

Article #1: Unlock your creativity by battling your brain's laziest shortcut

Source: <https://qz.com/work/1654168/why-we-stereotype-and-why-we-should-stop/> Quartz at Work REBOOT

By Cassie Werber July 2, 2019

The advertising industry is obsessed with creativity. Each year, it convenes in Cannes on the French Riviera for a massive Festival of Creativity, which recognizes the work of agencies and their clients. Festival days are thick with panels on unlocking, sparking, and “unleashing” more creative thinking.

But the industry has also been guilty of perpetuating stereotypes, which, as shortcuts around individualism and specific thought, are the antithesis of creativity. Ads frequently feature attractive, slim, white, heteronormative people living “aspirational,” traditional lives (seeking heterosexual love, marrying, having a nuclear family, celebrating Christmas, etc.) Recognizing this, Cannes has recently sought to emphasize diversity: exploring the issue in talks and showcasing ads which reflect diverse societies.

Many will welcome that change for finally addressing basic fairness and social justice. But one academic is making a compelling argument that tackling stereotypes isn't just morally correct; it also makes creative sense. Dr Lasana Harris, a professor of experimental psychology at University College London, says that the brain processes that are necessary to unravelling stereotypes are similar to those we need to employ when making creative work. Smashing stereotypes isn't just right, Harris argues. It can also help us access a kind of creativity that we'd otherwise never be able to find.

Harris and fellow UCL academic Gorkan Ahmetoglu, a business psychologist, recently completed a study for consumer goods company Unilever designed to test ways to make people less likely to invoke stereotypes. A group of 60 advertising and marketing professionals were surveyed to determine the extent to which they held stereotypical beliefs. The group also provided DNA samples. In a subsequent day-long workshop, the creatives were educated about what DNA is, and what it can tell us about the origins of a human living today. They also learnt the results of their own DNA tests, discovering more about their own ancestry in the process.

The tests weren't telling participants “who your great, great, great-grandfather was,” Harris explains. But they were saying: “In your basic biological building blocks, there have been people who roamed the Sahara. There have been people who walked among the great Caucasus Mountains.” That's powerful because it can moderate the image we have of ourselves, which is built up through the more immediate experiences of our upbringing and family circumstances, Harris says.

At the end of the training, the subjects were tested again to determine their tendency to stereotype. Researchers found a 35% reduction in “unconscious stereotyping”—specifically, attributing particular traits to a number of customer profiles—when compared to a control group. Whether or not this is a longterm change won't be evident until the next research stage is conducted in a year's time, Harris says. But he's hopeful that this kind of workshopping could succeed where more traditional bias training has struggled. As Mastercard's chief inclusion officer recently argued, standard unconscious bias training risks making participants feel they are in the wrong, putting them on the defensive from the outset.

The stereotyping brain

Harris is fascinated by how stereotypes function and why we develop them. The fact is, stereotypes are useful to us, he says—especially in an increasingly complex world where we might come across hundreds of other humans in a single day.

When we see a new face, our brains process a huge amount of information very quickly. We take in a person's gender, their similarity to us or to people we know, their apparent mental state, and their level of prosperity. We use context to inform our judgements: Seeing someone crying at an airport departures lounge, for example, might lead us to conclude that they are sad; but we might judge the same person crying at the arrivals hall to be happy or excited. All this goes into an overall picture that indicates whether the person we are looking at might

be aggressive, or friendly, and how we might interact with them. And it's hard. The brain has to work, use up energy, divert attention from other topics. Stereotypes are a shortcut around that complicated mental workout, and save us cognitive resources.

“Every time I think about a person, it takes up a lot of space in my brain,” Harris explains. “If I have a stereotype about you, I get the same processing much easier. I don't have to grind the statistics in the same way.”

The problem is, these shortcuts often lead us to the wrong place. “The stereotype that I'm assuming applies to you because you're female might be completely inaccurate for who you are as a human being,” Harris says. “To now consider you as a full human being, I need to now get all that processing going again.” This action is similar, in brain-functioning terms, to what we go through when we create something from scratch.

“What we've been arguing is that [this is] the same kind of processing you need to be more creative, to start thinking ‘outside the box,’ if you will,” Harris explains. “Because that's the definition of thinking outside the box: It's considering possibilities that aren't apparent. And the stereotype [appears to make] certain things about you apparent.”

For many, not assuming that a man we've just met should display “traditional” male characteristics takes mental resetting and mental work, because instead of asking ourselves, “What is this person like?” we use the shortcut of “what men are like.” If we were creating an ad—say, for shampoo—the shortcut might suggest it had to show hair, and lead us down a shortcut in which that hair was of necessity shiny, and that the shiny hair must be flowing from the head of a young, white model.

The idea is powerful because it suggests a motivation other than “doing what's right” for people to change their behavior. In any creative industry, it could possibly serve as a business case for tackling racism, or sexism, or any other type of discrimination. It could also be extrapolated to industries that don't rely on creative products, but value creative thinking, from medicine to management.

Motivation is important because research shows that for change to stick, the people undergoing that change need one or more of three things, Harris explains: They need to be motivated to change, they need information, and they need cognitive capacity (mental space, in other words.) Wanting to be more creative is a big motivator for a lot of people at work.

Of course, when it comes to selling things, there are other arguments that support battling stereotypes. The ad industry is waking up to the fact that women are involved in the vast majority of purchasing decisions, meaning that ads should seek to interest and entertain them specifically. Minority groups, meanwhile, form huge swathes of the buying population. And, increasingly, conscious consumers are pushing companies to display better practice and policies both towards their customers, and towards their own staff.

But change is still slow. Harris's argument adds a weapon to the arsenal: Making societies fairer isn't just the right thing to do. It's a way to spark the kind of thinking most of us want to be doing at work: Creative, unburdened by assumption, and as free as possible.

Article #2: Scientists show how we start stereotyping the moment we see a face

Source: <https://www.washingtonpost.com/news/speaking-of-science/wp/2016/05/02/scientists-show-how-we-start-stereotyping-the-moment-we-see-a-face/>

By Sarah Kaplan May 2, 2016 at 11:43 a.m. EDT

Scientists have known for a while that stereotypes warp our perceptions of things. Implicit biases — those unconscious assumptions that worm their way into our brains, without our full awareness and sometimes against our better judgment — can influence grading choices from teachers, split-second decisions by police officers and outcomes in online dating.

We can't even see the world without filtering it through the lens of our assumptions, scientists say. In a study published Monday in the journal *Nature Neuroscience*, psychologists report that the neurons that respond to things such as sex, race and emotion are linked by stereotypes, distorting the way we perceive people's faces before that visual information even reaches our conscious brains.

"The moment we actually glimpse another person ... [stereotypes] are biasing that processing in a way that conforms to our already existing expectations," said Jonathan Freeman, a psychology professor at New York University and one of the authors of the report.

Responsibility lies in two far-flung regions of the brain: the orbital frontal cortex, which rests just above the eyes and is responsible for rapid visual predictions and categorizations, and the fusiform cortex, which sits in the back of the brain and is involved in recognizing faces.

When Freeman and his co-author, Ryan Stolier, had 43 participants look at images of faces in a brain scanner, they noticed that neurons seemed to be firing in similar patterns in both parts of the brain, suggesting that information from each part was influencing the other.

Can science make you less sexist while you sleep?

Once they were done with the scan, the scientists put participants to work at a computer rapidly sorting those faces into categories: male or female, black, white or Asian, happy or angry. What they didn't tell the participants was that they were tracking the subtle movements of their mouse — looking at where instinct pushed them to go in the first hundred milliseconds after an image appeared, before they had time to process the face and then sort it accordingly.

What they found was that traits seemed to be linked to one another in ways that didn't seem to make sense. When presented with a happy male face, participants' hands were likely to dart toward "angry" in the first fraction of a second after seeing it, even though they would later self-correct and click on the opposite label. Black faces of both genders were likewise initially categorized as "angry." The faces of Asian men, meanwhile, were initially seen as "female."

Those instinctual preferences correlated strongly with the patterns Freeman and Stolier had noticed in the participants' brains. For a brief moment, the neural link between the fast-acting orbital frontal cortex and the face-recognizing fusiform cortex was able to override reality, replacing what participants actually saw with what they expected to see.

Humans do this all the time, Freeman said. The activity of the orbital frontal cortex is what allows us to quickly size up a situation without consciously contemplating every detail. That's how we can walk into a room with table, stove and refrigerator and immediately know we're in a kitchen. It's also how we can spot a creature with sharp teeth and huge claws and know to be afraid before we consciously think, "predator."

"We all have conceptional knowledge that we rapidly bring to bear on our visual perceptions," Freeman said. "And usually if it's inappropriate it will be quickly cleared from processing."

But the danger is that these initial perceptions seem to help reinforce or exacerbate existing biases. And if that's the case, he added, "then it stands to reason that this would bias people's behavior."

Across America, whites are biased and they don't even know it

This doesn't mean that we are all hopelessly hard-wired to be prejudiced, Freeman is quick to emphasize. In a third section of the study, participants were asked to look at a bunch of traits (aggressive, caring, violent, intelligent) and sort them according to what race and gender they are stereotypically associated with (no faces involved this time). This wasn't a measure of what they actually, consciously thought, he said, but instead gave a sense of the kind of biases they'd been exposed to from society at large — for example, the belief that men are more aggressive than woman.

Although the participants didn't personally endorse those stereotypes, it's clear that they affected the participants' unconscious thinking. Stereotypes can be like poison in the water we all swim in, and the brain, like a sponge, absorbs them, Freeman said, even when we don't want it to.

But the fact that stereotypes seem to be learned, rather than innate, gives reason for hope. If our unconscious biases — and the neural connections that reflect them — are acquired over the course of our lives, then we can also shed them.

"That's our next step," Freeman said. "Looking at how malleable they are, looking at creating them and taking them away."

"By better understanding the mechanisms that underlie these implicit biases due to stereotypes," he continued, "the hope is that we can better develop interventions to reduce or possibly eliminate them."

Article #3: Humans are wired for prejudice but that doesn't have to be the end of the story

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Author Caitlin Millett, PhD candidate in Neuroscience, Pennsylvania State University

All people have prejudices, but learning more about them could help keep them in check.

Humans are highly social creatures. Our brains have evolved to allow us to survive and thrive in complex social environments. Accordingly, the behaviors and emotions that help us navigate our social sphere are entrenched in networks of neurons within our brains.

Social motivations, such as the desire to be a member of a group or to compete with others, are among the most basic human drives. In fact, our brains are able to assess “in-group” (us) and “out-group” (them) membership within a fraction of a second. This ability, once necessary for our survival, has largely become a detriment to society.

Understanding the neural network controlling these impulses, and those that temper them, may shed light on how to resolve social injustices that plague our world.

Our brains can almost instantly assess in-group or out-group status. Daniela Hartmann, CC BY-NC-SA Prejudice in the brain. In social psychology, prejudice is defined as an attitude toward a person on the basis of his or her group membership. Prejudice evolved in humans because at one time it helped us avoid real danger. At its core, prejudice is simply an association of a sensory cue (e.g., a snake in the grass, the growling of a wolf) to an innate behavioral response (e.g., fight-and-flight). In dangerous situations time is of the essence, and so human beings adapted mechanisms to respond quickly to visual cues that our brains deem dangerous without our conscious awareness. The rub in all of this is that our brains have inherited the tendency to erroneously deem something dangerous when it is in fact benign. It is safer to make false-positive assumptions (avoid something that was good), than to make false-negative assumptions (not avoid something that was bad).

Neuroscience has begun to tease out the neural underpinnings of prejudice in the human brain. We now know that prejudiced behavior is controlled through a complex neural pathway consisting of cortical and sub-cortical regions.

A brain structure called the amygdala is the seat of classical fear conditioning and emotion in the brain. Psychological research has consistently supported the role of fear in prejudiced behavior. For this reason, the vast majority of brain research on this topic has focused on the amygdala and the cortical regions that influence it.

Focus on the amygdala

In one study by Jaclyn Ronquillo and her colleagues, eleven young, white males underwent functional magnetic resonance imaging (fMRI) while being shown photographs of faces with varied skin tones. When they viewed black faces, it resulted in greater amygdala activity than when they viewed white faces. Amygdala activation was equal for light and dark black faces, but dark-skinned white people had greater activation than those with lighter skin tone. The authors concluded that Afrocentric features drove an unconscious fear response in white participants.

Darker faces elicited more amygdala activity when white subjects were fMRI scanned. The effect of skin tone on race-related amygdala activity: an fMRI investigation, Ronquillo (2007), Author provided
More recent imaging research has supported the intractable nature of prejudice in the human psyche. Chad Forbes and colleagues found that even self-reported non-prejudiced subjects could be prejudiced in some situations. White study subjects had increased amygdala activation while viewing images of black faces when

they were listening to violent, misogynistic rap music, but not when listening to death metal or no music. Interestingly, they found that a region of the frontal cortex – an area of the brain expected to tamp down amygdala activation – was also activated.

The researchers speculated that the music reinforced a negative stereotype about black subjects, creating a situation in which the white subjects were not able to temper their prejudiced emotions. In fact, the authors speculated that the frontal cortices – generally thought of as areas of “higher” brain function – were instead recruited to help justify the feelings of prejudice felt by the participants listening to rap music.

Other research has shown that the amygdala response to out-group faces is not strictly bound to characteristics such as race. The amygdala responds to any out-group category, depending on whatever someone deems is salient information: your sports team affiliation, gender, sexual orientation, where you go to school, and so on.

Brains can control bias too

The Forbes et al study highlights that our ability to control reactionary implicit bias is dependent on the frontal cortices of the brain. A particularly important region of the cortex is the medial prefrontal cortex (mPFC).

The mPFC is the seat of empathy in the brain. It forms impressions about other people and helps us consider other perspectives. A lack of mPFC activity is associated with prejudice marked by dehumanization and objectification of others. For example, it is known that mPFC activation increases when we view a person of high esteem or prestige – for example, firefighters or astronauts – but not when we view someone marked with disregard or disgust, such as a drug addict or homeless person. Men with highly sexist attitudes have less mPFC activity when viewing sexual images of female bodies. These men also believed sexualized women have “less control over their own lives.”

Taken together, it seems that though the frontal cortices are able to reduce our innate prejudices about certain people, they are greatly influenced by context. In other words, our desire to not be prejudiced may sometimes get trumped by exposure to media supporting stereotypical portrayals of certain groups. Moving forward, it is essential to take into account not only the neural architecture of prejudice, but also the context in which we humans live.

Current questions being addressed in this field of research include whether or not amygdala activation in response to those of other races is something we’re born doing or a learned phenomenon. So far, research suggests that amygdala activity in response to out-group members is not innate, and develops later in adolescence. Also, studies support the notion that childhood exposure to diversity can reduce the salience of race in adulthood.

In today’s world people are more connected than ever – from social media to Skype, to the never-ending news cycle – people are exposed to increasing diversity. Due to these advances, we as a global community are also faced with the knowledge that prejudice-based discrimination and violence still exist. It’s become a human imperative to transcend divisive impulses which no longer serve our survival. Neuroscience has started to educate us about innate human drives. It’s now up to all of us how to use this information.

<https://www.npr.org/templates/story/story.php?storyId=7051541>