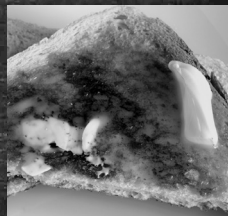


The Power of Priming

Exploring the latest thinking

Crawford Hollingworth & Liz Barker
The Behavioural Architects



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Introduction



Stephen Maher

Chairman of The Marketing Society and CEO of MBA

The Marketing Society has now published around 80 articles from **The Behavioural Architects**, the global insights and research consultancy. These articles have enabled our members to delve into the concepts that have emerged from the behavioural sciences and in particular Behavioural Economics. The Behavioural Architects have built bridges with the academic world and armed marketers with new tools and frameworks from which to both understand and change behaviour.

This book contains The Behavioural Architects' compelling three-part series on the power of subconscious Priming. These articles not only bring us the latest understanding of this fascinating area but also, by breaking Priming down into different types, they inspire and help us navigate the application of Priming in both strategy and execution.

Above all they remind us how we, as humans, are all susceptible to Priming and how seemingly tiny things can have such significant impact on human behaviour.

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The Power of Priming



Introduction by
Crawford Hollingworth
Founder of The Behavioural Architects

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In the last couple of decades the 'strange wilderness of the subconscious mind' detailed in Vance Packard's seminal work 'The Hidden Persuaders' has become much better understood by social psychologists and behavioural scientists. Since it was published, back in 1957, marketers and researchers have learnt a lot more about the ways in which our brains function and about the many different subconscious influences which can affect our behaviour.

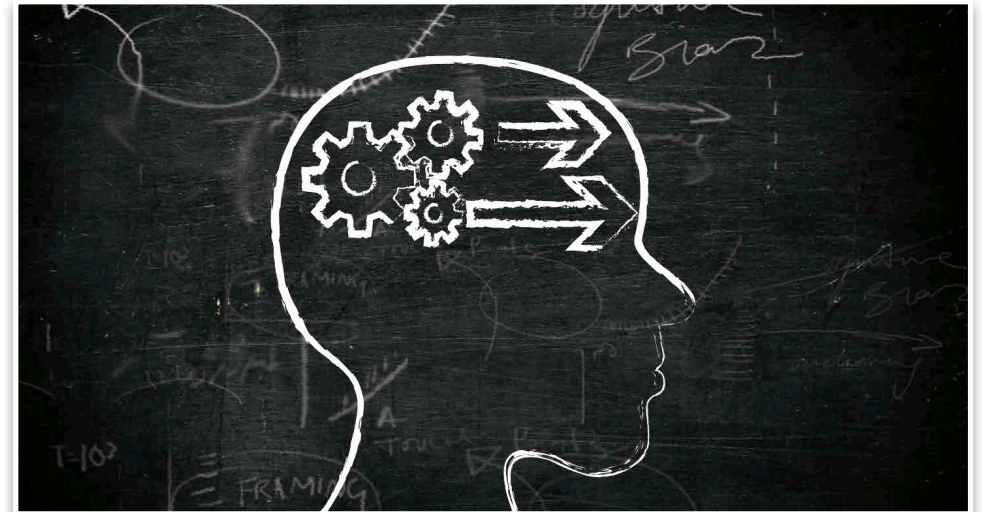
In this three-part series, we will look at some of the latest understanding around a particular area of subconscious influence - that of the incredible power of priming: how tiny cues and stimuli around us can subconsciously (and significantly) affect our behaviour. Specifically, we will explore the latest understanding and thinking around:

Part I: The hidden priming power of words and numbers: Words were some of the first cues discovered to prime our behaviour. More recently, social scientists have also found evidence that even the sound associations of particular words can prime our response. And numbers too can have priming effects.

Part II: The hidden potential of sensory priming: We can also be primed through our senses - by what we see, smell, hear, taste and even feel in our environment.

Part III: How simple physical actions can prime what we do, think and feel: We will look at how our own physical behaviour and actions and those of others can prime our subsequent thinking, judgement and behaviour.

So what **exactly** is priming?



Priming is when our brains make unconscious connections to our memory so that *"exposure to a prime increases the accessibility of information already existing in the memory"*¹ More specifically, social psychologists John Bargh and Julie Huang define the term thus:

"Priming' refers to the passive, subtle and unobtrusive activation of relevant mental representations by external, environmental stimuli, such that people are not and do not become aware of the influence exerted by those stimuli."²

Any type of stimuli in our environment - an image, sound, word, smell, taste and even physical movement for which someone has an existing strong association - may 'prime' us

and affect our responsiveness to something, our judgement, and even our actions and motivations.

Take this sentence: *"Ann went to the bank."*

What comes to mind will depend on whether the association for bank is related to a bank for money or a river bank. Has the reader been primed with associations related to rivers and water, or money and finance? What meaning is at the forefront of the mind?

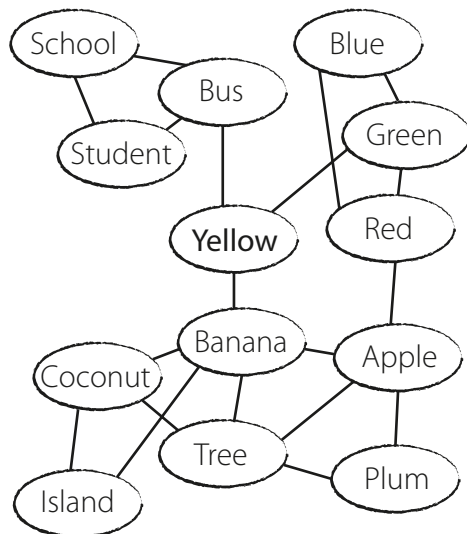
Similarly, when we see 'SO_P', we may either think of soap or soup, depending on whether the concepts of eating or washing are at the forefront of our mind.³

Generally speaking, stimuli prime **our whole being**, affecting our thinking and behaviour in countless dimensions. There are (at least) **four different areas** where priming has an impact, each of which have been measured, tested and classified by researchers. Priming can:

AREA 01

MAKE US FASTER TO RECOGNISE OR IDENTIFY SOMETHING

A simple example is where someone who has previously seen the word 'yellow' will be slightly faster to recognise the word 'banana' in a later context. (See image below.) This happens because the words 'yellow' and 'banana' are closely associated in memory. This is known as **semantic** or **conceptual priming**.



AREA 02

AFFECT OUR PERCEPTION OR JUDGMENT

For example, someone who has been primed with the concept of fear might judge something or someone as more threatening in a later situation. And whatever the situation they find themselves in after being primed, any question which involves them making a judgment such as "What is that?" or "Who is that?" is likely to be subconsciously influenced by the concept with which they have been primed. This is known as **construal priming**.

AREA 03

AFFECT OUR LATER ACTIONS OR BEHAVIOUR

For example, people first primed by reading words associated with impolite behaviour are subsequently more likely to behave rudely, interrupting another's conversation for instance. So, once again, any question which involves them taking action or making a decision about doing something is likely to be affected by what they have previously been primed by. This is known as **behavioural priming**. So we might think about how we could prime a person's behaviour so they are more receptive to a particular brand, and to be more psychologically disposed or receptive to a brand's tangible and intangible assets.

AREA 04

AFFECT OUR GOALS AND MOTIVATIONS TO DO SOMETHING

For example, someone primed with the concept of competitiveness may be more likely to want to behave more competitively in a later activity. Once again, in any subsequent situation in which someone asks themselves "What do I want to do? What am I motivated to do?" they will be influenced by what they have been primed by in an earlier context. This is known as **goal priming**. So we might think about priming the context so primed goals are in line with a brand's assets.



We are not as capable of free thinking as we believe ourselves to be...

Priming effects are considered outside of our control. Because they arise in our 'System 1' - the automatic, intuitive part of the brain - we have no conscious access to them, so people often wrongly attribute the real underlying reasons for their behaviour.

In fact people can be completely unaware that their behaviour has been changed or managed in any way. We tend to believe that we are rational and that everything we do in our daily lives is governed by our conscious choices. As social psychologists Chris Loersch and Keith Payne explain:

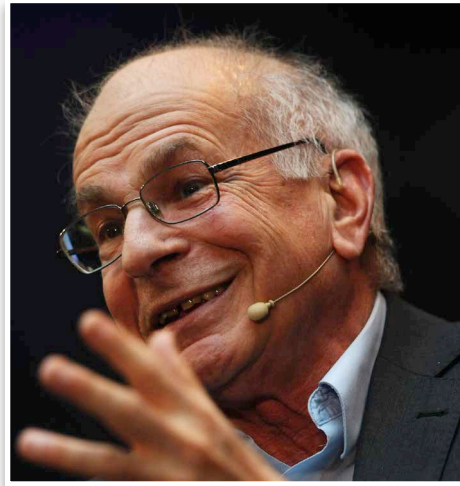
"People ordinarily feel that their judgements, behaviours and motives are freely chosen, reflecting personal concerns and preferences. [...] Thus priming effects ... emerge under conditions that allow people to misattribute the primed information to their own thought, feelings, or impulses."

So it can be very bewildering for some – especially those of us who pride ourselves on our ability not to follow the herd or to act only after thoughtful deliberation of the pros and cons - to discover that we are not as free-willed as we thought and are just as susceptible to priming at a subconscious level as the next person.

Interestingly, priming effects can take time to wear off. Studies have found the effects of priming can last for anything from 15-20 minutes to a week, with a constant impact.⁵

How does priming occur?

Neural imaging has allowed scientists to examine how these kinds of unconscious cues are processed in different regions of the brain and how these link to corresponding behaviour. For example, the midbrain regions which are known to respond to direct physical warmth, like that generated through holding a hot drink, are the same regions which respond to social warmth – friendliness and generosity. Similarly, the brain regions activated when we touch something rough are the same ones to light up when we are having a hard time interacting with someone else.⁶ Roughness tends to be metaphorically associated with difficulty and harshness. So when some poor person is being given a rough time by Jeremy Paxman on *Newsnight* the same area of their brain will light up as when that person scrubs their nails with a brush.



Nobel laureate Daniel Kahneman says:

“An effective prime needs to be strong enough to impact behaviour, but not so strong that it enters conscious thought – the effect must remain subconscious.”

When we consider this, it's easy to see how this can happen in many occasions during our day, but it might be something that is harder to test in a lab.

Priming in relation to brand values and brand associations – mental and physical.

One of our main interests in priming is its potential subconscious impact on everything we think and do. This may be directly, by priming a particular behaviour or goal via certain stimuli, or by priming our thinking, our perceptions and judgements which could then also lead to an associated behaviour. We can conceptualise primes as having the ability to directly and indirectly create behavioural energy.

Priming can shape what we actually want people to do and so goes beyond the traditional brand focus around identity or values. **Brand identity can often be static, or descriptive, and is often interpreted, whereas priming can have a clear and active impact on behaviour. Thus behavioural primes are not necessarily the same as brand values.** Primes are things that should be actively stated [applied] **rather than interpreted.**

Primes can also have a much more indirect nature; such as that achieved by painting baby faces on the shutters of shops in an area of high anti-social behaviour and which results in a significant reduction of anti-social incidents, or postural priming, such as tasting a whisky in an armchair.

Brands tend to know their attributes, their values and associations - the tangible and intangible brand assets – and these are short cuts to a lot of information, **but these are not necessarily**

the words, senses or physical behaviours that create the most subconscious energy and connection.

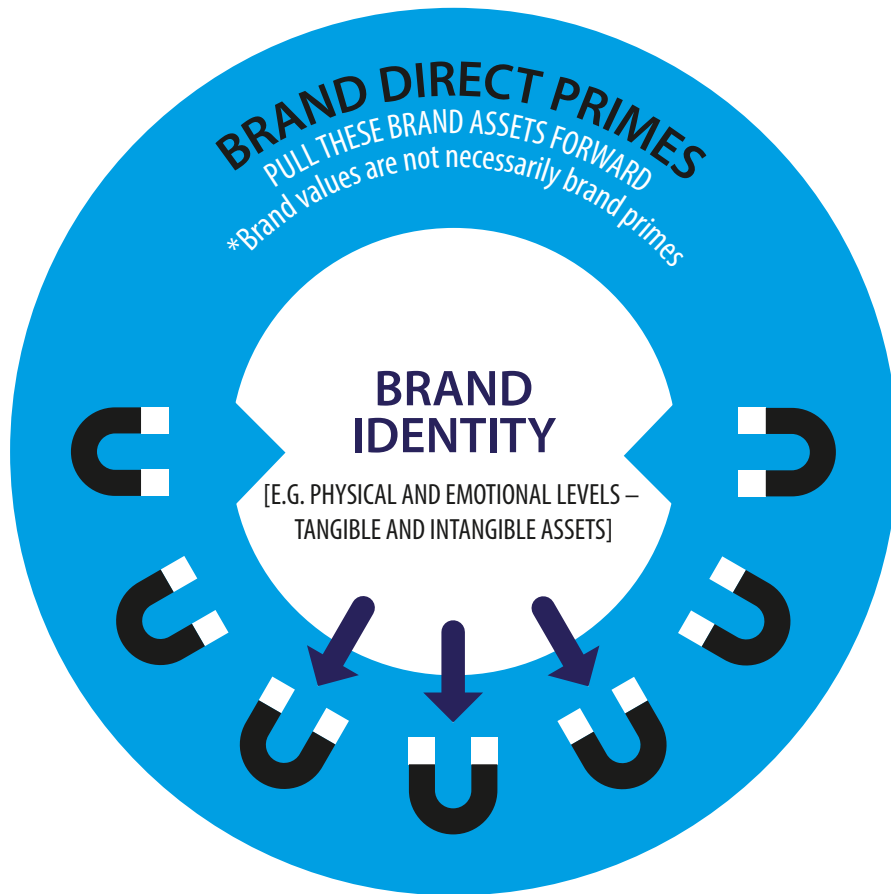
Direct brand priming

As we know, brands are a collection of tangible physical assets and intangible emotional ones. Critically, a brand needs to have a deep understanding of not only what these conscious and subconscious brand associations are [often in brand wheels or described as tangible and intangible brand assets], but also **what the primes are that allow people to connect to brands more easily.** With proper consideration and application of priming, a brand can further leverage or multiply its existing mental and physical associations, **activating or bringing certain associations forward in the memory, making us more receptive to that association** - it can prime the 'behavioural pump'.

In years of working with Brand Models/Onions/Pyramids we have seen some quite imprecise language develop (which has taken a long time to develop!) that can be very subjectively interpreted. **That's why the right brand primes, whether words, senses or physical behaviour, need protection in the same way as brand identity** – brands should experiment to demonstrate and determine their strongest primes and then jealously protect them!

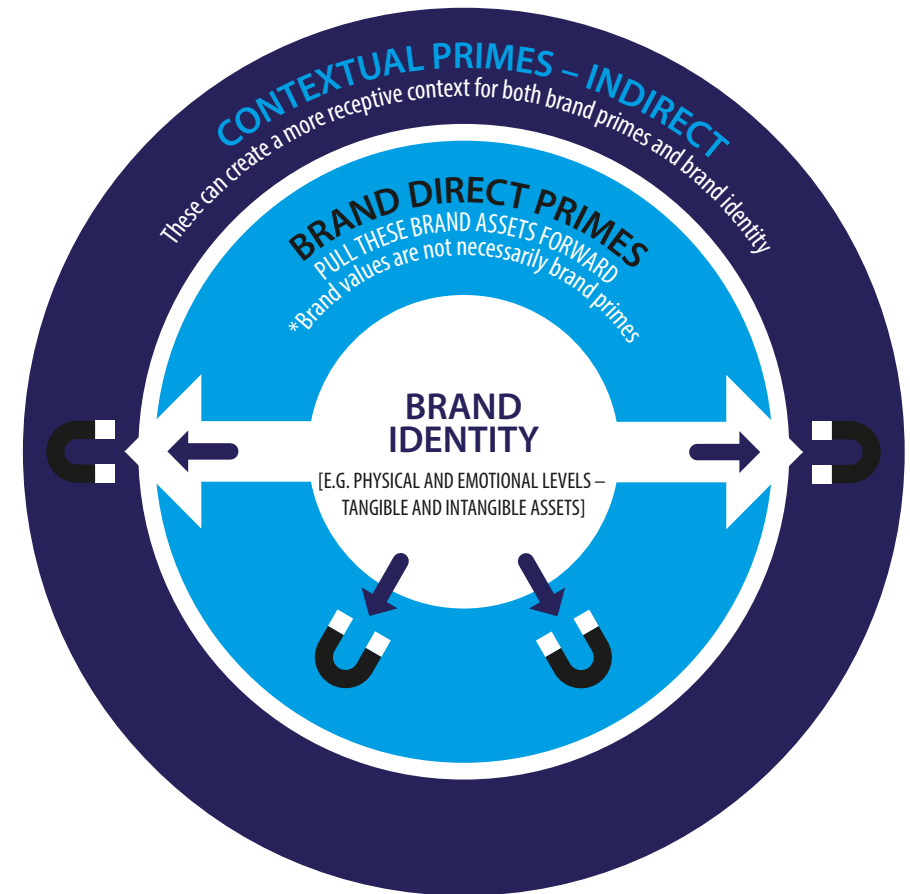
Primes can help the magnetism of brands – the force of connection – provide more behavioural energy around brand connections.

Direct Priming



A brand should know the primes that work for it, from words, to the senses and physical behaviours.

Direct and Indirect Priming



Indirect brand priming

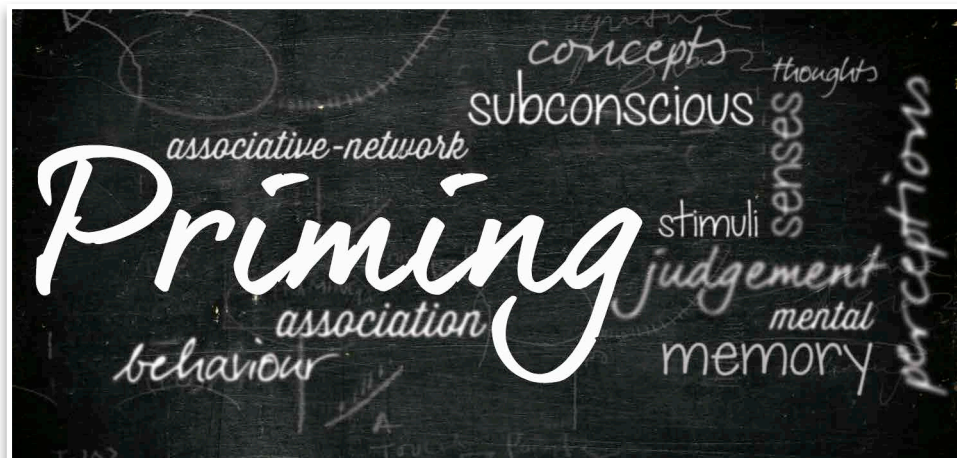
When thinking directly about what primes a brand's subconscious connections, we tend to make the assumption **that a person is in a particular emotional disposition or need state or in a particular context**. If a consumer is in this state or context they are potentially already leaning towards our brand. However, we can also think more deeply about priming this actual emotional state or actual context so that people will be more disposed and more receptive to a brand's subconscious associations – we will call this **indirect brand priming – creating a disposition for active brand engagement** ['more enhanced or greater brand engagement'] - giving your brand a contextual head start.

Many of these insights around priming tie into the latest thinking about brand marketing from organisations such as the Ehrenberg Bass Institute. **Primes can be seen as shortcuts or energy lines to both a brand's physical recognition and mental associations**. For big brands which often exist in a repertoire of acceptable brands, these mental shortcuts are critical for constant recruitment of your users beyond just subcategory association.

Deeper understanding of priming allows us to think about how to use priming in a more structured way as marketers and as researchers.

Priming Part I

The hidden
priming power
of words and
numbers



Implications

How is a priming experiment conducted?

Researchers tend to investigate priming effects using short, lab-based controlled experiments, recruiting students to participate in the study for a small monetary incentive.

A typical priming experiment is a two-step procedure:

1. an initial priming task, followed by:
2. a seemingly unrelated task to test the effect of the prime.

A participant in a study will be asked to complete a task, examples of which are outlined below, which will prime them with a particular concept. When they have completed that task, they are then asked to perform a second, unrelated task, in which researchers will measure how much the participant's thinking and behaviour has been affected by the concept which has been primed.

When priming using words, common techniques include:

- Asking participants to unscramble a series of sentences which contain words related to the concept being primed such as kindness or hostility.
- Asking participants to create words from strings of letters; for instance the letter string s-k-i-n-s-e-d-n makes the word kindness.
- Word searches are sometimes used, with participants finding words which prime the particular concept.
- Other techniques might be simply to ask a participant to read a paragraph which primes a particular concept eg a short passage about someone being hostile at a dinner party to prime hostility and unfriendliness.

Let's consider six areas where researchers have tested the effects of word-based priming stimuli, each of which shows just how far reaching are the effects of priming with words and numbers on our thinking, judgement and behaviour:

- 01 Cooperation and politeness
- 02 Selfishness and greed
- 03 Spending behaviour
- 04 Healthy living
- 05 Identity
- 06 Numbers

01. Priming cooperation and politeness

It's often in our best interests to contribute to a common cause / public good, for example, making sure we invest in reducing air pollution or pay our TV licence fee. Recent research has shown how we can be primed to be more responsive to causes such as these or to collaborate more actively for the common good.



A study by Michalis Drouvelis, Robert Metcalfe and Nattavudh Powdthavee found significant effects from priming participants with words related to the concept of cooperation. Participants were primed with words such as *teamwork*, *united*, *collective*, *collaborate*, *trust* and *share* in a word-search. All participants (those primed and those in the control segment) were subsequently (in an apparently unrelated task) invited to contribute to a charitable cause from a fund of monetary tokens they had been allocated at the outset.

Those who had been primed with words relating to cooperation contributed significantly more generously. Only 37% of primed participants contributed no tokens, compared to 45% of the control group who had been primed with neutral words. On average those primed to be cooperative gave nearly seven tokens to the cause compared to only five tokens in the control group.⁸ And 13% of the cooperatively primed donated all 20 of their tokens.

One of the most well-known studies illustrating how our behaviour can be primed in this way was carried out by psychologist John Bargh and colleagues. Participants were primed to behave either politely or rudely by being given a word scramble task using either words associated with politeness – such as *respect*, *courteous*, *graciously* – or words associated with rudeness – such as *bold*, *interrupt*, *disturb*, *obnoxious*. There was also a control group primed with neutral words.

Participants were then asked to go to another room in order to take part in another, ostensibly unrelated task, which another experimenter would explain to them. On arrival, they found the experimenter deep in conversation with someone else. Unknown to them, they were timed over the course of 10 minutes to see how long it would take before they interrupted that conversation.

Those who had been primed with words associated with rudeness were far quicker to interrupt; waiting on average 3 minutes less than those primed with polite words. The ‘rude’ group interrupted after 5.5 min approximately, while the ‘polite’ primed group behaved much better, interrupting only after approximately 8.5 minutes of thoughtful standing around. Over 60% of the rudely primed participants interrupted compared to less than 20% of the politely primed.⁹

Implications

What state of mind does a consumer need to be in to be most receptive to a particular brand and how might we stimulate this state?

How might we prime respondents in research to be more cooperative and collaborative?

How might we prime people in general to be more generous and trusting?

Think about the forced social situations such as commuting where priming politeness or consideration to others could make our commute a little less stressful.



02. Priming selfishness and greed

A study by Kathleen Vohs and her collaborators looked at the impact of **priming people with the concept of money and found, generally speaking, that it made them more selfish and greedy** (perhaps it really is the root of all evil).

Priming people with a word scrambling task related to an abundance of money e.g. “high a salary desk paying” made people more self-sufficient, less likely to ask for assistance, and less helpful towards others. Participants were also less inclined to donate money to a charitable cause.¹⁰



03. Priming spending behaviour

Words can also prime us to think differently when evaluating a potential purchase and can even affect our likelihood of buying.

Primed by credit cards

We might think that all consumers evaluate products in similar ways, weighing up the costs and benefits equally. However, a recent study by Promothesh Chatterjee and Randall Rose showed how **priming with words relating to different payment mechanisms influenced consumers’ evaluations of a product**.¹¹ Students were asked to do a word scramble task which either:

- primed the concept of credit cards eg “TV shall watch we Visa”, or
- the concept of cash eg “TV shall we watch ATM”

In each case, they had to make a sentence from four out of the five words. There was also a control condition primed with neutral words.

In four separate studies, Chatterjee and Rose found a number of effects which showed how **priming with words related to credit cards can subconsciously make us think more of the benefits of a product as opposed to the costs:**

- 01 The students in the credit card prime group made more recall errors of the costs of a camera than those in the cash prime group. They were shown a picture of a camera and then a list of three benefits or product attributes (eg zoom, high resolution, megapixels) and three cost features (eg warranty price, RRP and cost of additional battery recharge kit).
- 02 A second study found that participants primed with credit cards tended to identify slightly more words related to the benefits of a product than the costs – in this case the product was a netbook.
- 03 A third study found that those primed with credit cards responded faster to the benefits of an iPhone than those primed with cash. They were also prepared to pay more for the phone (\$205) than the cash prime group (\$163).
- 04 A fourth study asked participants to choose an MP3 player – either an expensive iPod with many features and benefits, or a 'Zune' which was much cheaper, but had fewer features and benefits. 76% of those in the credit card prime group chose the more

expensive iPod. In contrast only 25% of the cash prime group chose the iPod; the majority opting for the Zune MP3 player.

The researchers believe that each prime - credit or cash - directed attention to the different features of a product.

Randall Rose comments:

“When [consumers are] exposed to new products and thinking about paying with credit, they tend to focus on the good things about the product - the aesthetics of it, the features that are better than other products they're considering, the sexiness and luxury of it... That's as opposed to details related to cost, like the price, shipping cost, warranty cost, installation cost and effort.”^{m2}

- **Priming a credit card concept** tended to subconsciously **direct consumers' attention more to the benefits of the potential purchase** in their evaluation. The researchers speculate that this is because credit cards tend to make payment and the actual exchange of money less salient and vivid and, therefore, less painful since there is no physical loss - your card is returned at the end of the transaction. And it could impact on spending - consumers are more likely to purchase a product and spend more on it or opt for the more expensive model.

- **Priming a cash concept** on the other hand, **directed consumers' attention towards the cost of the purchase.** Cash payments are more tightly coupled with the exchange of money and are more salient and vivid since the consumer physically parts with cash - there is the pain of actually handing over money, drawing on the concept of loss aversion.¹³ Likewise, this effect would impact on spending, making consumers either less likely to buy a product at all, or more likely to opt for a cheaper model.

Implications

How might we prime consumers to think more about the benefits or drawbacks of a potential purchase or action?

How might priming techniques be used in consumer research, for example, innovation projects?

How would you prime research respondents with words to focus on either the benefits or costs of a product they are testing via a credit card or cash prime?



Image source: <https://www.e27.co>

We can also be primed to think less about spending and costs, by being primed instead to **think more about the experience a product gives us.** A study by researchers at the University of Stamford tested how priming with the word 'time' affected evaluation of and attitudes towards participants' iPods.

Participants were first asked "How much time have you spent on your iPod?" or "How much money have you spent on your iPod?", priming either the concept of time or money. In the next task they were asked "When considering your iPod, what thoughts come to your mind?". Those previously primed with the word 'time' valued their iPods more highly and had more positive attitudes towards the device than those primed with money.

The researchers believe that priming with time prompts people to think about the personal connection they have with a service or product, and their experience with it. They recommend that...

“to actively foster feelings of connection, brands should draw consumers' attention to their time spent and thus the experiences gained with the brand.”^{m4}

This also links to research by Michael Norton and Elizabeth Dunn which suggests that buying experiences rather than material goods leads people to feel happier.¹⁵

Implications

How can we prompt consumers to think about their experience with a product or brand?

Or get them thinking more about the context in which brands are used and the values associated with this context?

We should be more aware of the increasing value of consumers' time; we should think about both the time spent by a consumer with our brand e.g. when consuming [how we might apply a value to this time] as well as the time we ask of consumers with our brand communications. This could change how we frame or position brands, promotions and research engagements.

04. Priming for healthy living**Primed to take the stairs**

Priming can also affect how active we are. In a study by psychologists John Wryobeck and Yiwei Chen, asking participants to make a sentence out of scrambled words such as *fit, lean, active, athletic* ie priming the concept of being active - made them significantly more likely to use the stairs instead of the lifts to attend a second, unrelated study. Almost all of those so primed took the stairs up one floor to reach their next destination – a full 22 out of 24 participants, whereas only 14 out of the 24 participants in the control group took the stairs.¹⁶

Priming our eating behaviour

Esther Papies, a social psychologist at Utrecht University in the Netherlands has looked at the impact of priming on the behaviour of dieters. Previous research has found that subliminal exposure to words such as *"pizza, chocolate, tasty"* or reading sentences such as *"Bill is having a big piece of apple pie"* led dieters to begin thinking about hedonic eating and made them less likely to stick with their diet.

Priming dieters to eat less

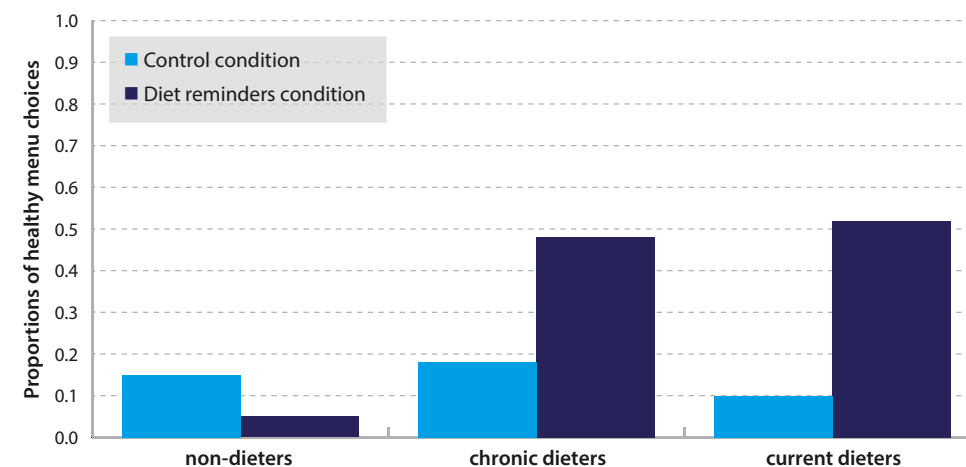
Papies then directed her attention to testing the effect of a healthier prime – that of priming dieting. At a local butcher's shop, she placed a poster on the glass entrance door advertising a weekly recipe that was *"good for a slim figure"* and low in calories. In the control condition there was no poster on the door. As customers queued inside the shop, a tempting smell of grilled chicken wafted from a big grill oven and

customers were allowed to help themselves to free samples of bite-size meatball snacks as they queued. On leaving the shop, customers were asked to complete a short questionnaire which included questions about how restrained an eater they were and whether they often dieted (chronic dieters).

In the control condition chronic dieters ate more than non-dieters, perhaps unable to resist the delicious smell and the free bite-size meatballs. In the poster primed group though, the chronic dieters ate fewer snacks than dieters in the control condition where there was no poster.

So simply priming the concept of low calorie food made them less likely to snack.¹⁷

[Below] The results of the Esther Papies priming while dining study. Source: Papies 2012.



Proportion of healthy menu choices (coded as 1) of non-dieters, chronic dieters, and current dieters, in both the control condition and the diet reminders condition.

Implications**Prime yourself to diet**

Understanding the effectiveness of priming is sometimes easier if you start closer to home.

Is there a way you can prime yourself to eat more healthily? What tiny stimuli could you place in your home and workplace to subconsciously affect your behaviour?

Esther Papies believes it's possible to help yourself to diet and eat less by priming yourself with certain words. She says some of the best words to focus on are slim, healthy, fit and weight. If you're feeling tempted to eat, prime yourself with fat-fighting vocab. "Put them in your calendar so you see them before you head for lunch," Papies says.¹⁸ Or you could stick the words on the fridge door to prime you in the kitchen.

05. Priming identity “Who am I?”

Although each of us is one person, we may **actually have multiple identities**, although only one or two may be salient in our mind at any point in time. So someone can be a managing director, a mother, a daughter, and a musician - identities which all have importance at different times of the day, week, month and year. **Being able to prime a particular identity can be useful to increase responsiveness or generate behaviour change.**

Primed to be more individualistic

It wouldn't be particularly useful, and it would certainly make for a very dull world, if everyone was of one opinion and behaved in the same way in every set of circumstances. Differences between colleagues, for example, when a combination of diverse viewpoints and ideas come into play, can often result in better, more effective solutions. Anne Mulchay, chairman and former CEO of Xerox believes:

“You need internal critics - people who have the courage to give you feedback. This requires a certain comfort with confrontation, so it's a skill that has to be developed. The decisions that come out of allowing people to have different views are often harder to implement than what comes out of consensus decision-making, but they're also better.”¹⁹

Word priming can **predispose a person to a particular identity, displaying certain characteristics**, for example, to be more

individual or more conformist. Experiments have shown that priming people with words such as ‘individuality’, ‘solo’, ‘differ’ or ‘myself’ using a scrambled sentence task can remind people of their independence and make them less likely to conform to others' views in any subsequent task. And asking people to read a short text or short story written in the first person e.g. containing words like ‘I’ and ‘mine’, or even to write a passage in the first person can help to heighten the individual's sense of identity and sense of self, and to encourage the idea of being freer from the influence of others.

Primed to be more of a team player

Likewise, people can be successfully primed to be more collectivist, keep in mind the social context and think more of others with words such as ‘we’, ‘us’, ‘cohesive’, ‘ours’ and ‘agreeable’. For example, one study found that priming this concept helps to open our minds to other ideas. Participants primed in this way tended to be able to list more possible arguments in a debate and were more likely to listen more to another's point of view.²⁰ Another study found that participants were more likely to take on another's perspective.²¹

Priming has also demonstrated its power to affect our behaviour negatively, for instance by priming certain stereotypes:

Primed to feel and act old

One of the most well-known studies illustrating how our behaviour can be primed was carried out by psychologist John Bargh and colleagues. It showed how students who had been subconsciously primed by words linked

to an elderly stereotype - such as *Florida, lonely, grey, bingo, forgetful, wrinkle, knits, ancient and traditional* - each of them stereotypically older behavioural attributes - subsequently walked more slowly down the corridor as they were leaving the lab, a distance of about 10m. This priming effect was totally subconscious. None of the students reported being aware of the prime.²²

(Avoiding) priming gender stereotypes

We can also prime the saliency of real identities using words. For example, a study on gender priming showed how female students at a liberal arts school in the US performed worse in a spatial awareness test when reminded of their gender in a short questionnaire. When reminded of their quality education at a private college, the gender effect disappeared and girls performed much better.²³ Similar results have been found for ethnicity effects.

Implications

This has very powerful and simple implications for marketing and research. People have multiple identities so we may want to think about which identity we want to prime, draw to the front of mind and make more salient when conducting research?

Similarly, at what times as researchers is it useful to prime individuality? And at what times would priming cohesiveness and conformity be more relevant?

In marketing, what mental state or identity would make someone more receptive to a brand's subconscious connections and how could we prime this?

Priming a moral identity

It's also possible to prime moral identity and influence levels of honesty. Dan Ariely has illustrated how a simple way to do this is to ask people to recall and write down something like the Ten Commandments or an honour code before completing a task.

In one experiment he and his colleagues asked participants to write down as many of the Ten Commandments as they could remember, or a list of ten books they had read at school. They were then asked to work out the answers to twenty number matrices, at the end of which they had to report how many they had answered correctly. For each correct solution, they were to be given \$10. Participants cheated less and were more honest about the number of matrices they had got right when they had been primed by writing down the Ten Commandments.²⁴

Ariely also leverages these primes in his online course on irrationality, requiring students to read an honesty clause and consciously opt-in to agreeing to obey the rules, and reminding students for each and every quiz that they should not cheat.





06. Priming by numbers

One of the most important findings in priming research has been how numbers can have subconscious effects on our later judgement and decisions. Numerous studies have demonstrated the impact that seeing, reading and using numbers in one context has on our decision-making and perceptions in a later context. We subconsciously anchor to numbers, using them as reference points even though we are unaware we are doing so.²⁵

Priming what we might be willing to pay

For example, one study by Dan Ariely, George Loewenstein and Drazen Prelec demonstrated how we subconsciously anchor to a random number. Students were first asked to write down the last two digits of their social security number eg 89. Next they were asked if they would be happy to bid this amount in dollars (eg \$89) on a range of different products. Then they actually bid on these products in an auction.

Incredibly, those with high ending social security numbers made higher bids than those with low ending numbers - showing the power of subconscious anchoring. For example, those with high social security card digits bid \$56 on average for a cordless keyboard compared to just \$16 bid by those with the lowest digits. These were totally subconscious effects: when asked, people did not feel they had been influenced in any way by their social security number.²⁶

Priming what we pay for a meal

Other studies have found similar effects. A number in a restaurant name affected how much people were willing to pay in one experiment. Students were presented with a sheet containing pictures of two upscale restaurants and asked to circle the name of the restaurant they chose to assess. This action was intended to draw the participants' attention to the name. The first restaurant was called 'Restaurant Mon Jardin', the second either 'Studio17' or 'Studio97'. After circling the name, they were then asked to estimate how much they would pay for a meal at that restaurant. Those who had evaluated Studio17 restaurant were willing to pay over \$24, yet those who had evaluated Studio97 were willing to pay nearly \$33. Again, a random number affected willingness to pay.²⁷

These types of number primed subconscious influences can affect all sorts of situations, from experienced estate agents assessing the value of a home - who've also been shown a listing price, assessments of the performance of a rugby player when exposed to the number on the

player's rugby shirt, to the subconscious effects of minimum payment values in credit card bills which can pull down the amount people choose to repay each month.

Priming debt repayments

In the latter study looking at credit card repayments, Professor Neil Stewart of Warwick University found that people who were given no minimum repayment figure paid off more of their debt than people who were shown their bill with this figure, demonstrating how people use the minimum payment as a reference point for any larger repayment they choose to make. Over 400 volunteers were given mock credit card bills for £435.76. Half were given a suggested minimum payment and the average repayment made was just £99 on average (23% of the balance). The other half - who were not given any required minimum payment - paid an average of £175 - 40% of the balance.²⁸ Without a minimum payment to anchor to, people paid more back.

Implications

Could we think harder about the numbers people see on packs, in store, online, on letters and emails and how these might impact on their behaviour?

What numbers might consumers be primed by in contexts we have control over?

Professor Stewart highlights the negative impact of this prime:

“These results should be of real concern to credit card companies. Virtually all credit card statements include minimum payments. But this consumer safeguard has an unexpected negative consequence: Minimum payments distort the behaviour of many customers in a way that increases interest charges and increases the duration of their debt. Those paying off the balance in full each month seem to be immune, but anyone repaying only part of the debt is at risk – not just those making only the minimum payment.”

Stewart thinks credit card companies need to illustrate better what different possible repayments will cost customers in the long term – perhaps using a table of repayment scenarios - to make people less susceptible to these anchoring effects. We also tend to anchor to extremes and then pick the middle option(s) so a table which presented three or four repayment options and which included the minimum and a full repayment as the extremes could result in higher repayment values.

Words and numbers – more powerful than the sword!

In this section we have seen how words and numbers can be used to prime us in numerous ways. From increasing speed of recognition, to impacting on perception or judgement or subsequent behaviour, to affecting our very goals and motivations. We have also presented a model to think about priming in relation to brands where we have differentiated between direct and indirect brand priming.

From a marketing and market research perspective this deeper understanding means we need to think about priming in a structured way in order to maximise the opportunities. We need to be aware of both direct and indirect priming.

Thinking strategically and executionally about what primes we want to use to increase the direct and indirect magnetism of our brands can have significant impact. We need to think how we can not only prime direct connection to a brand but also indirectly, by making a person more receptive to a brand's existing subconscious connections and dispositions.

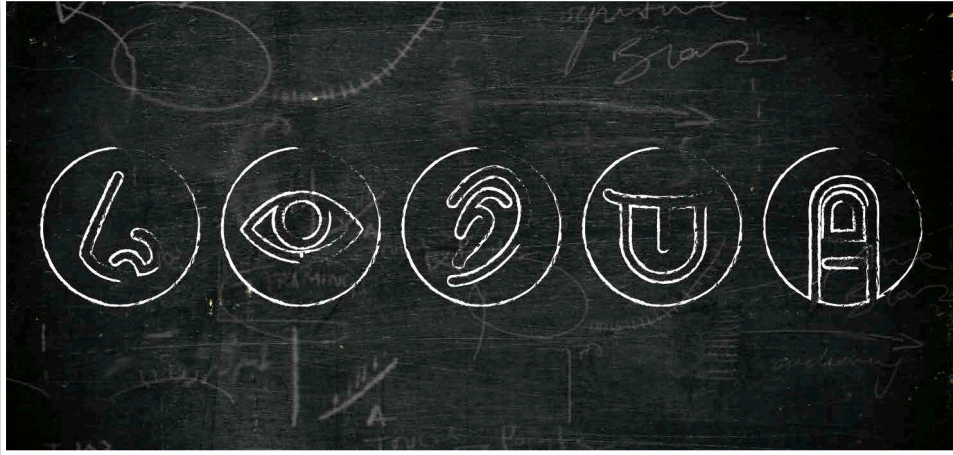
In research we need to think more about how we use priming, for example by invoking the right mental state in respondents or being aware of or carefully designing the context a respondent is in, but we also need to be aware of (and aim to avoid) priming by accident.

“Companies have much to gain from recognising the role and nature of the unconscious mind in consumer behaviour.”

Philip Graves 'Consumerology'

Priming Part 2

The hidden
potential of
sensory priming



In this section we look at how our behaviour can be primed by each of our five senses – what we see, smell, hear, taste and even feel in our environment and how this affects our thinking, judgements and behaviours.

Just as it is said that there is no neutral way to present choice, it is important for us to be aware that everything primes, and because everything primes, we need to be very deliberate about how and what we are priming. This article shows how different sensory primes lead to changes in perception and behaviour.

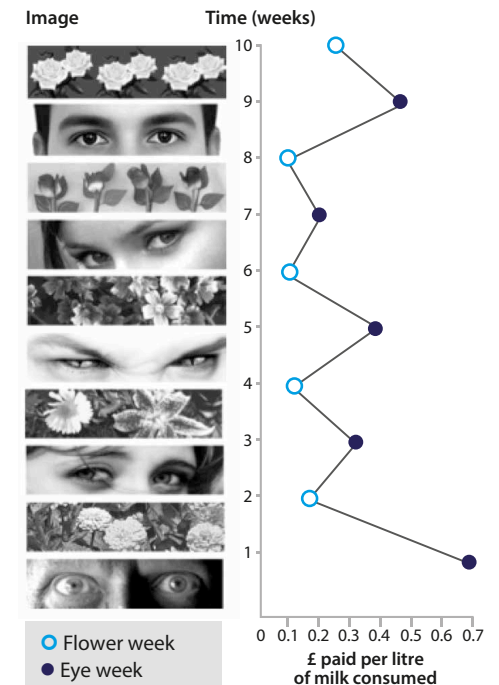
Sense 1: Sight – Open your eyes to visual priming

Priming good behaviour

Good behaviour – such as putting our litter in the bin rather than dropping it on the ground – is something we know to be morally correct and socially responsible. We also know that not behaving in a moral fashion could damage our reputation if people were to know about it, which in turn could damage our acceptance in society. Behavioural scientists call this concept – that of what we know we ought to be doing and our perception of whether our behaviour will be approved of by others – an **injunctive social norm**. But how to remind people they should behave well, particularly in situations where there is no-one watching?

A team of researchers at Newcastle University in the UK tested the effect of priming people with simple, salient images to simulate the feeling of being watched – without using technology or the presence of a real life person. Using an image of watching eyes on a poster they were able to increase the likelihood that people would behave honestly when it came to paying for drinks in an unmanned coffee room (see images on the left). We tend to notice faces, the eyes in particular as they stand out from other stimuli and get our attention. And the staring eyes remind us of times when we have actually been watched in previous experiences.

Here's what they did. They posted new price lists each week over a period of 10 weeks in their unmanned department coffee room, where people paid for their drinks by dropping money into an honesty box. Whilst the prices remained unchanged, each week there was a different picture at the top of the price list either of flowers or of a face with eyes looking directly at the observer (all the pictures measured 15x3cm).



Source: Bateson et al (2006)

In the weeks with eyes on the price list, staff paid on average 2.76 times as much for their drinks as in the weeks with flowers.²⁹ “*Frankly we were staggered by the size of the effect,*” said Gilbert Roberts, one of the researchers involved in the study. The graph shows that while flowers have little impact on honesty, watching eyes (and the clearer, more penetrating and direct the gaze the better), have the greatest subconscious influence on our morality. Interestingly nobody commented on the eyes being there so we can assume the processing was mainly subconscious.

The same researchers have since found equally compelling evidence to show that eye posters in a canteen greatly improved rates of table clearing by canteen users. Using eye images next to signs asking canteen users to place their trays in the racks provided halved the number of people leaving table litter.

Similarly, posters with images of watching eyes together with the headline ‘Cycle Thieves: We are watching you’ (see below) placed next to university bike stands have cut thefts by 62% in those areas.³⁰ This idea is now being tested to deter car thieves at various UK train stations by British Transport Police (BTP) as well as other UK police and government entities. It is far cheaper than installing CCTV – a few pounds for a poster versus thousands of pounds for the cameras. The UK’s HMRC have also adopted these techniques to encourage citizens to pay their taxes.

Implications

How might eye images be used in other contexts to prime more compliant behaviour or honesty?

How and in what other contexts can we bring attention to injunctive social norms e.g. how we should be driving or treating people.



Top left: Nettle et al (2012)
Bottom left: HMRC ATM Campaign
Top right: HMRC billboard campaign
Bottom right: North Wales Police

Feeling invisible – primed by the dark

Perhaps not surprisingly it's when we feel less seen by others that we are more likely to play fast and loose with morals. One experiment by Francesca Gino, a Professor at Harvard Business School and her colleagues found that people in a darkened room were more likely to cheat on a task than participants in a brightly lit room. Nearly 61% of people in the dark room cheated, compared to just 24% of those in a well-lit room.³¹

This finding is validated by analysis of four years' worth of US crime data either side of the spring daylight saving time switch and found that in the post daylight saving time (longer, lighter days) robbery rates were reduced by 51%, rape rates by 56%, and murder by 48%.³²

It's easy to argue that this is because crimes are simply more difficult to get away with in daylight, but another study by Francesca Gino looked at the impact of wearing sunglasses on moral behaviour. People wearing sunglasses tended to be more selfish, keeping money to themselves rather than giving it to others and, perhaps unsurprisingly, they also reported feeling more anonymous. The researchers reported that what the participants in the darkened room and those wearing sunglasses had experienced was 'a psychological feeling of illusory anonymity' and it was this which increased morally questionable behaviours.³³ Gino says, “*We should probably pay more attention to the many ways in which we are in the dark.*”

Primed by brightness

We can deduce from Francesca Gino's findings that, conversely, lighter and brighter environments increase self-awareness and reflective thought. Follow-up research supports this and further suggests that it may even lead to greater self-control.

At a very simple level, if we prime people with bright light, might it increase ethical behaviour or generosity? For instance, might the coffee and tea honesty box have been fuller if it had been placed under a bright lamp or next to a window? Or would an online tax form with a bright white background result in more honest declarations than a coloured one? Could light be used in courtrooms or other environments in which honesty is essential to a just outcome?

Implications

We know from the behavioural sciences of the importance of context on behaviour and the findings above further show how different lighting environments can subconsciously nudge behaviour. Ask the question what sort of lighting context could increase the pull and magnetism of your brand assets?

Consumer research is frequently carried out in the evening and we might need to think more carefully about how light may have a role in the behaviour we seek to understand.

We can also think how we might more directly use this type of simple priming in how we engage respondents in exercises from innovation concepts to completing questionnaires.

Priming confidence with a well-known face

Priming using certain images can actually improve our performance in demanding tasks. A recent study assessed whether priming men and women with images of authoritative, successful role models might help the speakers to perform better when speaking in public.

Male and female participants were asked to give a speech to a virtual room full of people – a reasonably stressful leadership task. Images of prominent political figures were placed in the rooms so that the speakers were able to see them clearly. Participants were split into four groups; two groups spoke with an image of either Angela Merkel or Hillary Clinton fixed at the back of the room, a third group faced an image of Bill Clinton and a control group had no image.

The researchers recorded the length of the speeches as a proxy indicator of confidence and good performance. The images of female role models seemed to improve the performance of women and the women who were primed with images of Hillary Clinton or Angela Merkel spoke 24% and 49% longer respectively. Women in the Angela Merkel group spoke for over four minutes, whereas those who saw no image or who saw Bill Clinton spoke for less than three minutes. However, none of the primes had any statistically significant effect on men's speaking performance – they spoke for roughly the same amount of time no matter who they were looking at.

As a further measure of performance, independent evaluators were asked to rate all the speeches and tended to rate the speeches of women who had seen the female role models more highly than the speeches of women in

the other test groups. Moreover, subsequent self-evaluations of each of the female speakers showed that those who spoke for longer perceived their performance to be better.³⁴

Implications

Could less confident social groups or those suffering from anxiety and shyness be primed to feel more confident in certain situations?

Could this thinking inspire new ways in which brands could harness the potential power of role models or authority figures in addition to their use as value short cuts and social norms?

Could we use this technique when we want to boost the confidence of respondents in research?

Maybe those mood priming posters of the 80s actually were creating the positive and resourceful states they claimed. It could be a whole new market for priming mantras and photography!

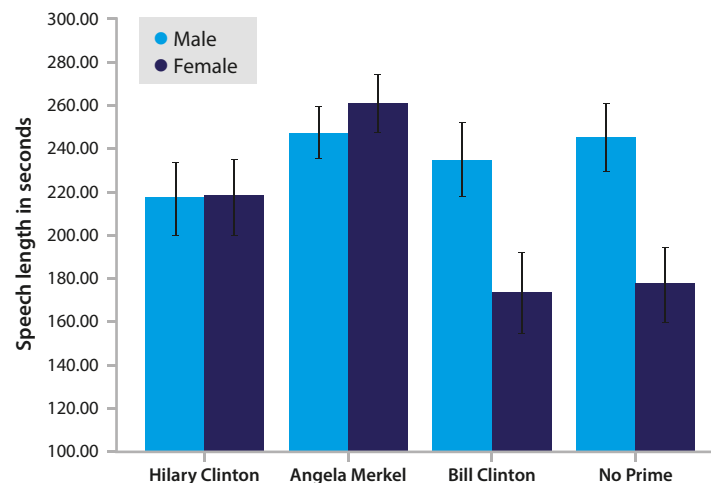
Priming using brands imbued with powerful meaning and associations

Brand logos and images have been found to influence behaviour in really interesting ways. For example, **Apple** and **Google** are often considered to be incredibly innovative and creative. **IBM**, however, might be considered a more traditional company, whereas **Harrods** brings to mind luxury.

Researchers have tested what effect brand logos and their associated personality traits might have on our thinking styles whilst noting that,

“Apple has worked for many years to develop a brand character associated with non-conformity, innovation and creativity and IBM is viewed by consumers as traditional, smart and responsible.”

Social psychologists Tanya Chartrand, Gavan Fitzsimmons and Grainne Fitzsimmons looked at the effect of priming participants with these two brands on a thinking task.³⁵ Notably, they primed people subliminally ie participants saw one or the other logo for 13 milliseconds – not long enough for them to consciously register it. They found that priming people with an Apple logo made them think more creatively and laterally in a subsequent thinking task on ‘unusual uses for a brick’ than participants primed with an IBM logo. Judges were asked to rate the participants’ ideas and tended to rate the ideas from the Apple-primed group slightly higher – on average the



The effects of role model priming on empowered behaviour (speaking time) for male and female participants. Error bars represent one standard error. Source: Latu et al (2013)

ideas from the Apple-primed group scored 8.44 compared to 7.98 for the IBM-primed group, out of an overall maximum score of 10 for creativity. Apple-primed participants also came up with more ideas than did the IBM-primed group - 7, 8 or even 9 uses compared to only 6. Interestingly, in the same study, priming people with a **Disney** logo made them more honest.³⁶

“These experiments demonstrate that almost any brand that has strong associations with particular traits could have the capacity to influence how we act.”

Chartrand said.

Similarly, another study found that the logos of thrift-focused stores in the US primed the concept of saving money. Logos of brands such as Walmart, Sears and Home Depot made people less willing to spend than logos for more neutral or less money-focused brands such as Coca Cola and Nokia.³⁷

In another study, which looked at behaviour and performance in racing car video games, those ‘driving’ in a car painted with a **Red Bull** logo and colour scheme tended to have faster times than other branded cars and to crash more often. Drivers primed by the logo tended to speed up and drive to the limit of their ability - and sometimes beyond their ability leading to crashes.³⁸ To explain this effect, the researchers point to search results on the website brandtags.net, where users enter words or phrases they associate with brands. Nine of the 40 most

commonly occurring terms for Red Bull are associated with speed and power and four are linked to risk-taking and recklessness.

They believe that, like the Apple and Disney examples, this is another type of subconscious brand priming - when the personality of a brand evoked in brand imagery unconsciously causes someone to act in ways consistent with that personality - almost like mental shortcuts to a set of emotions and values.³⁹ We wonder what effect the ubiquitous **real** Red Bull cars driving around on our streets have on the driving behaviour of those around them!

Implications

Could product innovation and co-creation sessions potentially benefit from priming respondents to think more creatively and laterally?

The idea that other brands can prime consumers indirectly to be more receptive to another's brand assets is an interesting area. We have seen this in creative collaborations (eg in fashion). But the area of cross category joint brand work is still largely untapped and is one where each brand could get disproportionate benefits from the association.

This also ties into the latest thinking about how brands grow and the need for constant recruitment to build penetration as opposed to focussing on frequency.

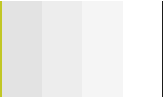
Colourful primes

A big part of what we see in our environment relates to colour, so it is not surprising that considerable research has explored to what degree colour primes our behaviour and how. Brands have long known this and spent much time debating a brand's colours so we will not spend long revisiting this well known area. It is accepted that colour does and always has influenced our behaviour subconsciously and it is also recognised that the exact impact of different colours on different types of behaviour most likely varies across **cultures**. This is because

our colour associations are, to a large degree, culturally learnt rather than innate.

For example, white and red mean different things in different regions and cultures – in the West white symbolises purity and cleanliness and red denotes passion and excitement, whereas in India white is associated with sadness whilst red is associated with love, marriage and spirituality. Therefore people can be primed in different ways in different cultures by colour. Meanings and associations of colour can also change over time.

Colour Meaning in Different Cultures

					
China: the colour of brides, good luck, celebration, summoning	European: soothing, “something blue”, bridal tradition	European: happiness, hope, joy, cowardice, hazards, weakness	China: health, prosperity and harmony Japan: life	European: marriage, angels, doctors, hospitals, peace	European: mourning, funerals, death, rebellion, cool, restfulness
Cherokees: triumph, success	Cherokees: defeat, trouble	Asia: imperial, sacred	Ireland: symbol of the entire country, Catholics	Japan: mourning, white, carnation symbolises death	China: neutral colour
India: purity	Iran: mourning, colour of heaven and spirituality	China: royalty, nourishing	USA: money	China: mourning, death	Thailand: bad luck, evil, unhappiness
South Africa: mourning colour	China: immortality	Egypt: mourning	Western: spring, new birth, go, Saint Patrick's Day, Christmas (with red)	India: unhappiness	Judaism: unhappiness, bad luck, evil
Western: excitement, love, passion, stop	Hinduism: the colour of Krishna	Japan: courage		Eastern: funerals	Australian Aboriginals: colour of the people, ceremonial ochre
Hebrew: sacrifice, sin	Judaism: holiness	India: merchants			
Japan: life	Christian: Christ's colour	Buddhism: wisdom			
Christian: sacrifice, passion, love	Middle East: protection				
	Worldwide: ‘safe’ colour				

From our point of view it is interesting to think about how colour can be used to prime behaviour indirectly, for instance as short cuts to gender stereotypes.

Primed by the colour pink

In contemporary Western cultures, pink tends to be associated with girls. Yet until 1880 boys and girls were dressed in any colour with both wearing pink and pale blue. (Take a second look at the image below - it's a picture of a paper doll boy). However, by the 1950s, this had begun to change, with pale blue typically associated with boys and pale pink with girls.

The behavioural effects of such gender stereotypes and associative effects have been illustrated in studies. One of the earliest studies on how colour might affect behaviour found that spending time in a bright pink-painted

holding cell had a weakening effect on new male prison inmates. After just 15 minutes spent in the cell, they were found to be physically weaker and incidents of 'erratic and hostile behaviour' fell dramatically. The effect also lasted for 30 minutes after they were moved out of the cell. Alexander Schauss, who conducted the research, believed the colour had a tranquilising effect and promoted 'muscular relaxation'.⁴⁰

Looking to the future, would this be replicable in 20 years' time? There is a growing movement in Western society towards the 'depinkification' (and deprincessification) of girls' toys and in decades to come we could see far more gender-neutral colours, and consequently fewer connotations for the colour pink, resulting perhaps in less priming of gender stereotypes, preferences and behaviours.



Source: In 1920, the paper doll Baby Bobby has a pink dress in his wardrobe, as well as lace-trimmed collars and underclothes. (Wintherthur Museum and Library)

Sense 2: Subconscious behavioural influences triggered by smell

Smells and odours in our environment can also influence our behaviour. Below we look at studies which have used smells to prime people in several different ways - **to be tidier or cleaner, to influence what they chose on a restaurant menu or even to increase gambling spend.**

Primed to be clean and tidy

One study investigated the impact that the smell of cleaning fluid might have on how clean and neat we are. Psychologists at the universities of Utrecht and Radboud in the Netherlands first asked students participating in the experiment to complete a questionnaire sitting in a cubicle. There was a bucket of water in the room with them and it gave off the odour of a lemon scented all-purpose cleaner. A control group completed the questionnaire without exposure to the scent of all-purpose cleaner. Once they had filled in the questionnaire they went to another room (with no lemon scent) and were given a particularly crumbly biscuit to eat. They were filmed eating the biscuits and, in comparison to the control group, the lemon scented cleaner primed group cleaned up the crumbs substantially more often. The smell of *cleanliness* had primed them to **behave in a clean and tidy manner**.⁴¹ In a subsequent study researchers tested the impact of three different odours in the same way: an orange odour (pleasant, but with no anticipated association to

cleaning), a grass odour (also pleasant, but with no association to cleaning), and a sulphur odour (unpleasant, and also not related to cleaning). Participants subjected to the smell of sulphur exhibited much less cleaning behaviour than those exposed to the more pleasant smells.⁴²

A similar study by a team of Dutch social psychologists used a citrus odour in train carriages and found that less littering occurred in the scented carriages than the unscented carriages. Weighing the amount of litter not in bins but left on the floor or seats at the end of 18 journeys showed that there was far less litter in terms of both number of items and weight.⁴³ Although these findings need further investigation and replication, they illustrate how we might usefully be primed by the smells in our environment.

How pleasant smells can prime us to spend or gamble more

We can use smell in other environments too. For instance, a study by Alan Hirsch tested the effect of different scents in a Las Vegas casino over a single weekend and found that gamblers put as much as 45% more cash into a slot machine when the room was doused in a pleasant scent as opposed to a staler, less pleasant smell or if there was no smell. Moreover, the effects were greatest on Saturday morning when the scents were at their strongest. Spending actually

increased by over 53% during that period and tailed off slightly to 34% by Sunday afternoon as the pleasant smell became more faint (although still noticeable). Hirsch believes that the pleasant smell was linked to memories, inducing 'nostalgic recall' and creating positive emotions and a stronger 'gambling mood'. The stronger the pleasant scent, the greater the gambling.⁴⁴

In a different trial, Hirsch also found that customers were happy to pay \$10 more for a pair of Nike trainers in a floral scented shop than in an unscented one. Customers in the scented shop were also more likely to buy the trainers too.⁴⁵

Implications

Although it may be harder to conceptualise a brand-related smell, this is a powerful way to prime behaviour both directly and indirectly.

Priming can change behaviour in a context and make those context behave in a way that could make them more receptive to your brand assets [physical and mental levers].

What are your brand's smells that connect directly to your brand associations? [It is an interesting idea that all brands could have an associated scent or smell]. And what smells and scents could indirectly prime receptiveness to your specific brand messages?

We could also, much more simply, use scent priming to create much more realistic research contexts.

Priming what we eat

A French study demonstrated how priming using different food odours could change what people chose to eat in a restaurant, simply through association. Researchers used the smells of melon and pear to alter behaviour. The word 'melon' might prompt you to think starter and possibly, Parma ham. Think of the word 'pear' and you might well make an association with dessert and chocolate, or warm, spiced, red wine.



Those participants in a subtly melon-infused room went on to select more starter items with vegetables (such as asparagus salad) as opposed to higher calorie entrees (eg quiche Lorraine) and to choose fewer fruit based desserts from a menu; whilst those in a pear-infused room chose more fruit-based desserts (eg pineapple carpaccio as opposed to chocolate profiteroles) and fewer veg-based starters and mains. The researchers think these results suggest that the subconscious perception of the melon and pear fruity odours may activate a 'fruit and vegetables' concept, but also a concept of the context of consumption ie when or during what part of the meal we tend to eat these types of foods.⁴⁶

Implications

In an area where there is considerable discussion about reducing obesity, increasing healthy eating and reducing consumption of high calorie foods, being able to prime food selection choices is an interesting idea, worthy of further exploration.

The hazards of priming with smells

Of the five senses olfactory priming is one of the most difficult to achieve. Sense of smell varies by individual and is a very personal thing. Individually, we vary widely in our ability to detect and be aware of odours; some people don't detect them at all while others are highly sensitive. One builder tried flooding his showrooms with the scent of hot apple pie and freshly ground coffee but his staff complained the scents were overwhelming.

Moreover, something that is faintly pleasant to one, might be overpowering or just plain disgusting to another.⁴⁷ Our responses to smells will vary depending on association and what emotions they trigger in our memory. Even if you've never read Proust you're probably familiar with what has become known as the Proust effect, where the taste of a small cake called a madeleine swamps Proust's protagonist in *A La Recherche du Temps Perdu* in a sudden and overwhelming melancholy.

Scent is also one of the senses we are least aware of, and one which can confuse us easily. Often, feedback from our other senses guides us towards what we guess the smell actually is and if the rest of the sensory context - what we see and hear - does not match the smell, we can become confused. Sometimes a smell needs a context to allow us to place it correctly.

Dutch researchers, Professors Monique Smeets and Ap Dijksterhuis found some surprising results whilst presenting different odours to participants in lab based experiments. Smells of rotten eggs, pizza and brownies were labelled by participants as 'sweaty', 'computer-smell', 'rubber' and 'stale lab smell'. Participants needed the context behind the smell as much as the smell itself to detect what it might be.⁴⁸

Similarly, a £1.4 million campaign prepared by liqueur maker Disaronno Originale to waft the pleasant smells of Amaretto liqueur around the London Underground in the run-up to Christmas in 2002 was withdrawn at the last minute due to sudden fears it might be confused with a cyanide gas attack by terrorists.⁴⁹ Cyanide has a bitter almond smell...!

The context accompanying smells matters.

Sense 3: Are you listening carefully? Then I'll begin. The priming power of sound

Sound can prime our behaviour and our perceptions too and is an important cue in our environment. Engineers often tweak the sounds and acoustics of new products - even recreating what are now essentially obsolete mechanical sounds - to provide us with cues to help us perceive whether a product is working correctly or safely, or that we have used it optimally. For example, **the comforting 'clunk' of a car door closing tells us that it is safely closed and the faked noise of a camera shutter (totally unnecessary on new digital cameras and for smartphone photography) gives us feedback that we have successfully taken a shot.**

We also think crisps are fresher if we hear an accompanying (and satisfying) crunch sound - even when they are stale. A study by Massimiliano Zampini and Charles Spence found that it was possible to modify people's perception of the degree of crispness or staleness of a Pringles potato chip, by using a microphone and speaker system to modify and play the sound of them biting into the potato chip into the testing booth at a comfortable, audible sound level. They either augmented or attenuated the high frequency sounds of the bite, or played the entire sound slightly louder and found that people rated the Pringle chip as crisper when

high frequency sounds were augmented or when the overall sound was slightly louder.⁵⁰

Priming expectations and perceptions of food and drink

We often believe that taste is the crucial element behind whether a meal is perceived as good or not. However, the environment in which food and drink are served, and the 'sensory congruency' between the environment and the flavours, can play a large, yet subconscious role in modulating our perception of, and responses to, food and drink, and sound is key. Celebrity chef Heston Blumenthal and experimental psychologist Charles Spence have carried out a number of experiments looking into the sensory experience of a meal.

One particular study focused on whether sound can augment taste and prime our perceptions and judgement of a meal. They demonstrated that people rate bacon and egg ice-cream as tasting significantly more 'bacony' when listening to the sound of sizzling bacon than to a farmyard of clucking chickens.

In a second experiment, people rated oysters eaten while listening to the sound of the sea on an iPod (ie the sound of seagulls squawking and waves washing gently on the beach), as tasting significantly more pleasant than oysters eaten while listening to the farmyard noises. Taken together, these results highlight just how dramatically environmental sounds can influence (or bias) people's perception of food.

Blumenthal commented...

"We ate an oyster while listening to the sea and it tasted stronger and saltier... Our tests revealed that sound can really enhance the sense of taste."⁵¹

These findings led directly to the introduction of the unique **'Sound of the Sea'** dish at Heston Blumenthal's restaurant The Fat Duck. Diners are presented with a plate of food that is reminiscent of a beach (with foam, seaweed and sand all visible on the plate - see image below). The dish also comes with a mini iPod hidden inside a sea-shell, with the earphones poking out. Diners are encouraged to insert the headphones (whereupon they hear the 'Sounds of the Sea' soundtrack) before starting to eat. Wearing headphones also has the advantage that it focuses the diners' attention on the food itself, by blocking out other sounds in the room and immediate environment.



Source: The Fat Duck

Charles Spence has also been collaborating with British Airways to improve the in-flight eating experience using sound. Researchers have discovered that our ability to taste is reduced by 30% in the air so to combat that, the airline has launched a 13 track playlist (based on Spence's research findings) to match the food served on board and improve passengers' eating experience. The playlist is available on its radio channels on long-haul flights.

For example, **BA suggest listening to Scottish singer Paolo Nutini whilst eating a Scottish smoked salmon starter**, whilst Madonna and James Blunt are suggested as dessert accompaniments because they are thought to boost sweeter flavours, and Otis Reading is thought to help bring out the bitterness of after-dinner chocolates.⁵²

Other research by Charles Spence has shown how background music can impact perceptions of the quality of wine. He conducted a series of music-wine pairing events with the London Philharmonic Orchestra and the Antique Wine Company in London. Amongst other revelations the experiment showed that people rated a Bordeaux wine as tasting significantly more enjoyable when paired with a heavy string quartet - something like Tchaikovsky's String Quartet No 1 in D major, K285 - while a white wine such as Pouilly Fumé was more enjoyable when listening to Mozart's Flute Quartet.⁵³

We can also detect the difference between the sound of hot and cold fluid being poured. An experiment by psychologists Carlos Velasco, Charles Spence and their colleagues found that

people can tell whether water is hot or cold solely on the basis of the sound that it makes when poured into a receptacle made from one of four different materials (glass, porcelain, paper and plastic). A further experiment illustrated how people's perception of temperature can be changed by artificially modifying the sonic properties of the sound that hot and cold water makes when poured into a receptacle. With this knowledge we can think about priming our perceptions of what we are about to drink.⁵⁴



Implications

What sounds does your brand use to prime people to be more disposed to their category or brand cues?

How could sound augment an experience or research context?

*How could sounds augment packaging?
What sounds does your packaging make
and what expectations or associations does it prime?*

Sense 4: Touchy feely

Our sense of **touch and feel** can impact on our emotional, behavioural and intellectual response to both people and objects.

Temperature can prime perceptions of warmth and generosity

For example, holding a hot cup of coffee has been found to lead us to form warmer impressions of others.

- In one study, Yale University psychologists showed that people given a description of a fictional character judged them more warmly, describing the person as more good-natured and generous, if they had held a warm cup of coffee earlier, but were less likely to be so well-disposed towards the person if they had held an iced cup of coffee previously.
- A second study revealed that people are more likely to give something to others if they have just held something warm (in the experiment participants held a hot therapeutic pad) - but more likely to take something for themselves if they had held a cold ice pad.⁵⁵

People can also be primed by other sensations to make different social judgments. Joshua Ackerman and his colleagues conducted a study investigating a number of haptic effects; texture, weight and hardness.⁵⁶

How texture can prime conformity or confrontation

Participants read an ambiguous social interaction between two people after completing a five-piece jigsaw puzzle. In one version of the puzzle, the pieces were covered in rough sandpaper, and in the other, they were smooth. Those who completed the rough puzzle perceived the situation as being confrontational and more competitive than those who completed the smooth puzzle.

How weight can increase the perception of importance

Holding a heavier clipboard when answering a survey about whether various public issues should receive more or less government funding led men (but, interestingly, not women...) to allocate more money to those issues.⁵⁷

How touching a soft object can prime perceptions of kindness

Participants in a study were asked to watch a magic trick, and to try to figure out how it was done. Beforehand, they were asked to examine the object to be used in the trick - either a soft piece of blanket or a hard wooden block. After watching the magic trick they were then asked to give their impressions of two individuals - an "employee" and the "boss" - involved in a hypothetical interaction. Those primed by touching the soft blanket evaluated the employee as being kinder than those given the wooden block to examine.

How the shape of a wine glass can impact our perception of the taste and quality of wine

Other studies show that the shape and feel of a glass can affect our perception of the quality and taste of wine and champagne. The size, weight, shape and even the colour of the glass can all have an impact on our perception of the aroma, flavour and overall quality of the wine.⁵⁸

Implications

These powerful subconscious textural primes can change how we view a brand, how we judge a concept.

Do we spend enough time thinking about these touchy feely elements?

In a recent piece of work looking at successful beauty therapists, we found that giving the customer the beauty product to hold [not the tester] had a positive impact on purchase. The sensory prime tapped into endowment bias and was believed to lead to higher conversion.

Multi-sensory priming

We can probably all recall a meal or a drink in a bar where the experience was pretty special, perhaps even magical. Or where something everyday was transformed into a heightened experience. But if we're asked to define the formula for how the components connected together to create that experience, we might be at a loss.

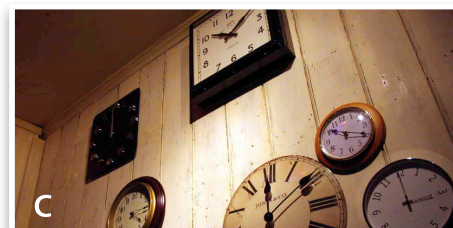
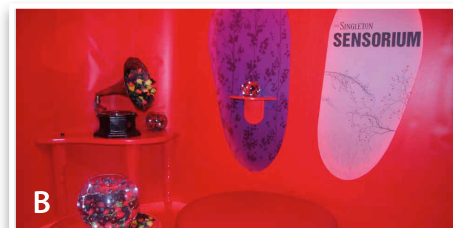
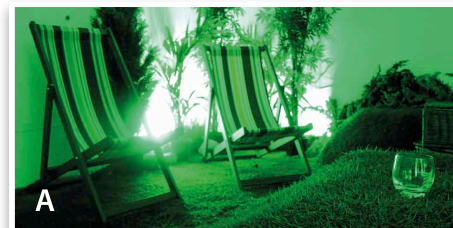
Professor Charles Spence believes he knows. He believes that matching each of our sensory impacts to an experience can augment our experience as a whole. So 2 + 2 + 2 will actually equal 10 rather than 6. By matching the associated 'sound, smell and touch' of a taste, we perceive and rate the taste to be far better than we might rate it with no other sensory effects.

He tested this in a recent study,⁵⁹ where he found that an identical whisky was rated differently by consumers depending on which 'themed room' they drank the whisky in.

At a whisky-tasting event in London, Spence and his colleagues designed three 'tasting rooms' (see image below).

- The 'grassy' room had grassy turf laid on the floor, green-leaved plants placed around the walls, green lights, and three deck chairs. A summer soundscape of birds singing and the sound of wind rustling in the trees played in the background.
- The 'sweet' room was brightly coloured and illuminated by round red globes, with a bowl of ripe red fruits in the centre. High pitched piano music was played in the background.

- The 'woody' room had wood panelling and was dimly lit with a soundtrack of leaves and twigs being crunched underfoot.



Photographs illustrating details of the visual design used in the three rooms. These rooms were designed to emphasise specific attributes of the whisky: (A) grassy, (B) sweet, and (C) woody attributes of the whisky. Images are courtesy of the British Broadcasting Corporation on March 26, 2013 (<http://www.bbc.co.uk/food/0/21864151>)

The results showed how people rated the whisky differently depending on which tasting room they were in. For example, the whisky was rated as being significantly grassier in the 'grassy' room, significantly sweeter in the 'sweet' room, and significantly woodier in the 'woody' room. Participants' ratings of the smell and flavour changed by about 10% to 20% as a function of the room. Overall, the participants liked the whisky most when they tasted it in the 'woody' room. While this finding is interesting from the specific point of view of whisky, the broader implications are perhaps more significant - that every sensory element can feed into our perceptions of a consumption experience.

Implications

These results present an opportunity to enhance people's experience of taste by designing what Spence calls congruent multisensory environments; in other words in making the environment match up with the flavours people are tasting.⁶⁰

This has significant implications for many consumer environments beyond the restaurant and bar; for example in-flight meals, cinemas, festivals and concerts.

Sensory priming – smell the coffee!

In this section we have seen how powerful sensory priming can be and just how sensitive we need to be as marketers and researchers to the environments we work in. Where we might already think about which words and phrases might prime thinking and behaviour, it is unlikely we give sensory priming the detailed structured thought it deserves, beyond maybe the role of colour. Think about how light or darkness, inspirational figures or brands and smells, touch or sound can subconsciously influence our behaviour.

We should be thinking strategically and executionally about which sensory primes we want to use to increase the direct and indirect magnetism of our brands. We need to think how we can not only directly prime connection to a brand but also indirectly, by making a person more receptive to a brand's existing subconscious connections and dispositions via what they see, smell, hear and even touch.

In research we need to think more about how we might embrace the power of sensory priming, for example to increase a respondent's confidence, generosity or creativity whilst also being aware of how the sensory environment might be priming people inadvertently and what we can do to avoid this.

Priming Part 3

How simple
physical actions
can prime what
we do, think
and feel



Before you get stuck into this section find a pen and place it between your teeth horizontally, whilst nodding your head up and down...just like in the image here. How did that feel? That was just one example of behavioural priming, which we will focus on next.

So in this final section we will explore how we can be primed or influenced subconsciously by tiny cues and stimuli all around us.

We explore how our physical behaviour – how we stand or sit, how we walk or talk – can subconsciously impact on our thinking and perceptions and may not only have the potential to improve the performance and thinking of our teams and ourselves in the workplace and but could even work to

strengthen a brand or improve output in research. Specifically, we look at seven different areas:

- 01 Primed by a smile, a frown or a nod
- 02 Power posing
- 03 Primed by the technology we use
- 04 Primed to think and act younger
- 05 Priming Top Gun vision
- 06 Primed by what we wear
- 07 Priming creative thinking in a break

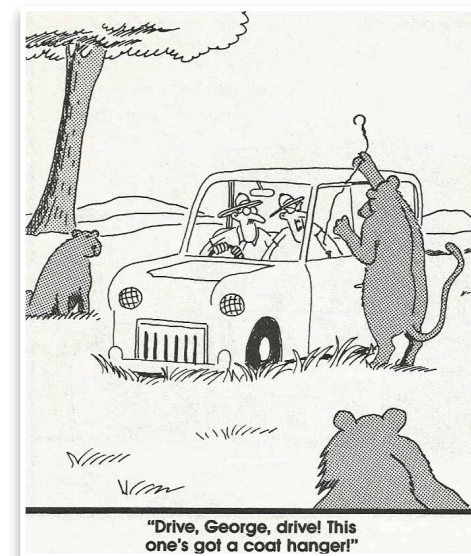
Brands tend to know their attributes, their values and associations – the tangible and intangible brand assets – and these are short cuts to a lot of information, but are not necessarily the words, senses or, as we will focus on in this article, the physical behaviours that can create subconscious energy and connection.

01. Primed by a smile, a frown or a nod

Simple actions and behaviours like putting a pen between our teeth can actually shape how we feel, how we perceive things and how we go on to behave later. It activates the same facial muscles activated when we smile. And smiling itself puts us in a better mood. Daniel Kahneman points out that *“Being amused tends to make you smile and smiling tends to make you feel amused.”*⁶¹ So putting a pen in your mouth horizontally can force you to form a smile expression and, even though your smile has been forced, as a consequence, you will feel happier. Conversely, holding the pencil between your lips, so that it shoots directly forwards making a pursed lip, frowning expression will make you feel more miserable.

These tiny gestures have been shown to have an impact on how funny or sad we find something. In one study, students who were asked to rate the humour of cartoons from *The Far Side* while holding a pen in their teeth found the cartoons funnier than those who were made to frown by holding it between pursed lips or those who had simply held the pen in their hand.

The teeth group rated the four cartoons 5.14 out of a potential 9 whereas the pursed lip group and the hand group rated the cartoons at only 4.32 and 4.77 on average. Although the effect was quite small, it was consistent for each of the four cartoons.⁶²



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When you nod your head, you may also be influencing yourself in ways of which you are unaware. In another experiment, students were recruited to listen through headphones to an audio recording of radio editorials, with the apparent aim of testing the performance of the headphones. Half were told to listen whilst nodding their head up and down and the other half were told to shake their head from side to side. The audio recording contained a few songs and also a discussion about raising college tuition fees. After the exercise, students were asked “What do you feel would be an appropriate dollar amount for undergraduate full-time tuition per year?”. Those who had nodded in the listening exercise, seemingly gesturing ‘yes’, tended to accept the proposal to increase college tuition fees that they heard through the headphones and be more willing to

pay high tuition fees on average. Those who had shaken their heads tended to reject the proposal preferring that tuition fees were reduced. And those who were not asked to shake their head in any direction during the listening exercise opted to keep tuition fees unchanged.⁶³ This specific result is likely to be more relevant in western cultures such as the US where the study was conducted. In India for example, people shake or bob their heads in far more subtle ways to indicate positivity or negativity.

Implications

Think how these simple behavioural insights might change our day to day lives, or our interaction with others:

What mood-influencing gestures could a brand prime to make people more receptive to the physical and mental associations of a brand?

How might be prime a good mood? Research has shown that when we are in a good mood and happy we are more likely to go with the status quo/rely on our System 1.

Brands could own some physical pose or ritual subconscious prime – think about the Churchill insurance nodding dog and the line 'Oh Yes.'

In research, could we think harder about creating a positive (or negative) mood before beginning any research task? Or whether it would be useful to ensure people are likely to be more – or less – sure of their opinions by getting them to nod or shake their head a little? Both of these approaches could be interesting disruption techniques to develop a stronger understanding.

From a marketing perspective, the concept can also help us to think about positive reciprocity – there are many ways we can make someone smile – maybe conceptualise this as the starting point vs. end point, in that it can create a more receptive person for other messages we want to deliver.

02. Power posing

We may also be able to affect our thoughts, decisions and behaviour by the way we stand and present ourselves. Our body position and stance can affect how confident we feel, as well as communicating our level of confidence to others.

Amy Cuddy, a professor at Harvard Business School, studies types of nonverbal behaviour and has conducted some fascinating research on what she has termed 'power posing'. She points out we often naturally express power by opening up – taking up more physical space e.g. stretching, standing taller, leaning back, putting our hands behind our heads, legs stretched out and so on – any physical movement in fact that makes us take up more space and look bigger. Primates and humans both do this to express dominance and power – just look at the triumphant pose of any winning athlete at the end of a race.

The New Zealand All Blacks' pre match Haka ritual is another example of this. It not only works to intimidate the opposing team but also, importantly, may serve a purpose for the All Blacks themselves, allowing them to prime feelings of dominance and power in themselves.



Source: <http://www.flickr.com/photos/sonyaandja-son/301260057/>

There's one particular kind of power posing which many men practise regularly. It's called *manspreading* and they do it on the subway to claim and then dominate their space. Unknown to them, it should also set them up for a powerful day. In the US a campaign launched by the Metropolitan Transportation Authority is set to deter offenders. But perhaps women should give it a go? Apart from the power priming potential, there's a limit to how long anyone should have to put up with this...



© Metropolitan Transportation Authority (New York)



Cuddy notes that not only does "Your body language shape who you are" but also that "Your body can shape the mind."

Her studies suggest that simply assuming different poses automatically releases different hormones into the body. Try this out if you need a bit of a power boost: lie back in your chair, put your hands behind your head and your feet on the table. After a few minutes this will trigger a release of testosterone into the bloodstream. Whenever you need to take on an alpha role, assuming this pose will cause your body to produce more testosterone and you will feel more confident. Testosterone is found in dominant behaviour - it increases before and after a competition, but drops after a crushing defeat (such as a trading loss). So after things go wrong, or if you feel defeated by something or someone, assume a power pose and feel better.

The opposite of the power pose is caused by the release of cortisol which is a stress hormone. It is released if you adopt a non-threatening, unconfident posture such as drooped shoulders, hands in your lap, touching your neck or standing with your shoulders hunched and your arms folded. Cortisol is found in people who tend to be more anxious and stressed - often those with low social status. High cortisol levels are linked to poor health eg memory loss, hypertension and impaired immune problems.

Cuddy and her colleagues analysed the impact of these poses on changes in specific endocrine levels and found that high-power poses decreased cortisol by about 25% and increased testosterone by about 19% for both men and women.

In contrast, low-power poses increased cortisol by about 17% and decreased testosterone by about 10%.⁶⁴

They went on to test the effect of high and low power poses on candidates attending a job interview. Candidates were asked to pose in private for a couple of minutes beforehand: half in a high power pose and half in a low power pose. The result?

The interviewers wanted to hire all the people who had been in the high power pose! Those who had adopted a low power pose prior to their interview scored 3.8 out of 7 for performance and 2.0 out of a potential 3.0 for hireability. However, those who had adopted a high power pose prior to their interview scored 4.6 for performance and an average of 2.4 for hireability. **High power poses led to an improvement in performance of 12 percentage points and an improvement in hireability of 14 percentage points.** Rather disconcertingly other apparently more relevant qualities like experience and qualifications had no influence on the hiring decision.⁶⁵ Cuddy and her team comment that

“High-power posers appeared to better maintain their composure, to project more confidence, and to present more captivating and enthusiastic speeches, which led to higher overall performance evaluations.”

This is a very new area of research, however, and it's not yet quite clear what the mechanisms are that help to create this effect. A new study published in 2015 by Eva Ranehill and her colleagues put the impacts of power posing into question. She believes *“more research is needed to identify the precise conditions for such effects.”*⁶⁶

Although there is clearly still lots of work to be done, it is hard to believe something like the All Black's Haka would have no behavioural priming effects. It's going to be an exciting few years as this field of research develops.

Implications

Thinking about indirect priming - what physical activities, stances and gestures could increase disposition and receptiveness towards a brand's assets [both emotional and physical]?

We need to think deeply about how people physically interact with our brand and how we can use this understanding to prime subconscious connection to a brand's assets/associations.

The above is also critical in terms of research. Think about the actual physical behaviour around consumption and how important this might be to gain a deeper understanding of consumer behaviour.

In the workplace, could teams develop a high power pose exercise of physical movement that could boost assertiveness or creativity - but please, not a company dance routine.

Should governments use these insights in policies such as 'get back to work' schemes which help to return the unemployed to work? The Behavioural Insights Team have already piloted a team which uses insights from behavioural science to get people back into work sooner. Could they also leverage priming within the scheme to give confidence to job applicants?

And in research, could we use physical gestures and poses to prime confidence or assertiveness when useful?

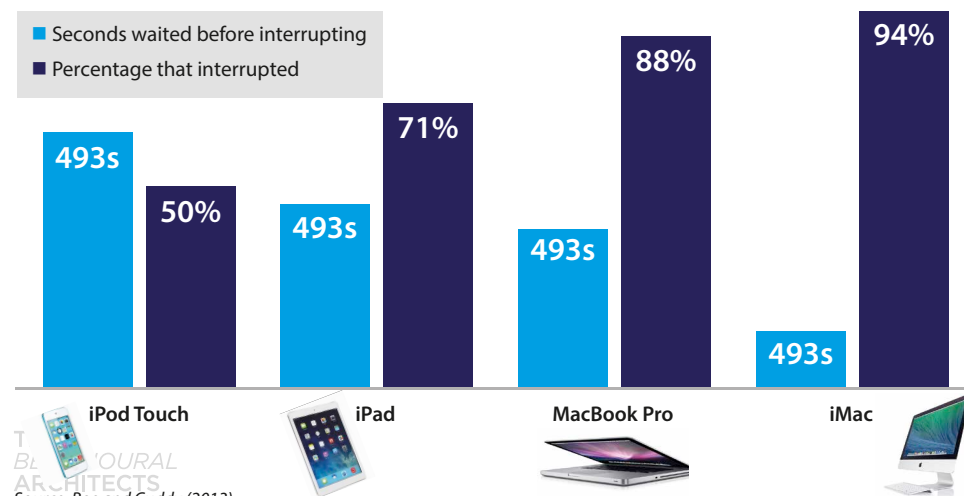
03. Primed by the technology we use

Cuddy has built on these findings in collaboration with Maarten Bos (also at Harvard Business School). In another study, they looked at the impact of different body postures in operating everyday technology - from smartphones and tablets, through to laptops and desktops. Just like a victory pose or putting your feet up on the table, using a desktop means we tend to adopt a more expansive body posture, whilst using a smartphone constricts our body posture, causing us to hunch our shoulders and tense our neck.

In their study entitled 'iPosture' they asked participants to complete a number of tasks and then wait for 5 minutes for the researcher to return. The researcher specifically told them "I will be back in five minutes to debrief you, and then pay you so that you can leave. If I am not here, please come get me at the front desk."

They then deliberately delayed their return by up to 10 minutes. Some participants completed the tasks on an iPod Touch, others on a tablet, laptop or desktop. Cuddy and Bos found that more assertive behaviour - measured by whether participants sought out the researcher and came to the front desk - tended to be linked to the size of the electronic device used.

- Of the participants using a desktop computer, 94% took the initiative to fetch the researcher back, whilst of those using the smallest device, the iPod Touch, only 50% left the room.
- Of those who did leave the room, the size of the device appeared to affect the amount of time they waited. The bigger the device, the shorter the wait time. Desktop users waited around 5 and a half minutes before fetching the experimenter, for instance, while iPod Touch users waited over 8 minutes on average.



Bos sees the implications of this finding in our everyday lives:

“People are always interacting with their smartphones before a meeting begins, thinking of it as an efficient way to manage their time. We may, however, lose sight of the impact the device itself has on our behaviour and as a result be less effective.”⁶⁷

Bos and Cuddy are currently testing these findings in other contexts, such as how the posture in which we sleep impacts our behaviour and whether and how the device we use in the workplace impacts our assertiveness.⁶⁸

Implications

Do we need to be more aware of the potential impacts of using different devices on our behaviour - in our workplaces for example?

Research is increasingly conducted through smartphones due to greater ease and the fact that real-time responses can be so quickly obtained. Should we think harder about when and where we ask respondents to engage with us and just how their physical behaviour (triggered by use of their smartphone) might influence what they report?

04. Primed by what we wear

Two researchers - Adam Galinsky and Hajo Adam - have looked closely at how **what we wear can prime us**, something they call 'enclothed cognition'. They conducted a series of experiments to see how clothing and what we associate with an item might affect our performance in a later task. In one experiment, **those wearing a lab coat - an item of clothing often associated with attentiveness, carefulness and accuracy - did better in the well-known Stroop Test - a test which measures our ability to focus our attention on a tricky task.**



In another experiment, participants were asked to put on identical white coats, but were either told it was a painter's coat or a doctor's coat. Next, they were asked to complete a 'spot the difference' task (see image for an example of one of the tasks), identifying as many differences as they could find between two pictures. **Those who were wearing the 'doctor's' coat noticed around 12 differences, whilst those wearing a 'painter's' coat noticed 9.** Galinsky and Adam believe the effect is caused by the qualities we

tend to associate with doctors – we believe they are careful, rigorous and good at paying attention – which are typically different to from the qualities we associate with the stereotype of a painter.⁶⁹

It's interesting to see ways in which this type of priming might be strategically applied. For example, a **new UK organisation called 'Suited and Booted' provides men's suits – often designer label cast offs from the City – to vulnerable men looking to make a new start in life and who need to look smart when attending job interviews and seeking accommodation.** While what we wear undoubtedly affects what others think of us, priming research shows that it works in another way too – by affecting our own behaviour. One of Suited and Booted's clients commented

“It's about the decisions you can make about yourself if you feel confident. A good suit can give you that confidence...even if you've just come out of prison.”⁷⁰

Implications

In research, should we think more about what respondents wear during missions or tasks?

Respondents often attend depths or groups straight after work, and come in their working clothes be they official uniforms or just outfits worn for work. Where possible and applicable, should we encourage them to change and dress differently? Think about using changes of clothing to disrupt an existing habit or build new habits.

This stimulates lots of ideas such as should we dress in certain ways to prime different types of thinking or behaviour?

Should we make sure when working from home that we still dress for work?

How might a staff uniform or outfit prime not only customers but the staff themselves?

05. Priming creative thinking in a physical break

There may be other techniques to help us get the best out of ourselves in the workplace. Most of us recognise that taking a mental break from what we are doing can often boost our brains and help us come up with new ideas. But recent research, by Ken Gilhooly and his colleagues found that **the type of break and what we do or think about in that break is important for boosting creativity.**

In a series of experiments, they found that the effect of taking a break was strongest when the break was spent doing a task or activity which required *different* thinking skills from those needed for the first task. In the initial task, participants were asked to list potential uses for a brick. They were then given a short break where they were asked to carry out some different tasks. Those who worked on a spatial reasoning task in their break were subsequently able to think of 20% more uses for a brick than those who, in their break, had completed a task which was similar to the brick task.⁷¹

This finding can be seen in working styles in both new and historical contexts. For example, Google is famous for its innovative working time policies. **'20% time' where Google staff are encouraged to spend a fifth of their time working on personal projects may help to prime creativity in the rest of their day** – particularly if their chosen project calls on different skill sets from other tasks.

Looking further back in time, we might speculate that some of the greatest minds unknowingly primed their thinking and perceptions by how they went about their day. In her book “Daily Rituals: How Artists Work”, Mason Currey illustrates how they may have primed their thinking to be at its most creative. She details 160 choreographers, comedians, composers, filmmakers, philosophers, playwrights, painters, poets, scientists, sculptors and writers, analysing the habits and rituals of the likes of Benjamin Franklin, Henri Matisse, Stephen King, Gustav Mahler, Ludwig van Beethoven, Maya Angelou and Toni Morrison. Many of the examples she describes show how they found ways to step away from their main task and turn their minds to something else, often seeing the spaces in between their work as crucial to their overall productivity and creativity. In fact, many of the greatest minds seemingly frittered away parts of their days, albeit within highly structured routines. Few worked particularly long hours on their primary work goal (eg writing a symphony) and most worked between 3 to 5 hours each day. Here are some of the ways they disengaged from their primary task:

- Patricia Highsmith used to relax by tending her snails
- Morton Feldman recommended, “After you write a little bit, stop and then copy it. Because while you're copying it, you're thinking about it, and it's giving you other ideas.”
- Igor Stravinsky did headstands.
- Ernest Hemingway defrosted the fridge.⁷²

Implications

When planning a new project or campaign, maybe it would be productive to start with a different task or to schedule in breaks during the course of a day's work?

In research, should we embed a number of different missions demanding different thinking skills in between the key tasks we need respondents to engage with, to prime greater creativity or accuracy?

Think about distraction tasks to free your brain and use it differently.

06. Primed to think and act younger

Research by Cuddy and Bos has mainly looked at short time effects, across minutes and hours, rather than days and weeks. But other research has suggested that how we behave in our day to day lives in general can have much longer-term effects on our mind and body.

Cuddy recently tweeted:

“A lot of people seem to use their age as a script for their lives. No need to do that, as far as I can tell.”

And she could be right. We sometimes use our age as an anchor or reference point for how we should behave when perhaps this might be damaging. If we pay attention to instructions to 'Act your age' or even 'Dress your age' might we be limiting our lives in some way? As we grow older many of us accept that we may not be as quick, strong or as nimble as we once were. Yet there is some optimistic sounding research that shows that if we behave, think and live as we did when we were younger, it can make us stronger and fitter as well as cognitively more able.

One of the most recognised studies in this area, the Counterclockwise study, was carried out in 1979 by award-winning psychologist Professor Ellen Langer. She used the full range of priming stimuli - words, sensory primes and behavioural primes. Langer placed her study participants in a specially designed, prime rich environment and then asked them to think, read, write and

behave in certain ways, further strengthening the priming effect. She recruited two identical groups of frail, elderly men who took a battery of cognitive and physical tests and were then sent off on a week long holiday to a monastery in New Hampshire which was retro-fitted in the style of 1959.

The men were split into two groups and both asked to discuss recent topical issues such as the launch of the first US satellite Explorer 1, Castro's advance in Havana and the results of the previous year's NFL game. They listened to Perry Como and Nat King Cole and watched *Some Like It Hot* and *Ben Hur*. But each group did this in one of two ways:

- One group of men were told to talk in the *present* tense, and discuss topics *current* in that era - pretending they were young again and living in the 1950s. They were also asked to write a brief autobiography as though it were 1959 and bring in a photo of their younger self, both of which were distributed to all the other participants in the study. This helped to prime them in a number of ways - getting them to think, see, write, and behave in ways that brought to mind the 1950s.
- The other group were told to discuss topical issues of the 1950s, but in the *past* tense and *reminisce* about that era. They also wrote a short autobiography but written in the past tense and brought in photos of their current selves.

At the end of the week, Langer retested both groups physically and cognitively. While both groups showed cognitive and physical improvements, the men who had spent the week behaving as if they were actually back in 1959 made the most improvements. Their vision, hearing, memory and cognitive ability all improved - 63% of the first group performed better in intelligence tests and they even looked younger in photos. Most incredible of all was the improvement in their physical strength and ability. Their joints became more flexible, their arthritis diminished and they were able to straighten their fingers which previously they had been unable to do and their strength of grip improved.⁷³

Langer said

“At the end of the study, I was playing football with these men, some of whom gave up their canes. It is not our physical state that limits us, it is our mindset about our own limits and our perceptions. Wherever you put the mind, the body will follow.”⁷⁴



Her study demonstrates how multi-sensory and behavioural priming using simple cues in the environment can affect our later behaviour and thinking.

Implications

Applying this insight to our lives and those of others could have an incredible impact. Perhaps hotels could offer retro holidays where visitors are transported back to an era from their youth?

The baby boomer generation approaching retirement with greater life expectancy has high expectations that they can and will remain healthy. Moreover, they are willing to spend and therefore represent a huge market. Euromonitor forecasts that the global spending power of those aged 60 and above will reach \$15 trillion by 2020.⁷⁵ With this in mind, there could well be a market for products and services aimed at keeping a younger mindset in order to stay healthy and young at heart.

This illustrates once again the importance of context on behaviour and perceptions in a research context. The location in which we research and how we prime respondents beforehand could make the difference to how they think and behave.

07. Priming Top Gun vision – a final eye opener!

Since her Counterclockwise study, Langer continued her research into which behaviours might impact on particular elements of our health. One finding was that making people feel like pilots improved their vision. Many people believe that you must have at least 20/20 vision to be a pilot. **When participants in a study were asked to be Air Force pilots and don green army fatigues to fly a working flight simulator their vision improved in 40% of individuals compared to 0% in the control group.**⁷⁶

Physical priming – strike a pose!

I am feeling very conscious of how I am sitting, in fact I might just strike a pose!

This last section has drawn your attention to how powerful physical behavioural priming can be having been already amazed at the human sensitivity to words, images and sensory priming. From a brand perspective it is certainly worth the effort to think how we might tap into this power. Perhaps we should think about how to combat the behavioural priming of technology which might reduce assertiveness or openness. We might also think how to build rituals into consumption or even into packaging so as to positively prime consumers. Think more about what behaviours or gestures might prime more receptive moods such as the armchair whisky moment [perfect postural priming].

In consumer research the power of this area is endless both from the perspective of energising respondents, to priming thinking and behaviour in distinct ways via uniforms or postures.

Every single element of our external environment is reflected and mirrored in our minds and consequently in our behaviours, and to a large degree, subconsciously. Priming shows that our minds and behaviours are more malleable than we might think. Knowing this means we have a new tool at our fingertips, a tool which can be fashioned in any way we wish. We simply need to apply it.

**“Potential primes are all around...
inadvertent priming is [often] an
inevitable consequence of almost
every market research process.”**
Philip Graves 'Consumerology'

So think back to all three sections, put your feet up on the desk and your hands behind your head and think how you might strategically and executionally harness the subconscious power of priming.

The hidden
priming power
of words and
numbers

The hidden
potential of
sensory priming

How simple
physical actions
can prime what
we do, think
and feel



Footnotes

1. Mandel, N., & Johnson, E. J. (2002). When Web pages influence choice: effects of visual primes on experts and novices. *Journal of Consumer Research*, 29, 235–245.
2. Bargh JA, Huang JY (2009) The selfish goal. In: Moskowitz GB, Grant H, editors. *The psychology of goals*. New York: Guilford. pp. 127–150.
3. Kahneman, D. "Thinking Fast and Slow", 2011
4. Loersch, C., Payne, B.K. "The Situated Inference Model: An Integrative Account of the Effects of Primes on Perception, Behavior, and Motivation" *Perspectives on Psychological Science* 6(3) 234–252, 2011
5. Mussweiler, T. "The durability of anchoring effects", 2001, *European Journal of Social Psychology*, 31, 431–442.
6. Bargh, J. "Our Unconscious Mind" *Scientific American* January 2014; Kang, Bargh et al, "Physical temperature effects on trust behavior: the role of insula", 2010; Schaefer et al., "Rough Primes and Rough Conversations: Evidence for a Modality-Specific Basis to Mental Metaphors", *Social Cognitive and Affective Neuroscience*, Oct, 2013
7. Comments at a lecture with Daniel Kahneman and Paul Dolan at UCL, 12th December 2014
8. Drouvelis, Metcalfe, & Powdthavee, "Priming Cooperation in Social Dilemma Games" *IZA, Discussion Paper No. 4963*, 2010
9. Bargh, J.A., Chen, M. and Burrows, L. "Automaticity of Social Behaviour: Direct Effects of Trait Construct and Stereotype Activation on Action" *Journal of Personality and Social Psychology* 1996, Vol 71, No. 2, 230–244.
10. Vohs, K., Meade, N., Goode, M. "The Psychological Consequences of Money" *Science*, Vol 314, November 2006
11. Chatterjee and Rose "Do Payment Mechanisms Change the Way Consumers perceive products?" 2012, *Journal of Consumer Research* Vol. 38
12. Chicago Tribune "Cash vs credit mindset" December 2011; http://articles.chicagotribune.com/2011-12-15/news/sc-cons-1215-karpspend-20111210_1_credit-cards-card-balances-debit-cards
13. Prelec and Loewenstein, 1998; Soman 2001
14. Mogilner, C. and Aaker, J. "The Time vs Money Effect: Shifting Product Attitudes & Decisions through personal connection" 2009, *Journal of Consumer Research*
15. Elizabeth Dunn and Michael Norton, *Happy Money: The New Science of Smarter Spending*, Oneworld, June 2013
16. Wryobeck, J., & Chen, Y. "Using Priming Techniques to Facilitate Health Behaviours" *Clinical Psychologist*. Volume 7, Issue 2, pages 105–108, October 2003
17. Papies, EK, Hamstra P., "Goal priming and eating behaviour: Enhancing self-regulation by environmental cues" *Health Psychology* 2010;29(4):384–88; Papies, E.K. "Goal Priming in Dieters: Recent Insights and Applications" *Current Obesity Rep* (2012) 1:99–105
18. <http://www.prevention.com/weight-loss/weight-loss-tips/words-can-make-you-eat-better>
19. McKinsey "Taking the bias out of meetings" April 2010
20. Gardner WL, Seeley EA In *The use and abuse of power*, Confucius, "Jen," and the benevolent use of power, eds Lee-Chai AY, Bargh JA (*Psychology*, Philadelphia), 2001, pp 263–280
21. Haberstroh S, Oyserman D, Schwarz N, Kühnen U, Ji LJ, "Is the interdependent self more sensitive to question context than the independent self? Self-construal and the observation of conversational norms", 2002, *J Exp Soc Psychol* 38:323–329
22. Bargh, J.A., Chen, M. and Burrows, L. "Automaticity of Social Behaviour: Direct Effects of Trait Construct and Stereotype Activation on Action" *Journal of Personality and Social Psychology* 1996, Vol 71, No. 2, 230–244
23. McGlone, M. S., & Aronson, J. (2006). Stereotype threat, identity salience, and spatial reasoning. *Journal of Applied Developmental Psychology*, 27, 486–493.
24. Mazar, N., Amir, O., Ariely, D. "The Dishonesty of dishonest people: A theory of self-concept maintenance" *Journal of Marketing Research* Vol XLV, Dec 2008, 633–644
25. Part of what is known as anchoring in behavioural economics is a conscious effect effected through reasoned thought (via System 2), adjusting from numbers we are consciously aware of. But another way anchoring is thought to work is via a subconscious response via our System 1, when we can be influenced by random numbers.
26. Ariely, D., Loewenstein, G., Prelec, D., "Tom Sawyer and the construction of value" (2006), *Journal of Economic Behaviour and Organisation*, 1–10
27. Critcher, C.R., Gilovich, T. "Incidental Environmental Anchors" *Journal of Behavioral Decision Making*, 21, 241–251 (2008)
28. Stewart, N. "The Cost of Anchoring on Credit Card Minimum Payments" *Psychological Science*, January 2009 20: 39–41 and http://www2.warwick.ac.uk/newsandevents/pressreleases/research_finds_cus...
29. Source: Bateson, M., Nettle, D., Roberts, G., 'Cues of being watched enhance cooperation in a real-world setting', 2006, *Biology Letters*, doi:10.1098/rsbl.2006.0509
30. Nettle D, Nott K, Bateson M (2012) 'Cycle Thieves, We Are Watching You': Impact of a Simple Signage Intervention against Bicycle Theft. *PLoS ONE* 7(12): e51738.
31. Zhong, Bohns and Gino "Good lamps are the best police: Darkness increases dishonesty and self-interested behaviour" *Psychological Science*, 21, 311–314 (2010); and <https://hbr.org/2013/03/turning-the-clock-forward-make>
32. Doleac, J, Sanders, N.J. "Under the Cover of Darkness: Using Daylight Saving Time to Measure How Ambient Light Influences Criminal Behavior, Working paper 2012
33. Zhong, Bohns and Gino "Good lamps are the best police: Darkness increases dishonesty and self-interested behaviour" *Psychological Science*, 21, 311–314 (2010); and <https://hbr.org/2013>
34. Latu, I.M., Schmid Mast, M., Lammers, J, Bombardieri, D. "Successful female leaders empower women's behavior in leadership tasks" *Journal of Experimental Social Psychology* 49 (2013) 444–448
35. Science Daily "Logo Can Make You 'Think Different'" 30th March 2008; www.sciencedaily.com/releases/2008/03/080328085918.htm
36. Fitzsimmons, G.M. "Automatic Effects of Brand Exposure on Motivated Behavior: How Apple Makes You "Think Different" *Journal of Consumer Research*, June 2008, Volume 35
37. Laran, J, Dalton, A, Andrade, E.B. "The Curious Case of Behavioral Backlash: Why Brands Produce Priming Effects and Slogans Produce Reverse Priming Effects" *Journal of Consumer Research*. Vol 37, No. 6, April 2011
38. Brasel, S.A., Gips, J. "Red Bull gives you wings for better or worse: A double-edged impact of brand exposure on consumer performance" *Journal of Consumer Psychology* 21(1), 57–64
39. <http://www.businessinsider.com/red-bulls-logo-is-enough-to-affect-consumer-behavior-study-shows-2011-2>

40. Schauss, A. "Tranquilizing Effect of Color Reduces Aggressive Behavior and Potential Violence" Presented at the 13th Advanced Seminar on Clinical Ecology, San Diego, California. October 28, 1979
41. Rob W. Holland, Merel Hendriks, Henk Aarts, Smells Like Clean Spirit. Non Conscious Effects of Scent on Cognition and Behaviour, *Psychological Science* Vol 16, No 9, 2005
42. Dijksterhuis G. B., Zandstra E., De Wijk R, Smeets M. A. M. (2013). Smelly and Dirty: Valence, Not Semantics, of Odours Prompt Cleaning Behaviour. Poster presentation in Pangborn Sensory Science Conference, Rio de Janeiro; 11–15 August 2013
43. De Lange, M.A., Debets, L.W., Ruitenburg, K., & Holland, R. (2012). Making less of a mess: Scent exposure as a tool for behavioral change. *Social Influence*, 7 (2), 90-97 DOI:10.1080/15534510.2012.659509
44. Hirsch, A.R., 1995. Effects of ambient odors on slot-machine usage in a Las Vegas casino. *Psychology and Marketing* 12, 585–594.
45. Hirsch, A.R. "Sensory Marketing" 1993 *The International Journal of Aromatherapy*, Vol 5, No.1
46. Gaillert et al "Priming effects of an olfactory food cue on subsequent food-related behaviour" 2013
47. Smeets, M.A., Dijksterhuis, A. "Smelly primes – when olfactory primes do or do not work" *Front Psychol.* 2014; 5: 96. Published online Feb 12, 2014. doi: 10.3389/fpsyg.2014.00096
48. Smeets, M.A., Dijksterhuis, A. "Smelly primes – when olfactory primes do or do not work" *Front Psychol.* 2014; 5: 96. Published online Feb 12, 2014. doi: 10.3389/fpsyg.2014.00096
49. www.medialifemagazine.com:8080/news2002/nov02/nov25/2_tues/news4tuesday.html
50. Zampini, M. and Spence, C. "The role of auditory cues in modulating the perceived crispness and staleness of potato chips" *Journal of Sensory Studies*, Vol. 19, Issue 5, pages 347–363, October 2004
51. <http://news.bbc.co.uk/1/hi/england/berkshire/6562519.stm>
52. <http://www.oxfordtoday.ox.ac.uk/features/can-you-believe-your-tastebuds;http://skift.com/2014/10/17/british-airways-has-a-playlist-that-it-hopes-will-make-its-food-taste-better/>
53. Spence C, and Deroy O, (2013), *Iperception*, 4, 137-140 On why music changes what (we think) we taste
54. Velasco, C., Jones, R., King, S. and Spence, C., "The Sound of Temperature: What Information do Pouring Sounds Convey Concerning the Temperature of a Beverage" *Journal of Sensory Studies*, Volume 28, Issue 5, pages 335–345, October 2013
55. Williams, L. E., & Bargh, J. A. (2008). "Experiencing physical warmth promotes interpersonal warmth". *Science*, 322(5901), 606-607.
56. Ackerman, J., et al. (2010). "Incidental Haptic Sensations Influence Social Judgments and Decisions" *Science* 328: 1712-1715. DOI: 10.1126/science.1189993.
57. Jostmann, N. B., Lakens, D., & Schubert, T. W. (2009). "Weight as an embodiment of importance". *Psychological science*, 20(9), 1169-1174.
58. Fischer, U., & Loewe-Stanienda, B. (2000). Impact of wine glasses for sensory evaluation. *Journal International des Sciences de la Vigne et du Vin*, 33, 71-80.
59. Velasco, C., Jones, R., King, S., & Spence, C. (2013). Assessing the influence of the multisensory environment on the whisky drinking experience. *Flavour*, 2 (1), 23
60. Velasco, C., Jones, R., King, S., & Spence, C. (2013). Assessing the influence of the multisensory environment on the whisky drinking experience. *Flavour*, 2 (1), 23.
61. Kahneman, D. 'Thinking Fast and Slow', 2011, p54
62. Strack, F, Martin, L. L.; Stepper, S. "Inhibiting and Facilitating Conditions of the Human Smile: A Nonobtrusive Test of the Facial Feedback Hypothesis", May 1988, *Journal of Personality and Social Psychology* 54 (5): 768–777.
63. Wells, G. L., & Petty, R. E. (1980). The effects of overt head movements on persuasion: Compatibility and incompatibility of responses. *Basic and Applied Social Psychology*, 1, 219–230.
64. Carney, Dana R., Amy J.C. Cuddy, and Andy J. Yap. "Power Posing: Brief Nonverbal Displays Affect Neuroendocrine Levels and Risk Tolerance." *Psychological Science* 21, no. 10 (October 2010): 1363–1368.
65. Cuddy, Amy J.C., Caroline A. Wilmuth, and Dana R. Carney. "Preparatory Power Posing Affects Performance and Outcomes in Social Evaluations." *Harvard Business School Working Paper*, No. 13-027, September 2012. (Revised November 2012)
66. Ranehill, E., Dreber, A., Johannesson, M., Leiberg, S., Sul, S., Weber, R.A., "Assessing the Robustness of Power Posing: No Effect on Hormones and Risk Tolerance in a Large Sample of Men and Women." *Psychological Science*, 2015; DOI: 10.1177/0956797614553946
67. Bos, M.W., Cuddy, A.J.C., 'iPosture: The Size of Electronic Consumer Devices Affects our Behavior' *Harvard Business School Working Paper* 13-097 May 20, 2013
68. Is your iphone turning you into a wimp? 24th June 2013, *Harvard Business School Working Knowledge* <http://hbswk.hbs.edu/item/7271.html>
69. Galinsky, A., Adam, H. "Encloded cognition" 2012, *Journal of Experimental Social Psychology*, doi 10.1016
70. zz Sean O'Hagan "New look, fresh start" *The Observer*, 18th January 2015
71. Gilhooly, Georgiou & Devery "Incubation and Creativity: Do something different" 2012, *Thinking and Reasoning* pp1-13; *Behavioural Insights Team Bulletin* Number 4, March 2013
72. Currey, M. "Daily Rituals: How Great Minds Make Time, Find Inspiration, and Get to Work", Picador, October 2013
73. Langer, E. "Counterclockwise: Mindful health and the power of possibility" 2009
74. Harvard Magazine "The Mindfulness Chronicles" September-October 2010: <http://harvardmagazine.com/2010/09/the-mindfulness-chronicles>
75. Financial Times "The Silver Economy" 7th Nov, 2014
76. Langer, E., Djikic, M., Pirson, M., Madenci, A. and Donohue, R. "Believing is seeing: Using Mindlessness (Mindfully) to Improve Visual Acuity" *Psychological Science* 2010 21:661

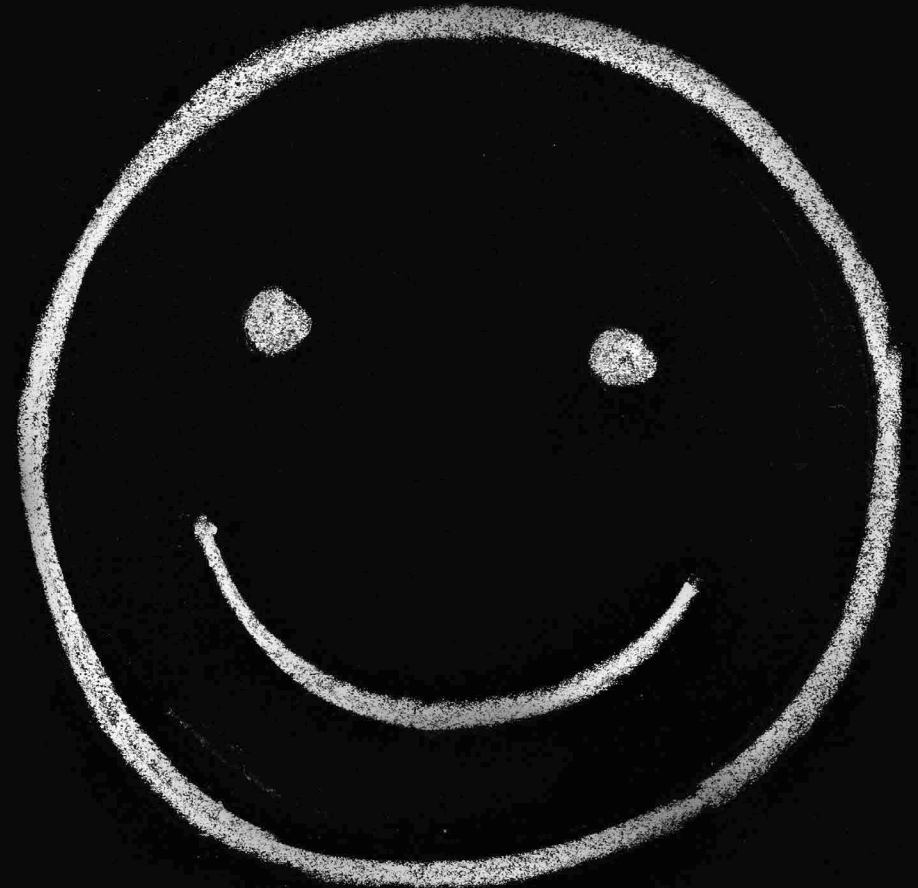
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The Behavioural Architects Contact Details

Oxford:

Crawford Hollingworth, Founder
crawford@thebearchitected.com

London:

Sian Davies, Founder
sian@thebearchitected.com

Sarah Davies, Founder
sarah@thebearchitected.com

Shanghai:

Qing Wang, Founder
qing@thebearchitected.com

Sharon Zhou, Founder
sharon@thebearchitected.com

Sydney:

Mike Daniels, Founder
mike@thebearchitected.com

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