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**<http://www.lucs.lu.se/choice-blindness-group/>**

# The reason I chose that one is...

Suppose you were getting married and someone tried to switch your bride or bridegroom at the altar? Of course you'd notice the substitution, but prepare to be amazed at how easily other choices you hold dear can be subverted, say Lars Hall and Petter Johansson

WE'VE have all heard of experts who fail basic tests of sensory discrimination in their own field: wine snobs who can't tell red from white wine (albeit in blackened cups), or art critics who see deep meaning in random lines drawn by a computer. We delight in such stories since anyone with pretensions to authority is fair game. But what if we shine the spotlight on choices we make about everyday things? Experts might be forgiven for being wrong about the limits of their skills as experts, but could we be forgiven for being wrong about the limits of our skills as experts on ourselves?

We have been trying to answer this question using techniques from magic performances. Rather than playing tricks with alternatives presented to participants, we surreptitiously altered the outcomes of their choices, and recorded how they react. For example, in an early study we showed our volunteers pairs of pictures of faces and asked them to choose the most attractive. In some trials, immediately after they made their choice, we asked people to explain the reasons behind their choices.

Unknown to them, we sometimes used a

## PROFILE

Lars Hall and Petter Johansson lead the Choice Blindness Laboratory at Lund University, Sweden; Johansson is also affiliated with the ERATO Shimojo Implicit Brain Function Project and the University of Tokyo. Their 2005 *Science* paper caused a stir, and they plan to publish more findings later this year.

double-card magic trick to covertly exchange one face for the other so they ended up with the face they did not choose. Common sense dictates that all of us would notice such a big change in the outcome of a choice. But the result showed that in 75 per cent of the trials our participants were blind to the mismatch, even offering "reasons" for their "choice".

We called this effect "choice blindness", echoing change blindness, the phenomenon identified by psychologists where a remarkably large number of people fail to spot a major change in their environment. Recall the famous experiments where X asks Y for directions, and while Y is struggling to help, X is switched for Z? Researchers are still pondering the full implications, but it does show how little information we use in daily life, and undercuts ideas we know what is going on around us.

When we set out, we aimed to weigh in on the enduring, complicated debate about self-knowledge and intentionality. For all the intimate familiarity we feel we have with decision-making, it is very difficult to know about it from the "inside": one of the great barriers for scientific research is the nature of subjectivity.

And as anyone who has ever been in a verbal disagreement can attest, people tend to give elaborate justifications for their decisions which we have every reason to believe are nothing more than rationalisations. To prove the people wrong, though, or even provide



enough evidence for them to change their mind, is an entirely different matter: who are you to say what my reasons are?

But with choice blindness we drive a large wedge between intentions and actions in the mind. As our participants give us verbal explanations about choices they never made, we can show them beyond doubt - and prove it - that what they say cannot be true. So our experiments offer a unique window into confabulation (the story-telling we do to justify things after the fact) that is otherwise very difficult to come by. We can compare everyday and choice blindness explanations, looking for such things as the amount of detail in descriptions, how coherent the narrative is,



### Would you really notice if someone swapped your choice for an alternative you had rejected?

the emotional tone, or even the timing or flow of the speech. Then we can create a theoretical framework to analyse any kind of exchange.

This framework could provide a clinical use for choice blindness: for example, two of our ongoing studies examine how malingering might develop into true symptoms, and how confabulation might play a role in obsessive compulsive disorder.

Importantly, the effects of choice blindness go beyond snap judgements. Depending on what our volunteers say in response to the mismatched outcomes of choices (whether

they give short or long explanations, give numerical rating or labelling, and so on) we found this interaction could change their future preferences to the extent that they come to prefer the previously rejected alternative. This gives us a rare glimpse into the complicated dynamics of self-feedback (“I chose this, I publicly said so, therefore I must like it”), which we suspect lies behind the formation of many everyday preferences.

We also want to explore the boundaries of choice blindness. Of course, it will be limited by choices we know to be of great importance in everyday life. Which bride or bridegroom would fail to notice if someone switched their partner at the altar through amazing sleight-

of-hand? Yet there is ample territory between the preposterous idea of spouse-swapping, and the results of our early face experiments.

For example, in one recent study we invited supermarket customers to choose between two paired varieties of jam and tea. In order to switch each participant’s choice without them noticing, we created two sets of “magical” jars, with lids at both ends and a divider inside. The jars looked normal, but were designed to hold one variety of jam or tea at each end, and could easily be flipped over.

Immediately after the participants chose, we asked them to taste their choice again and tell us verbally why they made that choice. Before they did, we turned over the sample containers, so the tasters were given the opposite of what they had intended in their selection. Strikingly, people detected no more than a third of all these trick trials. Even when we switched such remarkably different flavours as spicy cinnamon and apple for bitter grapefruit jam, the participants spotted less than half of all switches.

## “Choice blindness drives a wedge between intentions and actions in the mind”

We have also documented this kind of effect when we simulate online shopping for consumer products such as laptops or cellphones, and even apartments. Our latest tests are exploring moral and political decisions, a domain where reflection and deliberation are supposed to play a central role, but which we believe is perfectly suited to investigating using choice blindness.

Throughout our experiments, as well as registering whether our volunteers noticed that they had been presented with the alternative they did not chose, we also quizzed them about their beliefs about their decision processes. How did they think they would feel if they had been exposed to a study like ours? Did they think they would have noticed the switches? Consistently, between 80 and 90 per cent of people said that they believed they would have noticed that something wrong.

Imagine their surprise, even disbelief, when we debriefed them about the nature of the experiments. In everyday decision-making we do see ourselves as connoisseurs of our selves, but like the wine buff or art critic, we often overstate what we know. The good news is that this form of decision snobbery should not be too difficult to treat. Indeed, after reading this article you might already be cured.

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