THE NEUROSCIENCE OF BIAS

Diet cola makes you (EVEN) more racist

Unless we tackle bias, we'll never have true inclusion. But you might be surprised at what's keeping your brain shackled...

WORDS ROBERT JEFFERY

SUPERSTOCK

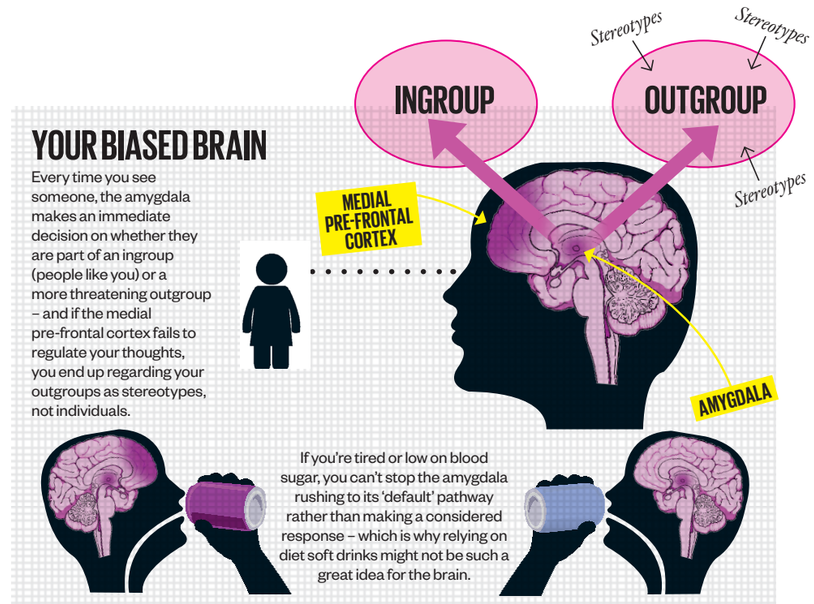
Before she begins training a group of executives on unconscious bias, Dr Tara Swart, a neuroscience PhD turned leadership coach, likes to give it to them straight.

If she took a chainsaw to the skulls of her audience – a practice she perfected, albeit on the already deceased, while training as a medical doctor – and left only their freshly disgorged brains sitting on their chairs, she'd be able to take a good guess at whether her guests were male or female, she tells them. "But without a brain scan, I wouldn't be able to see anything related to your sexuality or a physical or mental illness. And even if I looked under a microscope, I couldn't work out if you were white, black or Asian."

If the idea is to show that, for all the discussion of "neurodiversity", our intimate pathology is essentially identical, the effect on the assembled managers, you suspect, is to encourage them to yield up their lunch. Yet their willingness to hear such gruesome truths speaks volumes for the accelerating interest in how our brains work, and their effect on the workplaces where they get most of their exercise.

Neuroscientific answers to the mysteries of unconscious bias – which has been rabidly debated within organisations for decades, but rarely tackled effectively – are perhaps the hottest ticket in town. We know bias is a major (perhaps the pre-eminent) enemy of diversity: the FutureWork Institute says 20 per cent of large US employers now offer unconscious bias training, a ten-fold growth in five years, and Google last year put 13,000 staff through a course on the topic. Harvard's world-famous Implicit Association Test (IAT), the most widely accepted way to quantify biases, has been taken 15 million times in 15 years.

And yet Dan Robertson, diversity and inclusion director at enei, says most organisations are still at the "awareness raising stage" of dealing with the issue. "They need to get to the bias reduction stage, and ramp things up quickly."



"Organisations have begun to pick up on the idea of bias," says Dianah Worman, CIPD diversity adviser. "There is a ripple effect to that, and science can help reinforce the message. But the challenge is translating it into action inside organisations."

Undiagnosed, biases work to subtly undermine the many hours organisations put in as they edge towards greater diversity. And the bad news is that, while we measure such efforts in months and years, they are undone in the blink of an eye: it takes 50 milliseconds to register someone's gender when we first see them and only twice that long to note their racial background. Immediately, we retreat to basic evolutionary principles as we sort people into what the social psychologist Henri Tajfel defined as 'ingroups' and 'outgroups': those people with whom we feel safe and those we perceive as a potential threat.

Ingroups were useful concepts in primitive times, when mistakenly engaging a member of a different tribe could prove fatal. They are less helpful today, when our evolutionary challenges extend no further than beating the woman across the hallway to promotion. But in the intervening millennia, the concept has become ingrained in our brains. This is where bias has its roots: when people represent an outgroup, we are more likely to view them as homogenous (we believe they all look or behave in the same way). And with around 150 different biases identified, the range of outgroups reaches beyond race or gender to take in a complex lattice of social class, religion, wealth, education, national and regional roots, political affiliation, physical attractiveness and many more.

What's happening inside our heads as we make such snap judgements? The answer lies in the limbic system and perhaps more fundamentally in the amygdala, a set of neurons that form a region in the medial temporal lobe, roughly in the centre of the brain. The amygdala remains enigmatic but is best thought of as a way of deciding what sort of emotion we should associate with a particular idea. It looks for the neural pathway that takes us to the right association, but it gets easily overrun: it is quick to retreat into 'fight or flight' mode when confronted with a new idea it cannot easily process.

David Amodio, associate professor of psychology and neural science at New York University and one of the world's foremost experts on social cognition, has shown using FMRI scans that the amygdala is activated when men with a racial bias are thinking about people from a different background, but not when they are making more benign decisions.

Our medial pre-frontal cortex plays a role in tempering the amygdala's rushed judgements with more measured, learned

ARE THE STEREOTYPES TRUE?

People Management finds out if commonly held ideas pass scientific muster

"Pregnant women are forgetful"

NOT PROVEN A Wayne State University study says women in the third trimester are 15 per cent more forgetful; brains were also said to be 4 per cent smaller during pregnancy. But the University of Sunderland found that while women self-reported problems, their memories were actually fine.

"Asians are good at maths"

TRUE As a rule, Asian students do tend to outperform their Western counterparts in maths. The 2012 OECD PISA survey of student test scores saw China and Singapore leading a host of Asian nations at the top of the rankings. However, the reasons are more likely to be cultural than genetic: Asian cultures prize mathematical ability more highly, while Malcolm Gladwell points out that in Chinese languages, counting is easier since the words for numbers are shorter than in the West.

"Older workers aren't good with technology"

FALSE UCL's pioneering research into London cabbies showed that neuroplasticity enables our brains to grow as we get older, and there is no technical barrier to learning new skills or mastering tech. But as we age, the connections between cells in the frontal lobe deteriorates, says a Heriot-Watt University study, so learning may take longer.

"Men can't multitask"

NOT PROVEN In 2013, British researchers gave a group of men and women a series of simple tasks to complete in eight minutes. The women consistently outperformed the men and were also better at switching tasks. But they cautioned more research was required into why female brains seem to cope better with multiple concepts.

"Fat people lack discipline"

FALSE Ditch that Slimfast and reach for an iced bun... when eight prisoners in Vermont were asked to consume 10,000 calories per day and stay sedentary, only two gained a significant amount of weight. A repeat study led to similar results, lending credibility to the idea that obesity is as much to do with genetics as lifestyle.

"Women aren't suited to manual work"

FALSE Female metal-workers were a common sight before the Industrial Revolution, say Binna and Jo Kandola in *The Invention of Difference*. But attitudinal shifts and unionisation led to 'women's roles'.

"Good-looking people are more successful"

TRUE While attractiveness is subjective – or so the aesthetically challenged keep telling us – being conventionally good-looking certainly pays: economist Daniel Hamermesh says there is a 3-4 per cent uplift in salary for being pleasing on the eye. A Harvard study found that investors were more likely to put money into a pitch if the man making it was attractive, although this wasn't true with women.

"Young people don't like being told what to do"

FALSE Millennials are no less likely to think that authority is important than previous generations, says a study for the Center for Creative Leadership, though they are more likely to question why things are done a certain way, which can be perceived as dissent. In a 2012 survey, 61 per cent said they needed detailed directions in order to do their best work and three quarters wanted a mentor.

reactions. But being tired or hurried means it doesn't operate properly. "When we act on impulse or we overload our processes, we take away the part responsible for controlling biases," says Dr Pete Jones, a chartered psychologist and author of the Implicitly online bias test. When Nigel Farage was uncharitable towards Romanians in a disastrous radio interview in May, the media derided him for claiming he was tired: in fact, the explanation is perfectly plausible were the UKIP leader to have an unconscious bias against eastern Europeans.

It's a recurring problem, says Worman. "The environments we work in often just aren't conducive to being mindful and reflective. It's a real challenge to get individuals to step back and think about what they're doing."

When we're in a hurry or our cognitive function is somehow impaired, the amygdala becomes the major regulator of our judgements. And the amygdala is defined by neuroscientists as "quick to learn, slow to forget": when we make new associations, we coat the neural pathway involved in a substance called myelin that acts as a lubricant to help messages move faster next time. The amygdala returns to the myelinated pathway in preference to making a new connection. And each time the pathway is used, more myelin is laid and it offers an even smoother ride. As Jones puts it: "The faster the pathway becomes, the more the brain works to use it because it's easy. It becomes a self-fulfilling prophecy."

"If everyone was the same, we wouldn't be keeping up with the market... or our clients"

"Even if you don't think you've got a racist, ageist or sexist bone in your body, if that stereotype exists in the world it's somehow wired into your brain," says Swart. "Because there is an evolutionary advantage to ingroups and outgroups, they become a default pathway." And, she adds, that's bad news in a culture where people need to collaborate with their outgroups.

The neuroscience is inextricably linked to social conditioning. Jones give the example of police officers: overwhelmingly portrayed in popular culture, until recently, as white and male, we see them as an archetype, not as individuals. "Without positive connections between police officers and black people or women, we strongly myelinate the pathways between police officers and white men," he says. And not only do we reach for our pathways, we also seek out information that allows us to fire them up and reaffirm our biases. "Every time I drive past a school and see that 85 per cent of people picking up their kids are women, I myelinate that pathway," says Jones. It inevitably reinforces the notion that childcare is a female pursuit.

These biases have nothing to do with logic. Michael Brooke, a chartered psychologist and UK learning and development specialist at banking giant BNP Paribas, uses sport as an example: Liverpool and Everton fans live in the same city, come from the same background and all enjoy football yet divide themselves on the colour of a shirt. Or think immigration, says Robertson: those who are most prejudiced against immigrants are the least likely to have worked or lived alongside them.

Obama and Clinton: the same ideas, very different reactions

Overt prejudice is a different matter. The days when Alf Garnett types could cheerfully rail against their neighbours on the basis of skin colour are long gone: Swart points out that as society has become more sophisticated, there is no evolutionary advantage to being xenophobic. And not all biases are unhelpful: we make 1,000 decisions a day and we don't have time to mull them all over in detail. Reaching for a stereotype may be the best route. If we are hunting down a mugger, it makes more sense to look for a young person than someone wielding a zimmer frame, though it's a fine line between logic and dangerously divisive stereotyping.

What confuses us about bias is its unconscious nature. Even the most seemingly liberal-minded person can be harbouring secret biases. And its effects can be remarkable: in a 2010 US study, people with an implicit bias against black people were significantly less likely to support a healthcare reform when told it came from Barack Obama than Bill Clinton. Given how widespread unconscious racial bias may be, Obama's election may be testament to how many ingroups (liberal, handsome, youthful) he was able to claim membership of.

In banking, says Brooke, nationality is one of the more pervasive biases. BNP Paribas already has a range of minority networks, an annual diversity week and brings in external speakers such as gay rugby international Gareth Thomas to offer fresh perspectives to its 4,000 London staff, but is now focusing heavily on bias training. "We'd like our employees to be aware of the effects of bias and how it impacts the performance of the organisation. If everyone was the same, we wouldn't be very forward-thinking and we wouldn't be keeping up with the market. Clients value diversity."

BEN BLACKALL/BBC/RED PRODUCTION COMPANY, PRESS ASSOCIATION

Seeing female police officers challenges innate perceptions

For Swart, gender is the bias clients most often want to tackle. And there is evidence to show women are getting the raw end of the organisational deal. When Jones tested 4,000 people, one in four saw women as more competent than men, but four in 10 viewed women with children as less reliable and committed than those without. This backs up previous studies that show parenthood brings positive associations for men but leads to women being more negatively viewed.

Organisations are scrambling to act on such findings. The BBC received widespread attention when it announced earlier this year that it was sending hiring managers on unconscious bias courses. Tom Kelly, HR manager of BBC Scotland, is one of the HR professionals now implementing the training across the country. "The really interesting thing is that if you ask someone to self-report before an IAT, they'll say they haven't got a racist bone in their body," he says. "They find it difficult if the test says they have a preference for white people, for example. But you have to acknowledge the reasons why. The issue is being aware, not beating yourself up about it." As Worman says, bias is "part of the human condition" and an element of acceptance of our nature is no bad thing.

Equally emotive, says Kelly, is the idea of micro-messaging – that our biases subtly leak out through our actions, like unintentionally ignoring the only female member of the team or confusing people of the same ethnicity. "People don't realise how powerful that can be until you point it out."

The BBC's training is essential for its talent development aspirations, says Amanda Rice, the corporation's head of diversity: "We don't hide the fact that we have a job on our hands around diversifying our leadership in particular. The training won't mend everything, because people have to keep the awareness of their biases front of mind, but the more people who take this sort of training the bigger the effect."

When we starting looking, we see bias everywhere. Why do we request intangibles such as 'gravitas' in job specs, asks Robertson? "The idea of gravitas or presence at senior levels is entirely subjective – if you asked senior leaders what gravitas meant you'd see a huge range of answers. So people fall back on organisational fit – if you like someone, you're likely to feel they have gravitas." Jones points to the idea of the 'go-to guy'

ALAMY

Two tribes: we put people into 'outgroups' even when they are demographically identical to us

who can be relied on to get the job done: are we using them because they are the most competent, or just because we feel more compatible with them?

Leaders are far from immune to these biases. "Almost all the time, I hear senior people talk about part-time workers being less committed and less able to handle big projects," says Robertson. Meanwhile, Swart says ageism – the one bias everyone is guaranteed to face eventually – will become particularly important when four-generational workplaces are commonplace.

And then there are the biases we perpetuate about ourselves. "I'm an Asian female," says Swart. "If I was going for a job as an accountant and just before the interview someone said 'I really like your dress' and that inadvertently reminded me I am female, I would be likely to underperform in that interview because the stereotype in the world is that women aren't as good with numbers as men. But if, just before the interview, someone asked me where in India my parents came from and that inadvertently reminded me I am of Asian origin, I would be likely to overperform."

What to do about such multi-layered problems? On one level, physiology can help. Staying alert and sleeping sufficiently are hugely beneficial to brain health and regulating the amygdala. Glucose is a fuel for on-the-ball thinking, which is why managers who guzzle diet fizzy drinks have been shown to make more biased decisions than those who opt for the full-fat version. Some claim the potassium boost of a banana is another short-term answer.

Mindful practices may also aid concentration. But what you can't do is just think your biases away: it simply doesn't work. A 2001 Rutgers University study found that concentrating on a racial bias made no difference to whether subjects displayed it: by contrast, being shown a picture of Martin Luther King created positive associations. Replacing our stereotypes may be effective – simply saying the word 'safe' to ourselves when confronted by a member of an outgroup has been shown to reduce bias.

"If a stereotype exists in the world, it's somehow wired into your brain"

Eventually, we can create 'subordinate categories' that become more important than demographics: Jones says US police forces have been particularly effective at perpetuating the idea of 'police officer first and foremost' where the role you perform is more relevant than your race, age or gender. Amodio says when we see people in a more human light the pre-frontal cortex regulates the amygdala and ensures it creates useful associations.

More broadly, greater exposure to outgroups is effective. "People have often said it's political correctness gone mad to have two men, two women, two black people etc in recruitment ads," says Jones. "But when we are consistently exposed to certain images – whether we believe the stereotypes or not – the brain starts to put a substrate of myelin into the connections between ideas."

Testing, at the very least, arms us with information about our biases. Others may take more radical action: Kelly is a fan of the use of 'blind CVs' which remove personal details from applications, and says the BBC may explore the idea. Brooke encourages the use of a neuroscientist within the business, but urges care: "Neuroscience has become a bit of a bandwagon. If you put the word 'neuro' in front of something it makes it sound more academic and intelligent than it might otherwise be. The choice of consultant, coach, trainer or facilitator is endless."

Whichever route you take, to the converted tackling bias can be transformative. The BBC's Rice says bias training works because it is "enjoyable... it enables people to learn about themselves". She reports employees requesting to join bias courses, something which never happens with regular diversity training.

John Lambert, HR director of the support services arm of FTSE 250 business Interserve, used a consultant to deliver bias training to his board and has reaped the rewards. "We wanted to be more proactive around the equality and diversity agenda," he says. "It moved the debate to a very different place. As senior people, they found the data and the neuroscience good arguments. They bought into it a lot better than a lot of brow-beating about [diversity] being the right thing to do.

"We could have done another equality and diversity workshop, but how many times would these people have had a briefing like that during their careers? It wouldn't have worked. This brought a breakthrough that more traditional methods might not have achieved. Without it, we'd still be working very hard but not moving very fast." It's a long way from bloodied brains on chairs, but it seems to work... PM

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