Interaction, Appraisal, and Non-Verbal Social Signal Meaning

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Although laughter has been of interest to philosophers for millenia and in recent times studied extensively by psychologists, neuroscientists, and phoneticians, it has been assumed to lack propositional content (Glenn & Holt, 2013). Ginzburg et al. (2015) provide extensive evidence to the contrary, on the basis of its stand alone uses as a response or follow up to questions and assertions, and its intra-utterance use to effect scare quoting. Two basic meanings are postulated for laughter, one involving the person laughing expressing her enjoyment of the laughable l, the other expressing her perception of l as being incongruent, analyzed in terms of a clash between a general inference rule (a topos) and a localized inference (an enthymeme) (Breitholtz and Cooper, 2011). Ginzburg et al. show how these meanings in combination with pragmatic reasoning, enable to deduce various functions such as seriousness cancellation (of an assertion or query), scare quotation, and acknowledgment.

In this paper we (i) generalize Ginzburg et al.’s argument to other non-verbal social signals (NVSS) such as smiling, frowning, and sighing on the basis of data exemplified here by (1) and (2); (ii) point to an intrinsic problem for Ginzburg et al.’s proposal concerning laughter; (iii) sketch an interactive dynamic appraisal theory, which enables us to fix the problems concerning (ii), and to offer a unified account of NVSS meaning.

We mention here two pieces of data that apply to both laughter and other NVSSs. The first is that the NVSSs trigger implicatures, in an entirely analogous way to verbal utterances:

(1a) Smile reaction to joke |= joke not very funny. (quantity)
(1b) Child: And my sister’s hamster died. Uncle: (laughs/smiles) Child (to herself): This guy cares about nothing. (relevance)

The second concerns irony or simulation: irony/simulation can affect laughter, smiling, or crying (but not frowning, see below); in all cases, there is a composition of a basic meaning of the NVSS with a meaning roughly paraphrasable as ‘I don’t really mean this’. This is exemplified in (2a,b):

(2a) A: And we were only give two macaroons each. B: (Mock cries).
(2b) MR. WHITE: You talked to Nice Guy Eddie? Why the fuck didn’t you say that in the first place? MR. BLONDE: You didn’t ask. MR. WHITE: Hardy-fuckin-har. (From the film: Reservoir Dogs)

Ginzburg et al.’s account of laughter relies on an incongruity/enjoyment dichotomy. Anon (2018) carried out an extensive corpus study of more than 1000 tokens of laughter in the BNC and DUEL corpora, found no laughs that correspond to (pure) enjoyment; roughly, 70% of laughs relate to humor-based incongruity, 20% to social incongruity, and 5% to non-incongruous functions relating to social cohesion. More crucially, the account offers no means of capturing the fact that most incongruity–based laughter expresses the laughers’s enjoyment of the laughable.
We show how to integrate Scherer’s component process model (CPM) of appraisal (Scherer, 2009) with the dialogical framework KoS (Ginzburg, 2012)—like all current models of appraisal CPM is not integrated with language understanding which would enable NVSS to interact with verbal input. Within CPM an agent evaluates events she perceives and their consequences by means of a number of criteria or stimulus evaluation checks (SECs) (e.g., Is the event intrinsically pleasant or unpleasant, independently of my current motivational state? Who was responsible and what was the reason? Do I have sufficient power to exert control if possible?).

We incorporate appraisal by postulating that dialogue gameboards, the public part of information states in KoS, keep track of an additional repository mood—a weighted sum of appraisals. In this way mood represents the publicly accessible emotional aspect of an agent that arises by publicly visible actions (such as NVSS), which can but need not diverge from the private emotional state. The resulting type of DGBs is given in figure 1. We treat each appraisal, following Scherer, as an n-field type, each field corresponding to an answer to a stimulus evaluation check and update Mood componentially:

\[
\text{DGBType} \mapsto [\text{spkr : Ind}, \text{addr : Ind}, \text{utt-time : Time}, \text{c-utt : addressing(spkr,addr,utt-time)}, \text{Facts : Set(Prop)}, \text{Pending : list(LocProp)}, \text{Moves : list(LocProp)}, \text{QUD : poset(Question)}, \text{Mood : Appraisal}]
\]

\[
\text{Appraisal} \mapsto [\text{pleasant : } \langle \text{Ptype, Integer} \rangle, \text{responsible : RecType}, \text{power : } \langle \text{Ptype, Integer} \rangle]
\]

Figure 1: DGB and appraisal types

All NVSS content involves a triggering event \(l\); different NVSSs involve distinct predicates, distinct updates and ranges of arousal; we exemplify here several simplified instances involving in/decrementation of pleasantness or the triggering of a question, when this is unresolved:
We use the unified meaning/appraisal theory sketched in figure 2 to explicate: (i) the laughter/smile scalar implicature (1a) above; (ii) the force of ironic laughter; the lack of ironic frowning: since frowning leads to an interrogative update it cannot be negated, (iii) All NVSS trigger clarification requests (CRs)— seeking a value for \( l \); in the BNC laughter CRs outnumber smile CRs by one order of magnitude; laughter CRs can also involve resolution of the enthymeme triggering incongruity.


