I Second That Emotion

Presentation to PFSG conference:

Fast Forward

David Penn, Managing Director, Conquest

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What I’m going to talk about

- Why Emotion is so important
- Why conventional MR is not very good at measuring it
- Why neuromarketing is not the (full) answer
- Why we need to look for new solutions
Why the interest in emotion?

Neuroscience has revolutionised our understanding of how people make decisions.

Increasing frustration with the limitations of conventional techniques for measuring emotion.
“My dad always told me you’ve got to dig it, grow it or build it, the rest is just fluff”.
Stuff vs. Fluff

Stuff

Products

Fluff

Brands

Advertising

Packaging

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Stuff vs. Fluff

**Stuff**

Physical measurement

**Fluff**

Feelings

Emotions

Conceptualisation

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Stuff vs. Fluff

Stuff

Science

Fluff

Humanities

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What does Cognitive Neuroscience tell us?
“They’re made of meat!”

“Meat?! So what does the thinking?”
Reptilian - Survival

Limbic - Emotional

Neo-cortex - Abstract
The impact of neuroscience

• **Neuroscience** shows that conscious decisions seem to be based on emotional rather than rational cues, or triggered subconsciously:
  
  - a large proportion of human motivations thus lie below the level of consciousness
  - emotions cannot be measured adequately via self-report verbal indicators

• Modern (cognitive) psychology tells us that some decisions are made intuitively, automatically and without any conscious control or effort.

• Marketers now seek new ways to explore preconscious, non-verbal stages of information processing
Our conscious mind is only the tip of the iceberg

Conscious, rational, verbal (system 1)

Unconscious, emotional, non-verbal (system 2)
From System 2 to System 1…

<table>
<thead>
<tr>
<th>FROM...</th>
<th>TO</th>
</tr>
</thead>
<tbody>
<tr>
<td>We weigh up the benefits of the options on offer, choosing the best.</td>
<td>We are not in control of, or even aware of, most of our thinking,</td>
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<tr>
<td>We can <strong>explain</strong> our behaviour, our thinking and our emotions.</td>
<td>We have a vast and automatically operating unconscious mind, but we have no direct conscious access to it.</td>
</tr>
</tbody>
</table>
Whenever emotions conflict with thinking, emotion wins.

We are about as effective at stopping an emotion as stopping a sneeze.

- Antonio Damasio

Emotion leads to action, while reason leads to conclusions.

- Donald Calne
Conventional research measures the head but not the heart
Emotion

What happens in our brain

Feelings

How it makes us feel

Rationalisation

How we explain it to ourselves
The more we think and consider, the further we get from our emotions.
Emotion without cognitive appraisal is really just arousal

Mast and Zaltman
**Question:** How can we understand emotion without asking people how they feel?

Which is where **neuromarketing** comes in...
We’ve been trying to look into the brain for centuries
And we discover that consumers do not always tell us the truth about why they buy brands
Neuromarketing

• Ethics
• Practicality
• Hype
Is Neuroscience the same as Neuromarketing?

**Cognitive Neuroscience**

The study of how our thoughts and feelings are implemented into the brain

**Neuromarketing Neurometrics**

The use of neuroscientific technologies to measure response to marketing stimuli
Not all ‘neuromarketing’ is based on neuroscience

Brain Scanning (fMRI/PET)
Brainwave (EEG)
Autonomic arousal
Eye Tracking
Facial coding
Implicit association
New MR methods

Neuroscience
Physiology
Cognitive Psychology

All *Indirect* measurements
The Birth of Neuromarketing

- In 2003, neuroscientists in US found that in a **blind product test** of Coke/Pepsi only those parts of the brain relating to sensory judgement were active.

- But when respondents were **told** what they were drinking, preference switched in Coke’s favour, and parts of the brain associated with emotional response became active.

- Brain imaging (fMRI) showed that **Coke branding activated areas of the brain associated with emotional judgement**, whilst knowledge of Pepsi had no corresponding effect.
A brain scan is a fast acting solvent of critical faculties

Matthew B Crawford
Why isn’t fMRI used more widely?

- It’s the only neuromarketing technique with sufficiently high spatial resolution to locate activity in specific brain regions.
- BUT... Hugely expensive (non-portable) equipment.
- Poor temporal resolution - Can take 5 secs for added blood supply to reach activated/affected part of the brain.
- Claustrophobic and stressful respondent experience.
What about Biometrics?

- **Eye tracking** is supported by ‘strong eye hypothesis’ which says that a person cognitively processes info at the same time as their **visual attention** is fixed on that object.

- **Skin conductance** can measure the **degree of arousal** created by a stimulus

- **Facial EMG** measures **facial muscle movements** which may reflect conscious or unconscious expression of emotion

- **Question**: Can these techniques tell us the **emotional valence** (meaning) of the response?
Issues with Biometrics

• No full agreement about the impact of emotional valence on visual attention. Most evidence shows that both negative and positive stimuli capture attention.

• Pupil dilation alone is not a good indicator of affective states.

• Skin conductance cannot determine the direction or valence of emotional reaction but merely measures degree of arousal.

Can we determine emotional valence using other approaches?
EEG relies on a model that the left Prefrontal Cortex (PFC) is involved in **approach behaviour** whereas right PFC is involved in **withdrawal** from aversive stimuli.

Evidence is compelling, but not completely conclusive because **anger**, which is an approach but a negatively valenced emotion, **cannot be separated** from happiness.
Why EEG must be treated with caution

• **Dorsolateral PFC** is most associated with **cognitive control**... This sector is **most directly reflected** in EEG recordings.

• **Orbital PFC** is most associated with **emotional value**.... Yet this is the sector **least likely** to be recorded by EEG.
Emotions and reasoning sit side by side in our brains

"One unwitting consequence of my work ...is the view that the PFC is the primary region for emotion/motivation... (Yet) the prefrontal sector most directly associated with emotion is the orbital PFC - which is the sector least likely to be recorded by EEG. “

Davidson 2004
Should we be neuromantics or neurosceptics?

“Marketers are not interested in science or complexity...they want simplicity – an easy to understand, single number solution...There is a temptation to over-simplify and over-claim.”

Max Sutherland, psychologist and marketing consultant

“I compare advertisers to Christopher Columbus gripping a simple map of the earth he believed to be flat. Thanks to (neuromarketing) we’re now able to see an almost Aristotelian shift in thinking; companies are beginning to realise that the world, in fact, is round.”

Martin Lindstrom, Buy.OLOGY
• Verbal responses about emotion are unreliable
• Respondents post-rationalise
• Too much goes on unconsciously to rely on conscious response
• We cannot see into our own brains
• Neuromarketing tells us what we can’t know through other means
• Difficult to *locate* specific emotions in the brain – except, perhaps, via fMRI

• Most neuromarketing techniques give either a partial (EEG) or secondary/time-lagged reading like bio-metrics

• We can *observe* a brain response (arousal) but that doesn’t tell us about its valence or how it *feels*
Neuromarketing raises some fundamental questions

- Is the science only good enough for experimentation rather than commercial application?
- Are there other less expensive and invasive ways of measuring emotion without direct questioning?

“In neuromarketing there is no E = MC squared equation”

Richard Thorogood, Director of Strategic Insights & Analytics, Colgate-Palmolive US Company
New approaches to MR
<table>
<thead>
<tr>
<th>APPROACH</th>
<th>SOURCE</th>
<th>RATIONALE</th>
<th>APPLICATION</th>
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<tbody>
<tr>
<td>Facial Coding</td>
<td>Social Psychology (Ekman)</td>
<td>Facial expressions link to emotion and are universal</td>
<td>1. Decoding of facial expressions</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2. Proxies of facial expressions</td>
</tr>
<tr>
<td>Implicit Association Tests</td>
<td>Social Psychology</td>
<td>We’re influenced by stuff in our implicit memory that we are not consciously aware of</td>
<td>Measures of speed of association – often with primed stimuli</td>
</tr>
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</table>
Facial Coding

• Recording and analysis of spontaneous facial expressions to understand fleeting reactions, e.g.
  - Anger, fear, sadness, disgust, surprise, happiness etc

• Pros
  ✓ Well established academic foundation
  ✓ Variety of expressions do seem to be universal, so allows measurement of unreported feelings or reactions that are too fast to express, bypassing need for introspection

• Cons
  ✗ Manual coding requires training and takes time
  ✗ Automated app progressing but still developing
  ✗ Limited number of mental states can be coded – primarily negative rather than positive
Implicit Associations

• Well established methods from cognitive psychology, to assess automatic associations with a stimulus
  - Semantic Priming effects indicate ideas associated with the item
  - Affective Priming indicates emotional reactions to the item

• Primarily verbal, but methods use reaction time or task accuracy to avoid need to ask direct questions
  - Any stimulus automatically activates a network of associated ideas.
  - Automatic emotional reactions facilitate or interfere with processing of emotional ideas

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Implicit associations – pros and cons

Pros

• Suited to investigation of sensitive topics or deeper motivations
• Quantitative investigation of issues usually explored only in qual
• Can be administered easily in online surveys
• Flexible – can be applied to a wide variety of marketing issues

Cons

• Methods aren’t intuitive for lay-people
• Reveals what and how people react, not why
• Can be repetitive and sample-intensive
• Effects are fragile if not administered correctly
Implicit associations reveal people’s deeper motivations

<table>
<thead>
<tr>
<th>Implicit</th>
<th>Explicit %</th>
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<tbody>
<tr>
<td>SKINNY</td>
<td>57</td>
</tr>
<tr>
<td>PRESSURE</td>
<td>5</td>
</tr>
<tr>
<td>STYLISH</td>
<td>28</td>
</tr>
<tr>
<td>SHAPELY</td>
<td>54</td>
</tr>
<tr>
<td>INSECURE</td>
<td>6</td>
</tr>
<tr>
<td>ENJOYABLE</td>
<td>31</td>
</tr>
<tr>
<td>INSPIRING</td>
<td>23</td>
</tr>
<tr>
<td>OPTIMISTIC</td>
<td>31</td>
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<tr>
<td>ENERGETIC</td>
<td>24</td>
</tr>
<tr>
<td>CONFIDENT</td>
<td>29</td>
</tr>
<tr>
<td>SUPERFICIAL</td>
<td>11</td>
</tr>
<tr>
<td>EXCITING</td>
<td>12</td>
</tr>
<tr>
<td>HEALTHY</td>
<td>53</td>
</tr>
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</table>
We had emotions before we had language

By engaging the language of visual imagery, we enable a richer description of our inner feelings.

- Gerald Zaltman
We communicated long before we had language

Episodic memory
Mimesis (sign/mime)
Non-verbal representation
Metaphor
Symbols/Language
<table>
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<tbody>
<tr>
<td>Metaphor Analysis</td>
<td>Cognitive Linguistics</td>
<td>Metaphors are (universal) thought constructs which underpin language and which link directly to emotions</td>
<td>Quantitatively - via visualised metaphoric scales.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Qualitatively - via deconstruction of images</td>
</tr>
<tr>
<td>Cultural Analysis</td>
<td>Semir Zeki “Spendours and Miseries of the Brain”</td>
<td>Language/art/literature are brain outputs and can be deconstructed to understand underlying brain concepts</td>
<td></td>
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</tbody>
</table>
Primary Metaphors allow people to express their feelings intuitively

I have a very warm relationship with her

I feel close to him

I jumped for joy

Affection

Intimacy

Excitement

Metaphor

Emotion

www.metaphorixuk.com

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Metaphorix® reveals intensity of response

**Proximity**
- **Verbal scale**
- **Metaphorix®**

**Warmth**
- **Verbal scale**
- **Metaphorix®**

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Questions to ask of new methods

Do the techniques yield meaningful results?

Do they deliver incremental insights?

Are they practical?

Are they better predictors of behaviour?

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Thank you

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