminster. Sorry.

33 Sorry for sending Prince Charles to Gordonstoun.

34 Sorry for blaming you for Tony Blair. Yes he is Scottish, but we voted for him.

35 Sorry for being unpleasant about Susan Boyle.

36 Sorry for William Camden's 1586 book *Brittania*, in which he labelled you as a wild and barbarous people, writing: "They drank the blood [blood] out of wounds of the slain: they establish themselves, by drinking one another's blood [blood] and suppose the great number of slaughters they commit, the more honour they winne [win] ... To this we adde [add] that these wild Scots..., had for their principall weapons, bowes and arrows."

37 Sorry for creating the legend of Sawney Bean, the head of a 48-strong incestuous lawless and cannibalistic clan from Galloway, who were claimed to have murdered and eaten more than 1,000 victims. He wasn't that bad, really.

38 So sorry that the historian Edward Gibbon continued this cannibalistic slur, by illegitimately combining two distinct historical sources, and musing on the possibility that a "race of cannibals" had once dwelt near Glasgow.

39 Sorry for calling Scotland "northern Britain".

40 Sorry for Paul Merton suggesting on *Have I Got News For You* that Mars bars would become the currency of a post-independence Scotland. He was trying to make a joke, we suspect, relying on the lame racist suggestion that Scots are so proverbially unhealthy that they like their Mars bars deep fried. Not funny. At. All.

41 Sorry for Ray Winstone saying on the same episode of *Have I Got News For You* that "To be fair the Scottish economy has its strengths - its chief exports being oil, whisky, tartan and tramps." Obviously he forgot Tunnock's Caramel Wafers.

42 Sorry, that last one was a cheap shot. You don't export tramps. And even if you did, they'd be lovely.

43 Sorry for not accepting Scottish banknotes as legitimate currency south of the border. We all know that RBS is the worst bank in the history of banking, but the Clydesdale bank's notes are OK.

44 So sorry for Kelvin Mackenzie calling you "tartan tosspots" in a column in the *Sun* and rejoicing in the supposed fact that you have lower life expectancy than the English.

45 So sorry for Kelvin Mackenzie later going on Question Time and saying "Scots enjoy spending [money] but they don't enjoy creating it, which is the opposite to down south." To be fair, the audience was booing him. And that was in Cheltenham, which just goes to show that his loony anti-Scottish sentiments don't go down well even in middle England.

46 Sorry in general for creating the racial stereotype of Scots as mean.

And dour.

And whiney.

And violent.

And having terrible cuisine.

And speaking incomprehensibly.

And drunk.

47 Sorry for the films of JK Rowling's Harry Potter books. In particular that one of the most imposing pieces of Scottish architecture, the railway viaduct at Glenfinnan, is now called the viaduct from the Harry Potter film. Woeful.

48 Sorry for Sherlock, the BBC retooling of Arthur Conan Doyle's novels. Yes, we know that some of the episodes were written by Steven Moffat who is a Scot, but he does live down here now and so has probably been corrupted by English ways.

49 Sorry for implying Gordon Brown was surly be-

cause he was Scottish rather than because he was Gordon Brown. It's not because he's Scottish that he sucked at being prime minister.

50 So sorry for Samuel Johnson's remark: The noblest prospect which a Scotchman ever sees, is the high road that leads to England." Rude, really, particularly when you consider how obliging his amanuensis James Boswell was and how much hospitality he sucked up on his Scottish tour.

51 Sorry for what PG Wodehouse wrote in *Blandings Castle*: It is never difficult to distinguish between a Scotsman with a grievance and a ray of sunshine." To be fair it's not difficult to tell anyone with a grievance from a ray of sunshine. And your reputation for grumpiness, let's be honest, was compounded when Alex Salmond said that Scotland "yearned to be a good neighbour, not a surly tenant". The SNP leader seemed to be confirming what you are not, namely, surly. Or maybe you are? If so, probably our bad. Sorry!

52 Sorry for not recognising that the "English" industrial revolution was unthinkable without Scots engineers - Thomas Telford, James Watt, John Loudon McAdam, Lena Zavaroni and Wee Dougie McSporrán.

53 We were only joking about Lena Zavaroni. She is a late, great Scottish entertainer obviously, but not an engineer. Sorry for the misunderstanding.

54 Also there was no Scottish engineer called Wee Dougie McSporrán. Or maybe there was. We haven't bothered to check. Sorry!

55 Sorry for Barry Cryer and Graeme Garden's Hamish and Dougal: You'll Have Had Your Tea on Radio 4. We thought it was hilarious. Sorry for that.

56 Sorry for making you speak English. To be fair, you could always stop if you become independent. The Americans didn't when they went independent, but you could make your national language Gaelic if you go it alone. We're just saying.

57 Sorry for laughing when Alex Salmond said an independent Scotland's fiscal future was secure because you were sitting on £1tn of North Sea oil and had a long-standing budget surplus. Maybe he's right. After all he is an economist, albeit one at the worst bank in the history of banking, namely the Royal Bank of Scotland.

58 But, while he was making that speech and you were distracted we were laying down pipes in the North Sea so we can siphon off the oil to Newcastle rather than Aberdeen if you do go independent. Sorry about that. It probably undermines the fiscal basis for independence. But we've always been sneaky, as you know. Sorry!

59 So sorry that the English writer Daniel Defoe served as a secret agent in Scotland to do what he could to secure Scottish support for the 1707 Act of Union. "He was a spy among us," wrote one leading unionist but not known as such, otherwise the Mob of Edinburgh would pull him to pieces." And with good cause.

60 Sorry, incidentally, that the BBC wiped all four episodes of *The Highlanders*, part of the fourth series of *Doctor Who*. Apparently, it was a time-traveling revisionist critique of the aftermath of the battle of Culloden, so might have been worth seeing. Patrick Troughton's Doctor even yells at one point: "Down with King George!" Shame it doesn't exist any more.

61 Sorry for what we did to Mary Queen of Scots. True, she was trying to topple her cousin, Elizabeth I of England, and install herself on the throne but executing her was a bit rich. Especially that bit when the executioner held up her decapitated head and her wig fell off.

62 So sorry for killing your king James IV at the Battle of Flodden in 1513.

63 So sorry for trying to blow up James VI of Scotland when, as James I of England, he was visiting the Houses of Parliament.

64 So sorry for what we did to Robert the Bruce. We know he's an arachnophilic national hero and all that, but when he came to pitch the movie of his life on BBC's *Horrible Histories*, we shouldn't have been so dismissive. It would make a great film, though, please God, not starring Mel Gibson or Liam Neeson.

65 So sorry for what we did to the great Scottish warrior patriot, William Wallace, on Monday August 23 1305. He was, as you know, dragged by horses four miles through London to Smithfield. There he was hanged, but cut down while still alive. Then he was disembowelled and probably emasculated. His heart, liver, lungs and entrails thrown into a fire and his head chopped off, and his corpse cut into bits. His head was put on a pole on London bridge, some part sent to Newcastle, and other remains to Berwick, Perth and Stirling (or perhaps Aberdeen), as a warning to the Scots. A good ticking off might have sufficed.

66 So sorry for not liking *Braveheart*. We thought it was supposed to be a comedy. Turns out it wasn't. Sorry.

67 So sorry for the way Gazza volleyed the ball over the despairing Colin Hendry before stuffing it in the proverbial Wembley onion bag at Euro 96. That must have hurt.

68 Hugh MacDiarmid, Robert Burns, Kathleen Jamie, Alan Warner, James Kelman, Ali Smith - these are great writers and we haven't appreciated them enough. Sorry.

69 Sorry in that list of great Scottish writers for not mentioning lots of other great Scottish writers too numerous to mention.

70 Sorry for not mentioning lots of great Scottish film makers, painters, composers, musicians. We don't mean Texas or Big Country, though. They're rubbish.

71 Sorry for being so unfriendly when you arrive at Euston or King's Cross.

72 Sorry for encouraging Frankie Boyle. Turns out he isn't funny or clever. Same goes for George Galloway.

73 Sorry for putting the saltire at the background of the union jack. Perhaps if you stay in the Union we could move it to the front, unless it ruins the composition. Let's talk, yeah?

74 Sorry for laughing at the prospects for your army in an independent Scotland. Of course you could always use it to invade the Faroe Islands if nothing else.

75 So sorry for being, as the smackhead Renton puts it in Irvine Welsh's novel *Trainspotting*, "effete arseholes". What was the full quote again? Oh yes. "Some people hate the English, but I don't. They're just wankers. We, on the other hand, are colonised by wankers. We can't even pick a decent culture to be colonised by. We are ruled by effete arseholes." Perhaps the greatest analysis of a national character in literature. But that's not the point. We have tried to stop being wankers, but it's really hard! That's just how we are. But we realise that we have thereby contributed to your tragi-comic national psyche. Our bad. Sorry!

76 Ultimately, so very sorry for taking so long to say sorry. It's just that we've done so much bad stuff that we've had to say lots of other sorrys before we got to you. If only we'd been more like Ireland. They only had to apologise for Jedward. Oh yes, and Chris de Burgh. But look. Tell us what you'd need to stay. A no-peeking-under-the-kilt law? Done. The outlawing of "jokes" implying Scots eat only deep-fried Mars bars and scorn salads by means of a Proscription of Hate Speech (Scotland) Act? Done. A 25-0 start in future rugby internationals? Nae bother. Let's talk. Anything is possible. Except you going. We couldn't bear that.

How to cook the perfect falafel

Do you make falafel with chickpeas or broad beans, what do you serve them with - and are they the best vegetarian fast food ever?

By Felicity Cloake

They do fast food properly in the Middle East: chargrilled meaty wraps; crisp, wafer-thin pastries; and, of course, the almost ubiquitous falafel fritter. Once almost exclusively the preserve of the vegetarian in the kebab shop, more authentic versions, heaped with nutty tahini sauce and punchy salads, are increasingly charming British punters away from the burger van. Hot and crunchy on the outside, fluffy and herby within, it's no wonder so many countries want to claim the falafel as their own.

The Oxford Companion to Food reckons that falafel's "extremely ancient" origins lie in Egypt, where it is still an immensely popular snack. It is also one of the national dishes of Israel (thanks, according to Claudia Roden, to Yemenite immigrants) as well as showing strongly in Lebanon, Palestine, Syria and Jordan.

Indeed, you can find good falafel everywhere from Baghdad to Bawshar - but, unless you live near one of the small, but growing, number of decent vendors here in Britain, your best bet might be to make your own. Thankfully, it's really quite simple.

Pulses

Naively, I'd assumed that falafel was always chickpea-based, and stocked up accordingly. How much I had to learn. Yotam Ottolenghi and Sami Tamimi, both of whom have fond childhood memories of stuffing themselves with falafel in Jerusalem, and Sharon Salloum, chef and author of the Syrian recipe book *Almond Bar*, use just chickpeas ("It's all about the chickpeas," Salloum explains), but all the other recipes I try deploy broad beans as well - indeed, Roden, who uses only beans, reckons they're "far better" that way.

The Comptoir Libanais cookbook and Anissa Helou's *Modern Mezze* both go for a mixture, Helou observing that Egyptian falafel, like Roden's, is softer than the Lebanese and Syrian version, "perhaps

because it is made with only fava [broad] beans". She's right - Roden's variety are fluffy, almost melt in the mouth. The Comptoir Libanais preamble further explains that "the starch in the fava beans does a better job of holding the mixture together", which makes sense as I find Salloum's falafel particularly prone to crumbling - Ottolenghi and Tamimi add flour and water to the mixture, presumably to act as a kind of glue, while reader and falafel fanatic Richard Caddick tells me he adds egg to his.

Beans are thus a must - I found them at a Middle Eastern grocers, but they're available online. (Look for the ready peeled sort; peeling the things is fiddly enough work to make even the dampest supermarket falafel start to look attractive.) However, like Helou, I miss the chickpeas in Roden's recipe; they add a certain nutty flavour, and, more importantly, as they're harder to grind down very finely, a pleasing variation of texture to the dish, so like her, I'm going to use a mixture of the two.

Texture

Opinions are divided on the most desirable texture for a falafel mixture. Comptoir Libanais reckons the pulses should be very finely minced rather than pureed, while Helou and Roden insist on "a soft, smooth paste", with the latter suggesting that "the longer you process, the better". As previously mentioned, the beans make the mixture easier to shape, and this seems to be particularly true if it's very finely ground. I do like the nubby crunch of Comptoir Libanais' version, however, so to ensure a contrast, I've decided to leave half my chickpeas coarsely ground.

Everyone uses some sort of raising agent, whether bicarbonate of soda or baking powder, to make their falafel extra fluffy. As there doesn't seem to be much in the way of acid in the recipe, I'm not surprised to find that Ottolenghi and Tamimi and Roden's baking powder proves more effective.

Vegetables

The naturally bland pulse can absorb a good deal of flavouring - whether onion (Ottolenghi and Tamini, Helou and Salloum), spring onions (Roden and Comptoir Libanais) or garlic (all of the above). I find raw yellow onion rather a harsh addition, preferring the greener taste of the spring variety. Roden, who, like Helou, uses a striking amount of garlic, describes her falafel as "so much better than anything you can buy - very herby, spicy and garlicky" and I'm inclined to agree: the more garlic the better here.

Comptoir Libanais uses celery and green chilli, neither of which I'm particularly keen on; the celery is surprisingly dominant, and the heat of the green chilli feels like it belongs to a different dish.

Herbs and spices

This wouldn't be a Middle Eastern recipe without heaps of fresh herbs. Forget the sad little supermarket bundles and try to find yourself a proper market stall bouquet, if possible. Parsley is popular, used by everyone but Helou, but so is coriander, which makes its way into all the recipes. I like a combination of the two - the sharp, pepperiness of parsley and the aromatic freshness of coriander, both in sufficient quantity to turn the mixture a bold green colour.

Ground coriander and cumin are also pretty much a given, and I like the fiery sweetness of Helou's Lebanese seven-spice powder, with its ginger, cinnamon and allspice, which balances beautifully with the savoury garlic and peppery herbs. Some recipes use cayenne pepper, paprika or chilli flakes too - I find the warmth of the ginger sufficient for a dish that is rarely hot as opposed to spicy, but if you feel the need, add a shake to taste.

Salt is also extremely important in a dish that, badly seasoned, can tend towards the dull, which is why it's a good idea to fry up a little to test the mixture before shaping.

Chilling, shaping and cooking

Chilling the mixture before cooking helps with the shaping. The size of the falafel seems to vary, from the 40g Comptoir Libanais monsters to Roden's diminutive 4cm discs. She and Salloum recommend shaping tools, which I discover inside a box of Lebanese falafel mix in the grocers, but I find the Roden-sized versions too crunchy; making them bigger allows for a greater variation of texture between the crisp outer and fluffy interior.

Ottolenghi and Tamini roll their falafel in sesame seeds to coat, which looks handsome and makes the exteriors extra crunchy.

Deep-frying proves, sadly, the best option; Comptoir Libanais does give a shallow-fried variation, but it is disappointing enough that I can't recommend it. Remember, if you put enough salad on top, it's basically health food anyway.

The perfect falafel

(Makes about 25)

100g dried chickpeas
200g dried, split skinless broad beans
1 tsp ground cumin
1 tsp ground coriander
1½ tsp of Lebanese seven-spice (or ½ tsp ground black pepper and ¼ tsp each of ground cinnamon, ginger, allspice and nutmeg)
1 tsp salt
5 spring onions, finely sliced
4 garlic cloves, crushed
Large bunch of coriander, long stems removed, roughly chopped
Small bunch of flat-leaf parsley, long stems removed, roughly chopped
½tsp baking powder
4 tbsp sesame seeds
Sunflower or vegetable oil, to fry
Soak the chickpeas and broad beans in separate

bowls of plenty of cold water overnight. Drain and tip on to a clean tea towel to dry.

Put all the beans and half the chickpeas into a food processor and whiz until smooth (be careful not to overload your processor). Add the spices, salt, spring onions and garlic and whiz again, until well combined. Finally, add the remaining chickpeas and fresh herbs and pulse until chopped and well combined, but not pureed - the mixture should still be lumpy with chickpeas.

Heat a little oil in a small pan over a high heat and fry a teaspoon of the mixture to check the seasoning. Adjust if necessary, then stir in the baking powder. Chill the mixture for at least 30 minutes.

Roll the mixture into small, flattish balls, about 5-6cm across, and roll briefly in the sesame seeds.

Heat 5cm oil in a deep pan to 180C/350F, then fry the falafel in batches and drain on kitchen paper. Serve with tahini sauce, toasted flatbreads and plenty of salad.



Felicity Cloake's perfect falafel. Photographs: Felicity Cloake for the Guardian



Will Sheff with Okkervil River in 2011: 'We need confection. You don't want everything to be like a kale salad: sometimes you want a plate of gummi worms.' Photograph: Getty Images

Will Sheff: 'Radiohead's lyrics are terrible'

The frontman of Okkervil River says that despite 'atrocious' songwriting, Radiohead are actually an 'incredible band' - and that good lyrics are not always necessary

By Andrew P Street

Will Sheff is a bookish chap. He named his indie-folk-rock-whatever band after a Tatyana Tolstaya short story, after all - and you don't go evoking descendants of Tolstoy without feeling like you have some skills with language.

Unsurprisingly, many of Okkervil River's albums form larger narratives. *Black Sheep Boy* (2005) builds an entire mythology around the character in the classic Tim Hardin song of the same name, while *The Stage Names* (2007) is a concept album about touring bands, and new album, *The Silver Gymnasium*, is a love letter to Sheff's mid-80s childhood in Meriden, New Hampshire.

But don't accuse him of being snobbish about his art. *The Silver Gymnasium's* use of period synth textures has already raised eyebrows, harkening back to the chart music of Sheff's youth. And there's a good reason he's evoking it: he loves that stuff.

"Synthesizers are really great, man!" he declares. "There's two different ways to love synthesizers, for me anyway, and one of them is the sincere love of a really gorgeous synthesiser that you might hear on a Brian Eno record, and then the other one is the more poignant and more sincere love of the cheesy synthesiser stuff that you remember from when you were a kid."

He reaches for an example - alighting on Scritti Politti's *Cupid & Psyche 85*, "which has all these kind of atrocious synth sounds that are also kind of amazing," he says. "The synth bells on *The Word Girl* is my happy place: you could play that to me on my deathbed and I'd be like 'OK, I'm ready to go'."

The stylistic changes have confused some - although the album is Okkervil River's most successful yet - with *So Young* proving a dividing line for certain fans and critics. "Some people will call the sounds on it 'cheesy', and others will call the sounds 'delightfully cheesy,'" laughs Sheff.

"To me it's like having a closet with every kind of

costume in the world and you put on something and go 'isn't this a fun outfit?'"

Sheff has obviously enjoyed the opportunity to reexamine the music of his past without the baggage that comes with trying to define one's own personality. Deniece Williams' *Let's Hear It For the Boy* is a classic example of a song he loved as a child, rebelled against as a teenager, and has now come back to as an adult.

"I thought 'you know, this song doesn't have to be like Leonard Cohen. It can be a fluffy pop confection'. And we need confection. You don't want everything to be like a kale salad: sometimes you want a plate of gummi worms."

Sheff's love of pop may come as a surprise, given the literary nature of so much of his writing. His complex, wordy lyrics are the antithesis of Williams' "Maybe he's no Romeo / But he's my lovin' one-man show". The frontman protests: "See, that's a misconception people have about me. I like lyrics - I like writing, I like words - but I don't feel like good lyrics are a prerequisite to music being good."

For example? "Duran Duran, or Radiohead. Both are really great bands, and both have atrocious lyrics. I mean, Radiohead's lyrics are terrible - but Radiohead is a really great band," he explains.

"I mean, I would never for a second say that Radiohead are anything but a super-important, incredible band. I also think that Thom Yorke happens to be kind of terrible at writing lyrics. But that doesn't mean they're not brilliant."

Other lyric writers get shorter shrift. By trying to write something universal many end up being just generic, Sheff argues.

"That's one of the worst things about Bono's songwriting. He kinda belongs in the same category as Robert Plant: singers who made the whole band a little worse," he sighs. "Not that I think Robert Plant is bad, but Led Zeppelin would have been a better band without Robert Plant. And Bono just straight-up ruins U2, in my opinion. I think U2 has some great, catchy, amazing songs, but they also have such a hectoring, self-righteous boob in front."