

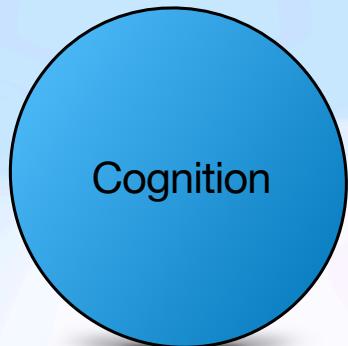
Relevance and appraisals

Relevance Researchers' Network Conference
(RRN2)

Tim Wharton, 23rd May 2025

Overview

1. Pragmatics and emotion
2. Affect and emotion
3. Affective science
4. Relevance theory 'relevance'
5. Appraisal theory 'relevance'
6. Moving forward



If cognitivism is conceived of as an approach in which the inclusion of cognitive processes ... increases the power to explain not only cognitive phenomena but also behaviour, then affectivism would be the approach in which the inclusion of affective processes in such models not only explains affective phenomena but, critically, further enhances the power to explain cognition and behaviour.

Dukes et al. (2001) *Nature: human behaviour*, June 2021

Pragmatics and emotion

The issues I

- Description and expression

- 'I am sad'



Pragmatics and emotion

The issues II

I am disgusted!



Pragmatics and emotion

The issues III

- Propositions and ineffability

I have measured out my life with coffee spoons. (T.S. Eliot)

I never loved you for who you were—
but for the salt that clung to your absence. (Nikos Kavvadias)

Pragmatics and emotion

The issues III

"No one has any clear idea how inference might operate over non-propositional objects: say, over images, impressions or emotions. Propositional contents and attitudes thus seem to provide the only relatively solid ground on which to base a partly or wholly inferential approach to communication"

(Sperber & Wilson, 1986/1995: 57)

Affect and emotion

The differences

- **Affect** is a broad term referring to the experience of feeling or emotion in general. It can be positive or negative, intense or mild, and may not have a clear cause.
- **Emotion** is a complex psychological state involving a physiological response (such as heart rate or sweating), a subjective experience (how you feel), and often a behavioural expression (such as smiling or crying).
 - Emotions have **cognitive content** - they are **intentional objects** - they are **about things**
 - Emotions are short-term, **acute**, rather than **chronic**

Affective science

Top-down and bottom-up

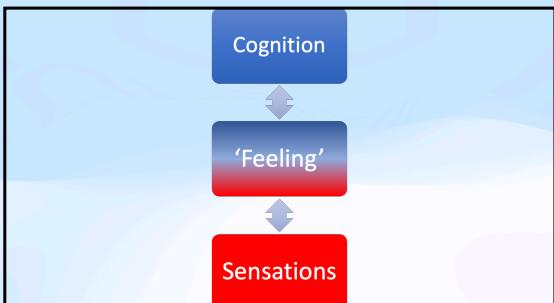
- **Basic Emotion theory** (Ekman 1969)
 - Darwin's *The Expression of Emotion in Man and Animals*
 - Part of our biological inheritance - **bottom-up**
 - Evolutionary psychology
- **Social constructionism** (Feldman-Barrett 2006)
 - Main component of an emotional experience is free-floating core affect, which is contextualised by a given individual's knowledge of their own language and culture - **top-down**

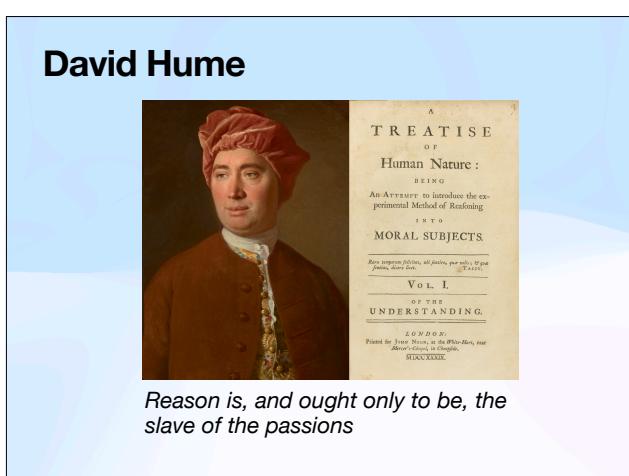
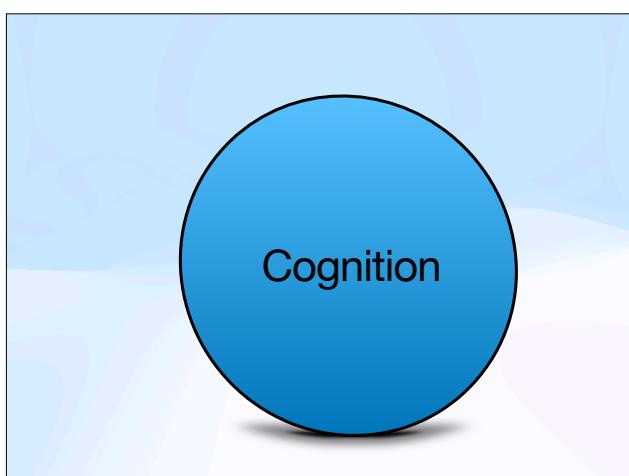
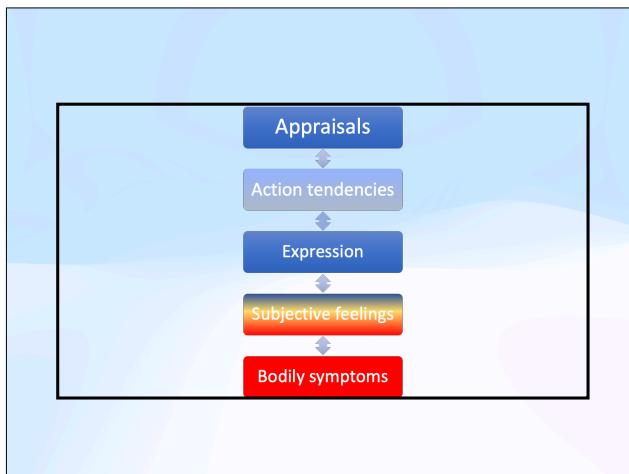
Appraisal theory

Bottom-up or Top-down?

- Emerged in the 1960s as an attempt to explain why the same event may elicit different emotions in different contexts and at different times.
- Emotional episodes are triggered by subjective evaluations or 'appraisals' of environmental stimuli.
- Appraisals rely on a range of criteria including the fact that the stimulus must be **relevant** to a particular goal or concern.

Richard Lazarus, Magda Arnold, Nico Frijda, Klaus Scherer...





Relevance

In relevance theory and appraisal theory

- The evaluation of a stimulus or event as **relevant** to one's goals and needs... is the minimal requirement for the elicitation of an emotion' (Scherer 2021)
- While in relevance theory 'relevance' has been defined and refined over many years, in appraisal theory relevance has been left extremely vague. David Sander suggests that an "object or situation is appraised as relevant for an individual if it increases the probability of satisfaction or dissatisfaction toward a major concern of the individual" (2013)

Appraisal theory

Core variables I

1. Goal Relevance

Q: Is this event relevant to me or my goals/concerns?

- Yes → an emotional episode is elicited
- No → no emotional episode is elicited

2. Goal Congruence

• Q: Is this consistent with my goals and desires?

- Yes → positive emotions (e.g., joy).
- No → negative emotions (e.g., anger, fear).

Appraisal theory

Core variables II

3. Agency / Causality

- Q: Who or what caused this event?
- Me → guilt or pride
- Someone else → anger, gratitude, blame

4. Control / Coping Potential

• Q: Can I control or influence this event or its outcomes?

- Yes → emotions such confidence or anger
- No → helplessness, sadness, or fear

Appraisal theory

Core variables III

5. Certainty / Predictability / Expectancy

• Q: How certain/predictable/expected is this event?

- High → calm, contentment
- Low → anxiety, surprise

Experiments I

- In a typical experiment, participants are presented with an array of stimuli, some of which the experimenter defines as “relevant.” Human participants following instructions must select these “relevant” stimuli and ignore other stimuli defined as distractors.

Which facial expressions are the most relevant?

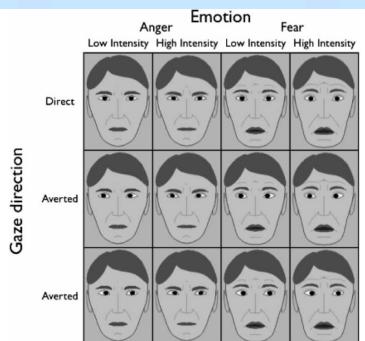


Figure 1. Stimuli consisted of dynamic facial expressions of emotion (anger and fear are depicted) created with two possible intensity levels (low vs. high) and with either a direct or an averted gaze.

Which facial expressions are the most relevant?

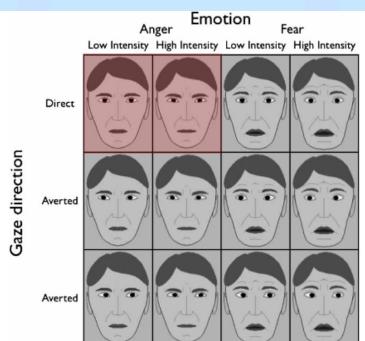


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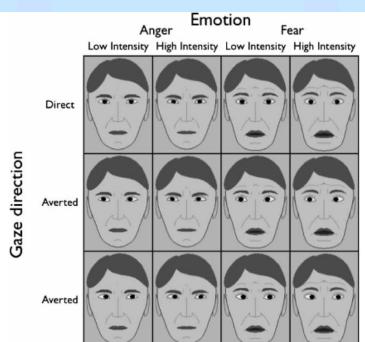


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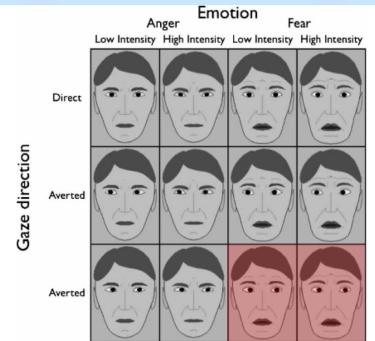


Figure 1. Stimuli consisted of dynamic facial expressions of emotion (anger and fear are depicted) created with two possible intensity levels (low vs. high) and with either a direct or an averted gaze.

"When a (fearful or angry) facial expression is held constant, participants rated expressions as being **more angry** when the gaze of the expresser was **directed at them**, but **more fearful** when the gaze was **averted** (Sander, Grandjean, Kaiser, Wehrle & Scherer, 2007). The conclusion is that an angry expression, which is directed at the participant, or a fearful one directed to the side or behind the participant, is **more relevant** and is therefore felt more strongly and, as such, is more likely to be recognised as a consequence. The simple manipulation of a third party's eye gaze can provide a context and meaning that is otherwise lost."

"In real life ... deciding what might make a piece of information relevant is an important aspect of many tasks, or is a task in itself. There is often more than one goal at any given time."

Sperber & Wilson (submitted)

"There may well be "outside options:" that is, the possibility of opting for an altogether different course of action. Moreover, cognitive activity is not always task- or goal-oriented. In humans, it is often guided by interests with no immediate or short-term practical applications. So the competition for working memory processing is not only among items relevant to a single ongoing task, but also among simultaneous tasks, or among alternative possible tasks or interests."

Sperber & Wilson (submitted)

Moving forward I

- Relevance appears to be the most important of the core variables
- How does relevance, which in the experiments is always relativised to a *given* goal or concern, make the choice? (In real life, the task is to find what is relevant - not to find what someone else has identified as relevant)
- How is the context decided?
- Are the other variables considered sequentially?

Pragmatics and emotion

(Earlier slide)

"No one has any clear idea how inference might operate over non-propositional objects: say, over images, impressions or emotions. Propositional contents and attitudes thus seem to provide the only relatively solid ground on which to base a partly or wholly inferential approach to communication"

(Sperber & Wilson, 1986/1995: 57)

Moving forward II

- Views of inference have developed considerably over the last forty years.
- Early work in relevance theory treated inferential processes as necessarily operating over conceptual representations; this ruled out treating non-conceptual states such as images or emotions as inputs to inferential processes.
- In more recent treatments (Mercier & Sperber 2017, Sperber & Wilson 2015), **non-conceptual states** are seen as potential inputs to inferential processes that yield properly warranted conclusions and can contribute directly to relevance.

Moving forward III

Relevance_{PRAG} and relevance_{AFF}

"Is the fact that the two notions share the same name a mere terminological coincidence, or are there meaningful similarities between them, which might be used to inform research in both disciplines? It seems clear to us that there is no coincidence, and in the previous section to this paper we considered in turn four putative differences. Beneath each of these differences, we discovered, there is little of any substance."

Wharton et al. (2021)

Moving forward IV

However...

- There are conceptual differences between the notions of relevance in relevance theory and affective science
- The right question, perhaps, is not whether we might replace relevance_{AFF} with relevance_{PRAG}, but whether relevance_{PRAG} might be used to replace **all appraisal theory core variables**.
- Whether a stimuli is goal relevant, goal congruent, whether we have caused it (agency), whether we can control it (coping potential, whether it is expected (expectancy) are all issues within the scope of the Cognitive Principle.

Moving forward V

Bottom-up, top-down or both?

"This tendency to maximize relevance is quite unlikely to be achieved by a mechanism that computes the expected relevance of each competing input, ranks them, and selects the highest-ranked ones. What seems more plausible is that the strength of neural signals is modulated at every step in information processing by brain mechanisms that locally implement bottom-up and top-down biases in attention."

Sperber & Wilson (submitted)

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