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AM I NORMAL?

THE 200-YEAR
SEARCH *for* NORMAL
PEOPLE

(and Why They Don't Exist)

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For Sadie and Willow, who are both too remarkable to ever merely be normal.

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A NOTE ON THE SURVEYS AND QUESTIONNAIRES

To underscore the questions posed in this book, you'll find a selection of original historical questionnaires from the nineteenth and twentieth centuries reproduced between pages 272 and 284: from the 1889 Census of Hallucinations to Mass Observation's 1949 sex survey. These documents were used by doctors, scientists and sociologists to try to pinpoint where the normal might lie in relation to the body, mind, feelings and sex lives of their fellow humans. Nothing, perhaps, better shows how elusive and mutable the idea of what's normal really is. Have a go and embrace your 'failure' to fit the normal standard.

PROLOGUE

AM I NORMAL?

It seems like a straightforward enough question, on the face of it. It's something you might ask yourself on a regular basis. Is my body a normal shape or size? Is it normal to cry in front of others? To let my dog lick my face? To have heavy periods? To have sex with strangers? To feel anxious on public transport? To feel bloated after eating? These and countless other questions frame and explain our lives. They help us negotiate our relationships with other people and work out when we might need intervention: the advice of a friend or a visit to the doctor.

They also prove how complex the idea of normality is.

What do we mean when we ask if we're normal? Even just taking the questions in the paragraph above, this varies enormously. Sometimes we're considering if we're more or less average – or perhaps slightly above or below average, if that seems more socially desirable. I might want to be a little above average height, for example, and a little below average weight.

On other occasions, we're wondering if we're healthy. Is my blood pressure normal? If I feel pain in a certain place, is it a sign that something is medically wrong? If your child sleepwalks, this might be classed as normal not because it's common (a 2004 Sleep in America Poll found that just 2 per cent of school-aged children sleepwalk several nights a week or more) but because it's not considered unhealthy.

Most often, however, when we ask if we're normal we're wondering if we're like other people. Am I a typical example of the human race? Do I react in the same way as other people to situations? Do I look or dress or talk like other people? If I was *more* like them, would my life be easier?

These questions can have profound effects on our lives. I was a shy and awkward child, with thick plastic-rimmed NHS glasses and much-loved home-knitted jumpers, who spent most of her time buried in books dreaming of a better, more magical world. By the start of secondary school in the early 1990s, I was already marked out as abnormal, for reasons best known to my peers. 'Creepy Phoebe', they used to call me, after the bespectacled teenage *Neighbours* character, whose father was a funeral director and scared her classmates by keeping pet snakes. By the age of sixteen I was a ball of barely contained fury at the world, spending most of the school day wearing headphones so that no one would talk to me while I scratched Manic Street Preachers lyrics across every wooden school desk.

Does any of this sound familiar? If so, perhaps I was a normal teenager after all. But, like most teens, I never *felt* normal. As many bullied young people do, I accepted the outcast label that was handed to me and took it as my own

(or so I thought), stubbornly exaggerating those differences my bullies commented on to distance myself from them still further. It was stupid, I thought, for there to be a rule that wearing a backpack on both shoulders or pulling your socks up to keep your legs warm was ‘square’, so I insisted on doing both. I didn’t want to wear make-up and listen to pop music but to spend every glorious Wednesday with my head buried in the new issue of *NME* or *Melody Maker* reading about bands no one else in my school had even heard of.

Despite all this, there was a part of me that longed to be normal. If one of the bands I liked made the top ten, I felt like I’d achieved something – other people liked something I did! The normal was a mysteriously vague ideal that stayed with me throughout early adulthood, brought into sharp relief by a dread of not fitting in, a fear of being abandoned and alone, and a sense that if something magically changed in or about me then everything would suddenly be okay. I was probably approaching thirty before I really questioned what I meant by ‘being normal’.

If you’ve picked up this book, it’s probably because you’ve had similar fears, or asked yourself similar questions. So, is a dread of being different actually normal? Have people always worried about attaining a particular set of life goals in this way? When do we embrace our differences from other people and when do we fear them? And who gets to decide what’s normal anyway?

In what follows, I reveal how short the history of worrying about being normal really is. Of course, in some circumstances people have always judged themselves by those around them or criticised others for not fitting in.

However, it was only in the last 200 years that this began to happen on a widespread scale, enshrined in scientific practice in Europe and North America through medicine, physiology, psychology, sociology and criminology – driven by the rapid rise of statistics. Normality became bound up in our laws, our social structures, and our ideas of health. But before 1800, the word ‘normal’ was not even associated with human behaviour at all. Normal was a mathematical term, referring to a right angle.

The growing popularity of statistics in Europe and North America in the nineteenth century inspired scientists to measure humanity to find first an average, and then a norm. These norms could not have been set without the standardisation of huge swathes of human life that defined what and who was normal – and by implication most human, most valuable. The introduction of compulsory education in many countries, for example, led to the identification of children who learned more slowly than their classmates, while the creation of national insurance and occupational compensation schemes demanded medical screening with increasingly detailed definitions of normal health. Baby-weighing clinics gave rise to enduring ideas about childhood development, IQ tests began to establish norms of intelligence, and factories and industrial workplaces gave rise to notions of the ideal worker and standard productivity levels. Colonial expansion by Western countries sent scientists out to measure and define around the globe, comparing the population of their own homelands with people elsewhere – almost always in ways that favoured white people. This book focuses on Europe and North America simply because that was where the

so-called normal was born: the assumption that these standards applied to the rest of the world was just that, an assumption.

The science of the normal these researchers created, then, is also a story about the othering of whole communities, defined in opposition to Western standards of the ‘right’ way for a person to be. The scientists, doctors and scholars who attempted to measure and standardise humanity were overwhelmingly white, wealthy, Western men, who were exclusively heterosexual (at least in public). They tended to support the status quo – which they had to thank for their success – and marginalise other groups in the process. When they desired change, it was most often change that benefitted their educated professional class. This is not to say that this was always intentional or that none of these men ever supported those less privileged. Some called themselves socialists; others backed the feminist movement, denounced imperial aggression, or argued that homosexuality should be legalised.

Yet most of these men also assumed that their place at the top of the social ladder was simply the natural order of things. They had been born into the highest stage of human evolution – or so they believed – and charitably sought to set a standard to help others improve. One of the arguments made at the time to justify colonialism was that the lives of the peoples colonised were improved by being guided in Western norms – or rather, as we might put it today, by having Western norms brutally enforced upon them. In India, for example, hundreds of thousands of people were killed by British troops, and millions more died in recurrent famines as the British government

exported Indian goods for commercial gain. Meanwhile, in Indian public schools, colonial teachers proudly described how they created ‘real’ – or normal – boys, defined in the image of their colonisers through the adoption of British sports and dress.¹ In the US, it was Federal policy to ‘acculturate and assimilate’ indigenous people ‘by eradicating their tribal cultures through a boarding school system’ until 1934.² Whereas, in the seventeenth and eighteenth centuries, many colonial governments had maintained a distance between their subjects and those of the countries they colonised, as the nineteenth century progressed normalisation became central to colonial rule.

Such examples from the past can seem dramatically and obviously wrong to us today. But is it merely a sobering thought to recall how many people have been killed, imprisoned, ruled insane or otherwise excluded from society because of the shifting notion of what’s normal? Or is there something more we can take from this history? I believe there is. Although we constantly refine and expand our definitions of what is normal, natural or desirable, many of us never stop to consider if there is such a thing at all. We just assume the normal exists, an invisible law of nature – perhaps slightly to the left or right of where our parents or our grandparents told us it was, but there nonetheless.

Yet this so-called normal may not even be all that usual. In 2010, three North American behavioural scientists suggested that the sub-section of the world’s population from which today’s scientific norms are drawn – which differs surprisingly little from the groups studied by nineteenth-century scientists – might be the ‘WEIRDest people

in the world'. People from WEIRD (that is, Western, educated, industrialised, rich and democratic) societies make up just 12 per cent of the world's population but 96 per cent of subjects in psychology studies and 80 per cent in medicine.³ They are assumed to be white – even when they are not – because white is supposed to be a neutral category as far as science and medicine is concerned.⁴ The Victorian science of the 'normal' has a long legacy.

But when drugs and treatments are designed for WEIRD (and white, and male) people, how can we expect them to offer the best outcomes for everybody else?⁵ Diseases show up differently in men and women, or in people with different skin tones. Until 1990, it was common for drugs to be tested only on men – it was cheaper and easier for researchers, because men's hormone levels don't tend to fluctuate, as is the case for many women. The problem was that, once on the market, these drugs and treatments weren't always suitable for the women taking them. Dr Alyson McGregor's *Sex Matters* describes how prescription medications may be withdrawn from the US market due to unexpected side effects in women. It wasn't, for example, until after sleep aid Ambien had become widely available that the dose for women was halved, when it was realised that women tend to metabolise the drug at a slower rate than men.⁶ These women woke up drowsier, the drug still in their systems during a potentially unsafe drive to work. But why hadn't this been discovered sooner?

While some scientists 'routinely assume' that findings from WEIRD studies can be generalised to the other 88 per cent of the world's population, others have claimed that WEIRD people may be 'among the least representative

populations one could find for generalizing about humans'.⁷ So how has our history led us to a position where such a tiny group continues to dominate narratives of what it is to be 'normal'?

By exploring the history of the contested ways in which norms and standards have been adopted I hope to encourage you to question not only what you think of as normal, but also why we are so ready to define ourselves by such prescriptive judgements. I invite you to consider how the 'normal' permeates our lives and the impact it has on us, whether you are WEIRD or not. If, like most people, you have ever feared being different, I hope you will find this book thought-provoking and liberating.

It may be normal to worry about being normal. But that shouldn't stop us questioning the very idea.

I

A BRIEF HISTORY OF THE NORMAL

NATURE'S ERRORS

The story of the normal as we know it begins on New Year's Day 1801, with an Italian priest and astronomer, Giuseppe Piazzi. He spotted a new star in the sky while searching for a planet between Mars and Jupiter. Piazzi tracked the movements of this star – which he named Ceres after the Roman goddess of agriculture – until 11 February, when it was too close to the sun and disappeared. In October (news travelled considerably more slowly in those pre-internet days) Piazzi's published data reached the twenty-four-year-old German mathematician Carl Friedrich Gauss.

Whereas Piazzi had been unable to take enough measurements to determine Ceres' orbit, Gauss used a mathematical formula to create an average that, when plotted on a graph, created a rough bell-shaped curve, rising into a rounded peak at the centre with a long tail on either side. Gauss claimed that Ceres would emerge at the point shown in the exact centre of this curve. On the next

clear night, the young mathematician was proven right. The German star spotter's name soon became associated with the bell curve and even today it is sometimes known as a Gaussian distribution.* At first, however, it was called the 'error curve'.¹

For centuries, astronomers had recognised that measurements in their field were subject to mistakes. They accounted for this by taking a large number of measurements. Small errors were made more often than large ones, and it was this that created the shape of the curve plotted by Gauss. So far, so good. You might have done a very basic version of this yourself when putting up shelves or something. Checking measurements over and over before drilling the necessary holes. I'm invariably a few millimetres out, all the same. But what on earth do the efforts of astronomers – and amateur carpenters – to accurately measure distance have to do with the norms of human life?

We owe the collision to one very active Belgian statistician: Adolphe Quetelet, born in Ghent in 1796. There's a street named after this scientist in Brussels, where the former royal observatory – Quetelet's home for forty years – was located. I visited a few years ago, and charity workers in the former observatory building no doubt wondered why someone was taking photos of their office. Place Quetelet was just an ordinary city street. Unremarkable. Normal. Quetelet, who idealised the ordinary, would probably have been happy with this development.

The young Adolphe Quetelet grew up in a turbulent

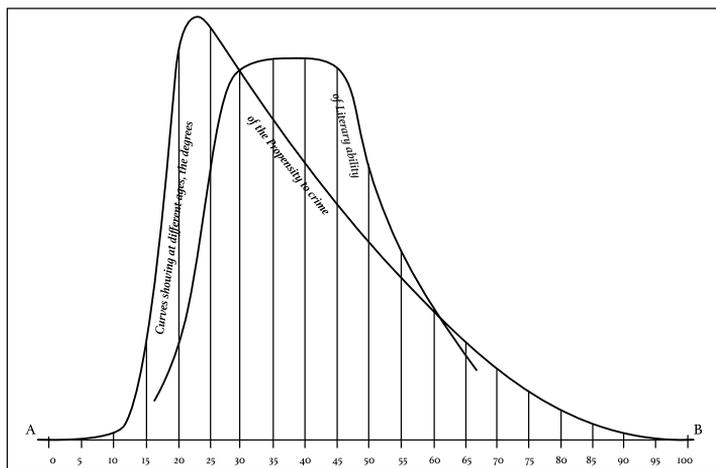
* Or a Gauss-Laplace distribution, by those who also credit the French mathematician Pierre-Simon Laplace, who proposed using an error curve to predict the outcome of an event nearly thirty years earlier.

time for Belgium, which drove his passion for understanding human society. Ghent was controlled by Napoleonic France during his childhood but then, when the statistician was nineteen years old, the Dutch-speaking city became part of the United Kingdom of the Netherlands, and he studied science at the newly founded University of Ghent. Then, in 1830, the Belgian Revolution came along and cast his young career as royal astronomer into disarray – the observatory was very nearly turned into an arsenal.² The revolution sent Quetelet on a path away from astronomy to the study of society: he brought with him, however, the astronomer's methods.

In 1835, five years after the revolution, Quetelet published his most famous book: *On Man and the Development of His Faculties, or Essay on Social Physics*.³ Seeking order in human society after the recent upheaval, Quetelet took the astronomer's error curve and applied it to human measurements. It was not obvious this would work, given the significant difference in the kinds of data. Pinpointing a star's correct location is not the same as, say, measuring human height. There is no 'true' measurement of height, only an average based on the most common height in a population. It's important to remember, however, that the background of truth and error in astronomy meant that the normal in humans was, from the very first, bound up in the assumption that the normal was *correct*, as well as average. Those people who did not meet the normal ideal became errors – not, this time, of the astronomer, but mistakes of God or nature.

One simple graph, then, began the scientific obsession with the normal. The bell curve remains in widespread use

AM I NORMAL?



A chart from Quetelet's 1835 book on social physics, showing a roughly normal distribution (of literary ability in the population) and a rather more skewed curve, supposedly detailing the propensity to crime at different ages.

across the social and life sciences today; you might dimly remember it from school. But its origin makes it clear how far the normal distribution has diverged from its intended function. There are many things that affect human measurements that don't apply to the location of stars, after all. Take height. In the UK, Mr Average stands at 5 foot 9, while Ms Average is 5 foot 3.5.⁴ Around 95 per cent of the adult population is within two standard deviations of this height: that is, between 5 foot 4 and 6 foot 1 for men and 4 foot 11 and 5 foot 8 for women. Of course, 95 per cent of the population isn't even *nearly* everyone. More than 3 million people in Britain fall outside these parameters: that's more than the total population of Barbados, Brunei, Djibouti, Luxembourg and Malta combined. And what of Mx Average? Anyone gender-fluid or non-binary simply disappears from such studies; just the first example of how

normal statistics can and do privilege certain ways of defining a population.

The limits and shape of the bell curve can also alter depending on the group being measured. If we combined all sexes on one scale, we'd get a different result.*⁵ Taking ethnicity or age into account will also change things. And then there's gravity: our measurements will differ slightly if taken when we first wake up, or at the end of the day. After all, astronauts can gain up to 2 inches while in orbit, as the vertebrae in the spine expand and relax.

It quickly becomes clear that a seemingly factual measure like normal height is less straightforward than it first appears. Despite this, the bell curve is still in regular use as a way of summing up the characteristics of a population – though its creators peering through telescopes never dreamed of it as a measure of human attributes, let alone as a yardstick of normality.

THE AVERAGE MAN

So how and why did people start to think of themselves as 'normal'? Before about 1820, the word normal was not used by anyone to describe themselves or each other; nor was it used by scientists or doctors to understand human populations. Normal was a term used in maths, for angles, equations and formulae. People weren't normal: lines and calculations were.

* You might assume that this would lead to a graph with two distinct peaks (a bimodal distribution). However, if you have a large sample of people, it often instead results in a differently shaped normal distribution.

There were, perhaps, some hints that the meaning of normal was already changing. When I visited Ghent a few years ago, in pursuit of the early science of the normal, I found myself staying just off Normaalschoolstraat. Of course, I took a selfie with the street sign. The first ‘Normal School’ was opened in Vienna in 1771, followed two decades later by the most famous, the *École Normale* in Paris. These schools were seen as models of exemplary education, though in continental Europe and the US today, normal school usually refers to a teacher training school. The town of Normal, Illinois, was named in 1865 after the teacher training college located there. The same is true of most other towns called Normal – there are four in the US alone. The notion that graduates of normal schools might embody a desirable model for shaping the younger generation began to nudge the meaning of the word towards its later definition.

Quetelet’s great concept was that of the ‘average man’ (or *l’homme moyenne*). Based on his statistical analysis, he thought the average man was the truest representation of humanity. While we might scorn mediocrity, to Quetelet to be average was to be perfect. ‘Every quality, taken within suitable limits, is essentially good,’ Quetelet professed; ‘it is only in its extreme deviations from the mean that it becomes bad.’⁶

To determine averages, he needed a decent sample size – and an army provided the perfect testing ground. The Belgian statistician took published data listing the chest measurements of 5,738 Scottish soldiers. The differing chest sizes of these soldiers, Quetelet claimed, followed the same curve on a graph as 5,738 slightly mistaken measurements

of the same man would.* By analogy, then, these real Scottish soldiers became *mistakes* on the error curve. They didn't just diverge from the average, they were imperfect copies of the ideal man, 'as though the chests which have been measured had been modelled from the same type from the same individual'.⁷ The error curve had become a law of nature, not just a statistical measure of probability. Any movement away from the normal was basically a mistake, a deviation from the perfect human form designed by the creator. (For, unlike many later advocates of the normal, Quetelet was not an atheist.)

Quetelet's aesthetic ideals and social research crossed over in his interest in art and sculpture. He referred to his Scottish soldiers as 'living statues', their varied measurements a thousand slightly misshapen copies of the ancient Borghese Gladiator, a sculpture from c.100 BCE.⁸ In his scientific treatises, too, the statistician outlined the study of the human body in artistic terms, from Ancient Greek sculpture to the Renaissance. His interest in physical form was inspired by Renaissance artists Leonardo da Vinci and Michelangelo, and by German artist and printmaker Albrecht Dürer's treatise on human proportions.⁹ The notes in Quetelet's archive include studies comparing Egyptian mummies and nineteenth-century Belgians to the Medici Venus.

Yet, whereas Renaissance artists were often looking for variety as much as perfection (Leonardo da Vinci's inventory of his drawings early in his career included 'many

* Quetelet was not very painstaking with his data, and apparently made a number of mistakes copying from the original source. For more on this subject, see Stahl, 'The Evolution of the Normal Distribution', *Mathematics Magazine* 79, no. 2 (2006): 108-10.

necks of old women; many heads of old men'),¹⁰ in Quetelet's time a scientific obsession with perfection and artistic ideals converged in the search for the average. This idea meant that ancient ideals embodied in crumbling statues infiltrated ordinary life as well as statistical knowledge. Contemporary tailors used the Apollo Belvedere – a Roman statue, now occasionally visible through the crowds in the Vatican Museum – as a stock model to construct their patterns.¹¹ Real bodies rarely measured up.

Although Quetelet had claimed the average man was a reflection of nature, later Europeans began to worry about the gap between what they saw around them and the classical ideal in height, body shape and appearance. The normal, they declared with horror, was no longer the average of a population (assuming that it ever had been) but that which *ought* to exist and rarely did. While Quetelet had proposed that the ideal body of the 'average man' was accompanied by a perfect moral mind, these later writers read immorality, idiocy and disease on to unusual bodies.

By plotting human characteristics on to an error curve, Quetelet did not just bring the study of statistical averages to social phenomena. He also set in place the belief that any deviation from the centre of the bell curve was some kind of aberration. His 'average man' was the first 'normal' human. The average man was, however, something of a paradox. He was at one and the same time a reflection of natural reality *and* an ideal for humanity to strive towards, flawless in body and in mind and the perfect representation of health.