First Meeting: Overview of issues and thoughts about Affect ∩ Language

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1 Hypotheses

1.1 Affect Primacy Hypothesis

- Is affect "post-cognitive" or "pre-cognitive"?
- "It is further possible that we can like something or be afraid of it before we know precisely what it is and perhaps even *without* knowing what it is," (154)

1.1.1 What is affect?

1. ERP/EEG/fMRI studies to break down what exactly is the time course of emotion processing, how many different kinds of emotion/affect response are there

    - Hot vs. cold (Zajonc 1980 and others)
    - Affective vs. Semantic valence (Itkes et al 2017)
    - Emotion laden vs. emotion label words (Pavlenko 2008, Betancourt et al 2024)

2. From ERP studies (with emo words) there are at least two consistent responses:

    - Early posterior negativity (EPN) 200-300ms post-stimulus occipito-temporal region

      Larger from Emo words than neutral words (e.g., 'erotica' vs. 'neudists' in Farkas, Oliver, Sabatinelli 2019)

      Idicative of lexico-semantic processing; automatic, task-independent attention allocation

    - Late Postive Complex (LPC) 400ms post stimulus with centro-parietal topography

      Larger for Emo words than Neural words; Sometimes differences found between positive and negative
      Evaluation and controlled attention; semantic processing

      Modulation by stimulus type and task (=present if task requires lexical processing, absent if structural task)

3. Korber et al (2008) identified 6 functional groups of consistent neural co-activation during emotion processing

4. Is the Affect / Cognition dichotomy still justified?

1.2 Lexical Valence Hypothesis

- Valence is encoded in the lexical entry (for some words)
- Q: Just positive/negative? or neutral too?

This hypothesis is introduced at the end of the paper, but it's a linking hypothesis that's needed to bridge emotion and meaning.

Linking Question: If affect is lexically represented, in virtue of what would we think that the lexical valence feature would be prior in the way the Affect First Hypothesis would state?

One link is the Emotional Grounding Hypothesis: Since emotion is prior, emotional meaning activaes emotional pathways, therefore is also prior

1.3 The Embodied/Emotional Grounding Hypothesis

Kousta et al (2011), Winter (2023)

- Are abstract concepts grounded in emotion?
- Since abstract concepts lack experiential (=external) correlates, perhaps they are grounded in linguistic and in affective information
- Some evidence from embodiment (Meteyand & Vigliocco 2018)
- Further question, to what extent are concepts emotionally grounded more generally? Cmbodied cognition (Shapiro, Damasio “Descartes error”, “Spinoza was right”)

Concrete/Abstract vs. Psychological/Physical

2 Experimental Points

2.1 General

- The Lexical Valence Hypothesis isn’t presented until the conclusion, and predictions from each hypothesis clearly discussed before the experimental results presented
- Thoughts about the stimuli:
  - Polysemy: Some words differ in psychological/physical dimension in different contexts
    ‘fabricate a building’ vs. ‘fabricate evidence’
    ‘my feelings thawed’ vs. ‘the ice thawed’
  - Passivity? ‘collapse’
    ? ‘I collapsed the building’ vs. ‘The building collapsed’
    ‘that pleases me’ vs. ‘I please you’
  - Are ‘disquiet’,‘solace’ really verbs?
  - Why is ’kiss’ (2,1) less physical than ‘hug’ (1,8)?

2.2 Experiment 1: Norming and RT

- Concrete/abstract better than physical/psychological?
- Use continuous slider from one to the other.
- Two Tasks: Affect Judgement Task, Descriptive Task
- Necessary to test **neutral words**, because they are a control for the affect dimension....crucially to validate an emotional response you not only need to show it happens with the emotion word, but that it doesn't happen with the non-emotion word
- RT $\sim$ Task
  Affect: RT $\sim$ Valence (+,-, neutral)
  Desc: RT $\sim$ Conc (+,-)

2.3 Experiment 2: Similarity Judgement

- Speeded similarity judgement task.
- Speeded response task logic: by forcing participants to respond as quickly as possible, you're not giving them time to engage in deliberate, effortful reasoning. Thus, so the logic goes, the quickest responses are candidate for automatic cogntiion (usually meaning part of the lexicon)

2.4 General experimental points

1. Reporting design, materials, methods and results
2. Control for possible psycholinguistic confounds in the words used:
   - 2.1. Syntactic/morphological complexity of verb meaning may cause a counfound: transitivity, passivity, tense might affect measure of domain, i.e., instransitive and passive might lead less extreme ratings of physicality
     "The cat pleases me" vs. "I am pleased"
     $\rightarrow$ but these are specified in sentences
   - 2.2. Morphological markers of valence might make the valence judgement more salient and therefore faster
     [mm: Response: on the item-by-item basis, are there difference for these morphologically marked verbs compared to the non marked?]
   - 2.3. Word STD / Variance, how much consensus were there in responses?
     - some words may be more or less valenced, and that may affect RT
     - some words may be more or less polysemous wrt to descriptive domain: "thawing dinner" vs. "thawing emotions"

3. Additionally, the literature suggest that the following variables can confound the results (note, some of these may more affect ERP results rather than RT)

    3.1. by-item:

        i. Frequency
        ii. Word length (Hinojoa 2019 et al survey)
        iii. Semantic Association using Word2Vec or BERT (following Souter at al 2023) – Experiment 2
        iv. Influences on abstract/concreteness (Strik Lievers, et al 2021):
            - Lexical category
            - Etymology/morphological structure

    3.2. by-participant:

        i. Gender of part (Warriner et al 2013)
        ii. Native language / billinguallism

2.5 Proposed Experiment 3: Priming

- If the Lexical Affect Hypothesis is seriously considered, than a priming study is a good (=well-established) bet.
- Logic: priming occurs when the prime and target words share some kind of representational link (deliberately vague here).
- If valence is a feature represented in the lexical entry for valenced words, then if the prime and target share the feature, priming will occur.
- Priming study
  Condition: Valence (3) x Concrete (2 or 3)
  RT $\sim$ Condition

2.6 Another possible study: Corpus/Experimental

- Thus, there might be a high context sensitivity of valence judgements
- It seems that words might change valence in sentential context, i.e., event structure is vague until event participants are specified (think: ‘thaw my heart’ vs. ‘thaw the ice’)
- How does the valence of a word change in the naturalistic context of a sentence?
- By quantifying not only the frequency and distribution of valence in naturalistic context, we can compare the ratings from Experiment 1 to this study, matched on item, even as a predictor in the model

3 Theoretical

3.1 What is (affective) meaning?

Psycholinguisitcs/cognitive science
Read: What are lexical items, What are concepts, and how are the two related?

- Local vs. distributed (abstract) representations stored in semantic memory
  - Local: abstract, algebraic, feature-based
  - Distributed (Harris 1970): Wittgensteinian neighborhoods
    $\rightarrow$ co-occurence statistics
- Format: amodal or grounded/embodied
  - If valence, qua semantic/lexical affect, is indeed lexically represented, why would we think it should be accessed faster than descrptive meaning?
  - What is the link between the meaning of lexical affect feature and the primacy of emotion?

Semantic Theory:

- Referential (Pietroski's "the dogma") vs. _____

  Referential (Pietroski: "the dogma") vs. Psychological theories of semantic content

  What are the alternatives? Use-based, Pietroski-style, radical pragmatics? something else?

3.2 Words in sentential context vs. isolation

- If 'love' is lexically positive and 'hate' is lexically negative, what about :

  (1) I love racism

  (2) I hate racism

- these show polarity reversals, OR the lexical polarity is neutralised in the sentential context
- alternatively, learning can change what's lexicalized (emotional conditioning)

3.3 Linguistic tests for content types

1. Rejection A: Mary loves me.
   B: No! It's a bad thing!
   $\rightarrow$ yes, it's ok, and what you seem to be negating is the Speaker A's (positive) attitude to the proposition.

2. Cancelability
   Mary loves me, and it's a bad thing $\rightarrow$ Not a contradiction

3. Explicit Negation
   It's not the case that Mary loves me. $\rightarrow$ does not negate the positive affect

4. Antecedent of the conditional
   If Mary loves me then
   $\rightarrow$

5. Bound variables?
   Every boy loves his mother
   where for some of them, loving is good and for some of them loving is bad