Language and biosemiosis: Towards unity?

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> 'Any animal's communication system must be a natural extension of its sensorium, which invokes an understanding of its Umwelt.' Sebeok, 2001: 72

From the ecosocial to the biosemiotic

Although many pay lip-service to the view that signs are common to culture and biology, it remains unclear how such a unity could emerge. Indeed, while those working with culture usually ignore biology, biologists rarely consider how their observations bear on issues of meaning. So, when sign-making is studied, its outcomes are usually interpreted either against a cultural surround or models of how semiosis is represented in the brain. It may seem that the alternative is a *biolinguistic* view that syntactic computations are evidence that (internal) language has its basis in molecular biology (Jenkins, 2000). Aspects of verbal language are, on any such view, entirely separable from persons, neural processes and the sensorium.

Ideally, a book entitled *Language and Interaction* (*L&I*) might propose another way of connecting the verbal with living bodies and semiosis. Eerdmans, Prevignano and Thibault however, set out a modest goal of using Gumperz's opus to reappraise the 'theory and practice of communication analysis' (2003: vii). Accordingly, they juxtapose interviews with critical interpretations and open social theory to new debates. While accepting that interaction depends on indexical signs including what Gumperz calls *contextualization cues*, they find no consensus on what these are. This paper, therefore, scrutinizes the nature of contextualization cues and, finding the concept wanting, extends the central debate of L&I. Concurring with those who find Gumperz's information-processing model inadequate, I suggest that ecosocial views cannot explain unintended sense-making either. Since much contextualizing is independent of 'meaning potential', we come up against the limits of analysis. Instead we need to consider how indexical sense-making is grounded in biosemiosis. Sketching such a model, I link Barbieri's (2002) approach to semantic coding with Damasio's (1999) view of core consciousness to show how human judgements can use the feeling-of-what-happens. During talk sensitivity to the *feel* of biosemiosis prompts us both to adjust to each other in real-time and to make verbal judgements about how they sound and act.

Contextualizing meaning

In line with a general flight from symbol-based views of mind (see, Clark, 1997), contributors to L&I stress indexical sense-making. Thirty years ago Gumperz tackled the issue by using representational models. All things being equal, he posited, meanings use reiterated signs which enable us both to say what we mean and to know what is meant. To understand, therefore, interpretation of shared indexicals must be concurrent to verbal processing. The perspective is illustrated by, for example, an African American who makes an appointment to see a White American professor and, in a singsong way, softly intones 'ahma git me a gig' (Gumperz, 1974: 11; Prevignano & di Luzio, 2003: 20). In another case, at an airport canteen, workers' utterances of 'gravy' are sometimes heard as

neutral offers while, to others, they sound *unfriendly* (Gumperz, 1982: 173). Interactional sociolinguists posit that the events depend on indexicals that prompt brains to use register or niceties of tone. In the 'gravy' example, analysis around a 'final falling contour' is even used to improve cross-cultural communication. While accepting such descriptions, I nonetheless join those who reject Gumperz's explanations.

In his first interview, Gumperz emphasizes the roots of his work. Following Bloomfield, interaction is taken to be a 'level' between language and social practice. It is an 'analytical prime' (Gumperz, 2003b: 106), where habitual activity uses both linguistic forms and indexical patterns. Rather than adopt behaviorist logic, however, Gumperz invokes neurally mediated causes. In simple cases, acts of contextualization use 'cues' that prompt inferences. If communication is smooth, a listener's brain retrieves appropriate presuppositions; if perturbed, miscommunication occurs. Understanding is triggered by indexical signals that, together with words, set off neurophysiological processes. While unconscious, their workings can nonetheless be traced through the conversational flow. Provided that interactional sociolinguists base hypotheses on cues and meanings, these can be checked against participant judgments and audible facts. Understanding uses cues that trigger interpretation.

While contributors to L&I are generally skeptical (e.g. Levinson, 2003, Prevignano & di Luzio, 2003), only Thibault (2003a, 2003b) offers an alternative model. Rejecting internalism, the basis for multimodal semiotic performances is posited to lie in bodily attunement (Thibault, 2003a: 44). Brains do not interpret but, using semiotic experience, identify and remake functional categories. Conversation is social. For Thibault, ecosocial analysis provides the necessary tool for clarifying how meanings are made. Given contrasting views, L&I pivots on contrasting an inference-based view of understanding with one where social practice alone is necessary to construe experience.

Contrasting perspectives

Opposing Gumperz's view that an utterance means what people say, Thibault plays down how meaning is reported. Opposing a common-sense or lay approach, he regards systematic analysis as necessary to establishing what is meant. In his terms, meaning is made as semiotic resources are 'co-deployed' across semiotic modalities (2003a: 44). During talk, people do *not* know what they mean. Rather, they experience the surface of meaning-making in performances by multimodal systems. Since we live superficially, meaning-making can only be explicated by analysis.

Given contrasting perspectives, the theorists set different goals. Gumperz' practical interests contrast with Thibault's (2003a: 40) focus on how meaning is possible. For Gumperz, how events are meant or reported matters, among other things, to cross-cultural communication. Following Bloomfield (1933), he treats communication as based on mapping form to meaning (and vice versa). Starting with reportable events, he thus seeks to trace what happens back to forms. Using an internalist model of mind, his analyses are tested against participant views so that, in the best of cases, they serve to improve communication. Thibault, by contrast, explains meaning around a social semiotic. While drawing on systemic-functional linguistics, he also uses Lemke's (2000) ecosocial models. Given these differences, I proceed by stressing where there are commonalities in how they view the brain's role during talk.

Representationalism and its rivals

Like many who work with conversation, both theorists reject the symbol-first models of post-Bloomfieldian linguistics. This shift began in the 1960s when 'variation' was discovered and became mainstream as conversations showed most (or all) of language to be 'context-bound'. Endorsing this, while some explained appropriate ways of speaking in relation to communicative competence (Hymes, 1972), others described talk as if program-like mechanisms (Sacks et al, 1974) operated in tandem with verbal behaviour. By the 1980s, then, discourse was often seen as irreducible to symbolic output. Indeed, rather as the productivity of grammar transcends S-R (stimulus-response) learning, textual complexity cannot be reduced to linguistic form. Today, then, most use reified constructs such as 'discourse' or, increasingly, 'practice' (e.g. Wenger, 1998; Chouliaraki & Fairclough, 1999; Scollon, 2001).

Gumperz took another route. Instead of identifying language with symbols, he used his ear to develop descriptions of interactional events. All contributors to L&I accept his finding: these depend on more than is seen in phonetic transcription. Models of interaction must, somehow, grapple with metadiscursive practices and contextualization cues. While influencing theories of practice (Scollon, 2001), few have sought to extend Gumperz's analyses. Although some examine linguistic particulars (e.g. Goodwin & Goodwin, 1992; Cowley; 1997; 1998), indexicals are usually described in general terms. Even prosody is analyzed –not with regards to reported meaning –but around form-based patterns (Auer & di Luzio, 1992; Couper-Kuhlen & Selting, 1996; Wichman, 2000).

In a divided field, the Gumperz-Thibault debate illustrates a split between cognitive and social theorists. While Gumperz takes the cognitivist view that brains are form-driven processors, Thibault assumes forms are 'used' for social functions. The positions contrast as follows:

- Human cognition depends *only in part* on the causal processing of internal representations associated with words.
- Human cognition occurs in context and depends on the causal processing of *functional* units that defy formal analysis.

While disagreeing about internal processes, both treat mind as co-extensive with brain. In Bennett and Hacker's (2003) terms, brain-body dualism leads them to treat 'mental states, events and processes as occurring, obtaining or going on *in a part of the person*' (112; my italics). While Gumperz sees understanding as inner, Thibault thinks meaning uses ready-to-be-discovered categories. Rather than accept Gumperz' view that brains processes words and cues to output meaning, Thibault (2000) sees brains as using categories that enable meaning potential to function across various time-scales. Rejecting what Levinson (2003) calls Gumperz's 'cheery optimism' (38), Thibault's categories involve more that we *claim* that we know. Brains 'construe experience' by producing meanings that are revealed by third-person analysis. Before challenging this, I argue that brain-body dualism can be replaced by a distributed view of cognition.

Looking beyond symbols

Chomsky (1959) challenged the Bloomfieldian view that linguistic interaction originates in public events. By reconceptualizing language around internal representations,[1] non-

[1] Chomsky (see, Hauser et al., 2002) has moved far from this position and Fodor (2000) has cautioned that, at best, this applies to a few aspects of brain-function.

linguistic semiotics came adrift of the language sciences. Among other things, a standard view of 'community' collapsed and left space for form-based sociolinguistics. Given anthropological interests, Gumperz could ask new questions about language in society. In interactional sociolinguistics, it did not matter if linguistic forms had 'psychological reality' or drew on habits. In this context, the focus fell on new ways of addressing the problem of meaning. Highlighting non-grammatical patterns, he showed that the sense of events bore did not derive from the words actually spoken. During talk, we make extensive use of what he called 'discourse strategies' (Gumperz, 1982). Persons use words together with discursive practices and contextualization cues.

While readily described, it is harder to explain discourse strategies. In attempting to do this, Gumperz took an almost solipsistic view based on appeal to shared inferencing. Understanding became an internal process where 'experiential reality' is 'always filtered through our own or some other human interpreter's mind' (Gumperz, 2003c: 154). Implicitly, to get at the meaning of 'gravy' parties must rely on similar neural processes. The symbolic is thus pictured as being reunited with the indexical in a special 'cognitive space' (2003c: 154). Where events in this mental realm prompt the wrong invariants (presuppositions), miscommunication arises. Thus a falling cadence can modulate 'gravy' either with an intended sense or, perhaps, prompt an unmeant inference. Everything depends on how brains code presuppositions. In multiethnic settings, the tone is likely to call up the inappropriate associations that give rise to miscommunication. Undoubtedly, moreover, Gumperz provides descriptions that illuminate such events. How, though, do we assess the explanation? Is interaction reducible to how language-system output is supplemented by indexical signs? Do brains use 'cues' to retrieve presuppositions that drive metapragmatic practices?

In Gumperz's model understanding is triggered by form-based cues. To convince opponents that brains rely on these entities, he set out to show that cues can function independently of words. His focus thus fell on ambiguous one-word utterances and, as Levinson (2003) notes, contextualization cues become central to his theory. Further, by focusing on examples like 'gravy', his analyses became relevant to both social theory and the practical concerns of communication trainers. Indeed, both fields are changed by any theory that traces understanding to entities that are more ephemeral than words. Seen thus, Silverstein's (1992; 1993) 'pure indexes' became independent evidence for the cues that Gumperz's cognitivist model sought to explain. Even without propositional content, cue-like features could plausibly trigger different presuppositions. Especially as social boundaries, therefore, a verbal act might prompt unintended inferences. Given the frequency of unfortunate misunderstandings in multiethnic settings, this model suggested that these might depend on how brains encoded presuppositions. More recently, similar interests led Gumperz to ask how indexicals affect 'ideological events' at linguistic and cultural boundaries. Rather than be too distracted by the theoretical worries of, especially, Silverstein (1992), he has focused on socially significant goals.

Playing down representationalism, Gumperz nonetheless appeals to form-based processing. Perhaps sensing that this is a weakness, he claims that the 'empirical proof' of his models lies in how 'interactants maintain conversational involvement' (Gumperz, 2003c: 154).[2] For humans, like machines, understanding remains independent of bodies

[2] In California, this bizarre idea must have been 'in the air'. The idea that motivation for listening needs a logical 'explanation' also appears in the classic paper on turn-taking by Sacks et al. (1974)

except insofar as they are needed to identify (not-noticed) cues. Listening, on this view, depends on how engagement arises, not in feeling, but as output from systems that process Shannon information. Further, positing a space where the indexical meets the symbolic undermines (Bloomfield's) link between a language and a social group. Given the importance of this to sociolinguistics, Ballim (2003) is applauded for reiterating that it is folly to ascribe discourse patterns to 'a uniform, disembodied community' (82). Yet, to understand social practice, Gumperz advocates a theory where linguists continue to ignore bodies, emotions and social strategies. Even beyond symbols, indexical effects depend on a simple input-output logic.

Functional forms and dynamical systems

While in 'broad sympathy' with Gumperz, Thibault (2003a, 2003b) takes an externalist view of indexicals. Rather than invoke the brain, he appeals to 'what it is possible to mean in a given community' (42). Agreeing that the relation between semiotic events and social theory is irreducible to symbols, he invokes yet more abstract patterns. Taking a systemic-functional view, Thibault avoids form-function debate by stressing that these arise in dynamic cross-coupling. Building on Lemke's (2000) ecosocial model, speech genres as well as language-systems are said to mediate between interaction and the social world. Contextualizing, while using brains, belongs to social practice. On this view of indexicality, form-based analysis serves –not cognitivist explanation –but functional description. It aims to capture what Silverstein dubs 'event characteristics which are immanent in and emergent from interactional happenings' (1992: 58).

For Thibault (2003a), contextualization cues are ordinary semiotic resources. Far from triggering presuppositions, they 'translate' into speech functions during social and material processes (44). Rather than appeal to psychological reifications, he suggests that we display genre-based sensitivity to perceived events. With Lemke (2000), talk uses topological-continuous signs together with typological-discrete counterparts. Modes of semiosis depend –not on competence –but 'meaning potential' immanent to a community (40). In contrast to form-based models, Thibault highlights 'multimodal semiotic performances' (41) where meaning is never public. Language-use exploits 'typical co-patternings of selections' from genres (44) whose co-deployment construes experience. Ignoring distinctions between indexical classes, Thibault proposes a general model. By way of illustration, he analyses 'Look at *that man* over there!' (48-49). Where such words are spoken, he suggests, the sound represented by the italics indexes a material or imagined object etc. Given a nominal group, the (in this case) fictive phenomenon is 'construed as the instantiation of a type category'. Thus *that man* specifies an experiential category internal to the language system which, in the circumstances is taken as a speech event in a given genre (48). Its meaning, therefore, is independent of what individuals think. Going further, by examining the cross-coupling of patterns that 'combine to index some aspect of the wider context' (49), we find how 'that man' construes a *phenomenon*. Not only is this independent of real men in space-time but it reflects semiotic interaction of *type categories* that index *real or imagined* context. The same model applies, presumably, to 'ahm a git me a gig' and 'gravy'.

For Thibault, indexicality uses semiosis to posit a phenomenal dimension of experience. By engaging in a social and material process, bodies act as meaning-makers. There are,

however, difficulties. First, when we act by saying 'Look at that man over there!' we do not (normally) realize that we are participating in a genre or instantiating word-based categories. For Thibault, meaning thus depends on brain systems that manage functional mappings. Although we do not 'use' cues, triggering, or metapragmatic assessments, our socialized brains pick out abstract form-based patterns. During talk, the micro connects to the macro by virtue of these parts of a person that perceive 'relations of relations'. Far from relying on *thinking*, persons use patterns that, once perceived, prompt further action. Gumperz's metapragmatic strategies (2003a: 20) thus give way to 'metadiscursive meaning-making practices' that 'interpret or gloss the meaning of the instance' (57). To hear 'gravy' as unfriendly (or neutral) depends on the ecosocial context. Brains use a multimodal pattern that is, at once, indexical, intertextual and metadiscursive.

For Gumperz, this 'leaves the human factor out of account' (2003b: 121). Undeterred, Thibault (2003b) continues to focus on 'social meaning-making practices' (144) that permit 'being-in-the-world-interactively' (133). Entrained 'bodily and ecosocial dynamics' (128), he suggests, enable us tune into and act on each other. Even in ontogenesis, meaning arises as infants use attunement to find themselves acting symbolically (Thibault, 2000). Without understanding what we are doing, humans find their 'vibrating vocal chords self-organize into patterned behavior' (137). In Lemke's (2000) terms, we 're-scale' social semiosis as 'symbolic modes of interaction make possible the maximal intersection of different time-scales' (145). Emphasizing cross-coupling makes contextualization cues into arrays of expression whose meaning emerges thanks to constraining systems of oppositions. These integrated semiotic arrays can be shown to have meaning –not because of human goals and strategies –but through our sensitivity to functional patterns. As participants, we rely on brains that perceive the relations of relations that link events to each other.

Self-consuming artifacts

All agree that conversations include moments where, thanks to indexical features, participants hear differently. Are these to be explained by an externalist model that invokes the pattern perceived in a multimodal dynamic array? Or, alternatively should we take an internalist view? Do contextualization cues use brains to retrieve presuppositions? Most contributors to L&I agree that close examination brings out weaknesses in Gumperz's internalist view. Levinson (2003) notes 'lack of theoretical cleanliness' (52) and Prevignano doubts that interpretations often coincide (Prevignano & di Luzio, 2003a: 17). Emphasizing that indexicality is all-pervasive, Thibault denies that there could ever be 'pure' contextualizing.

Let us now scrutinize the claim that 'gravy' (G) triggers shared inferencing around pure contextualization cues. The simplicity of the idea –together with appeal to the falling cadence –is the strength of the Gumperz's theory. Somehow, persons agree in reporting how utterances are meant. Far from attending exclusively to what we call signs, G *sounds* meaningful. Yet while some hear a *factual* offer (y), to other ears, G seems *unfriendly* (z). The fact that G is said is, from a participant's perspective, uninformative. For this reason, if we follow Bloomfieldian logic, sound must enact a 'purely indexical' signal that triggers either the meaning (y) or the meaning (z). On an internalist view, moreover, 'gravy' enacts an intention which can be brought into the open. (If asked, a speaker says 'I was offering gravy' and, if pressed, 'I was being neutral'). More formally,

when G is 'a neutral offer', it is *meant as* G_y. Having established this meaning, the interactional sociolinguist posits a corresponding cue that, for the speaker, has the intended meaning (y). In spite of the speaker's inner intention, a falling cadence can, in some circumstances, trigger the wrong presupposition. This happens if the listener's brain identifies a meaning (z) based on a form G_z. What is *meant as* G_y thus seems 'unfriendly' to persons whose brains presuppose that *this* instantiates G_z.

The model is logical. Can it therefore double as a cognitive explanation? Everything depends on whether pure indexicals have pre-theoretical existence. If content-free cues occur, it is reasonable to suggest that brains may function by mapping them onto meanings. Further, if this is shown to occur in simple cases, it is likely also to happen in complex ones. For Gumperz, one might say, examples like 'gravy' vindicate the 'central assumption of linguistics' that –for some persons –some utterances are alike in form and meaning (Bloomfield 1933). By contrast, for Thibault, contextualization cues are no better than analytical fictions. Gumperz identifies what he hears with form-based cues *because of* the original Bloomfieldian assumptions. In fact, face-to-face communication uses a pattern that emerges from co-deployed semiotic arrays. Accordingly, while Levinson documents the troublesome properties of contextualization cues (2003: 36-37) Thibault (2003a) challenges Gumperz to defend them (45-46). Avoiding this, Gumperz (2003b: 121) emphasizes that his interests differ from Thibault's and, tantalizingly, agrees that all naturally occurring forms are indexical.[3]

While there is a superficial analogy with Bloomfield's correspondence theory of semantics (e.g. NaCl → 'salt'), the resemblance soon dissolves. Although claimed to correlate with meanings, there is no reliable association between contextualization cues and formal invariants. First, even Gumperz never offers more than 'impressionistic descriptions'. Second, in a very insightful paper, Auer (1992) finds that cues co-occur in bundles, involve many modalities and exploit quite different 'signatia'. There is, however, 'no *a priori* limit to such cues' (ibid: 24). Yet, if there is no such limit, there can be no causal link with presuppositions. Indisputably, if there are no *a priori* presuppositions, the explanatory model cannot be correct.

Although *analysis* of, say, 'gravy' fits a lay view, there is no 'form' for a brain to map onto a meaning. Cues are analytic constructs whose existence is posited because of how we picture understanding. Formally, there are no criteria for identifying G_y as a type or, indeed, systematically distinguishing it from other instances of G. There is no sense in which G_y functions as a context-free form. For internalist models, this is fatal because, to trigger presuppositions, brains need determinate input. Without such input, no reliable causal process can occur. The same problem, moreover, applies to 'situation'. No determinate pattern can prompt a brain either to categorize a person's situation or identify when it changes. As an explanation, the model is a dead end. While offering gravy is often accompanied by a falling cadence (for some persons), this explains nothing. Offering a liquid is, in no sense, *equivalent* to uttering this vocal pattern. Lacking grounds for distinguishing G from G_y, contextualization cues cannot be independently defined. Thibault is correct: the concept is deeply muddled.

[3] This is tantalizing because it is only the conviction that some utterances are purely 'symbolic' that allows Bloomfield to make the central assumption of linguistics (that they are alike in form and meaning). For pertinent discussion of these issues, see Love (2003).

If cues are not determinate tokens, they contribute to continuous-typological signs or, simply, more general patterns. Instead of appealing to triggered presuppositions, meaning-making must draw on material process. *Contra* Gumperz (2003b), Thibault's criticisms cannot be deflected by asserting that he wants the theory 'to deal with matters beyond its scope' (122). Quite the contrary. Contextualization cues are meant *precisely* to explain the results of events like hearing 'gravy'. If there are no determinate cues, there is no inner 'processing'. Before abandoning the theory, though, let us look at other claims for the 'reality' of contextualization cues:

1. Treating contextualization cues as pure indexicals is compatible with a symbol processing model of mind
2. The empirical proof of contextualization cues lies in the fact of long-term conversational involvement

The first reflects Gumperz's (2003c) belief that we 'we have no access to experiential reality', except as 'filtered through a mind' (154). If brains represent the world, ideas must be reducible to physical invariants. While this Humean model once dominated cognitivism, it has been superseded by situated and embodied models of intelligence (see Anderson, 2003). As roboticists have shown (see, Brooks, 1999), machines can supplement use of programs with sensors that respond to physical features of the world. Indeed, in influential work, Clark (1997) characterizes the last 20 years of cognitive science in terms of a general 'flight' from symbol-processing. In turn, a growing number have come to see the mental domain as realized by both the brain *and* what is beyond the body. This, of course, accords with Thibault's view that Gumperz depends on psychological reifications and, thus, overlooks embodied results. Avoiding this error does away with the solipsistic view that reality is filtered by the 'inner'. Freed from *exclusive* appeal to inner processes, as Sebeok (2001) would have demanded, contextualization can be seen as extending the sensorium. As argued below conversational involvement may arise as brains and bodies, together, constitute felt experience. In dismissing psychological reifications, we can posit that miscommunication arises when people do not like each other or, indeed, when showing 'inappropriate' neutral attitudes. Social life is based in biosemiotic events.

Even if indexicality is not pure and we do not know how contextualization cues function, conversational involvement may have a material basis. Could a lay-person's reports of 'meaning' depend on microevents? Rather than ask, Thibault rehearses failings of form-based theories and overlooks the power of Gumperz's descriptions. This is a shortcoming because, uncontroversially, lay-views allow events like those exemplified by 'gravy' to serve as a basis for developing skills in cross-cultural communication. Even if we reject Gumperz's explanation, the label 'contextualization cue' has great descriptive power. To ascribe neutrality or unfriendliness to an utterance indeed captures how persons report their encounters with others.

Can appeal to multimodal arrays explain why, in given circumstances, some people *hear* G_z as (y) and others as (z)? For Thibault, the answer reflects 'what it is possible to mean in a given community' (2003a; 40). Applied to 'ahma get me a gig', Thibault would invoke metadiscursive practice to illuminate how, among Afro-Americans, a singsong rendering can be construed along the lines of 'I am doing something that minority people like myself have to do, get support where I can' (see, Prevignano, 2003: 70-71). An

account of meaning potential that describes relevant semiotic resources will, undoubtedly, go towards clarifying how this construal is possible. What is less clear, though, is where this leads. When do we need to know how semiotic interaction of type categories link aspects of context? For example, we rarely care if a concept is 'real'. Equally, a paraphrase of 'ahma git me a gig' can function even for persons with rudimentary understanding of its lexicogrammar. Readers who lack Afro-American verbal resources will not find their understanding blocked. Often, we make shallow use of what 'it is possible to mean'.

For unintended events, Thibault's theory fails. Analysis of metadiscursive and intertextual 'meaning making practices' is, simply, unable to explain how 'gravy' *sounds*. While indeed a material act embedded in metadiscursive practices, this has little bearing on human hearing. This is because, first, appeal to meaning potential is too abstract. Second, 'gravy' is not understood in accordance with convention. Third, where lived events or, the *human* factor is ignored, analysis cannot clarify what we report. Fourth, invoking what is meant 'in a given community' leads back to the suspect notion of shared knowledge. Fifth, this implies grounding in the brain rather than the sensorium. What matters, in this case, is less what we 'know' than what we hear. Indeed, it is because 'meaning potential' is often irrelevant that, for example, we can communicate with small children. While insightful, Thibault's model overlooks our sensitivity to responding bodies. When we participate in practices, we act as feeling, thinking and moving persons. We initiate and respond such that, in Thibault's terms, we *act* to entrain one another, recognize commonalities and conform to practices. People are discourse participants who, queerly, experience (inter)subjective events. While using meaning potential, human expression can be used to achieve a range of strategies and goals. We need to reconsider the relation between human expression and reports concerning beliefs, wants and feelings (e.g. 'It was neutral' Vs 'It was unfriendly').

Gumperz and Thibault's theories undermine each other. While contextualization cues identify recognizable events, they are poorly conceptualized. First, 'pure' indexicals have no independent existence. Second, homely examples elude ecosocial theory. Detailed attention to 'gravy' suggests that neither theory betters lay *accounts*. Neither model explains why some people judge it as 'neutral' and others as 'unfriendly'. Further, if ordinary people hear this much, do we need analysis at all? Although useful as labels, contextualization cues resist explanations that draw on theories of cognitive or social 'processes'. In some sense, we understand directly or, echoing Silverstein (1992) again, use patterns that are 'immanent in and emergent from interactional happenings'. To rethink the human, another perspective is needed.

Work on contextualization shows the limits of analysis. While contextualizing acts are real enough –we believe that we understand what is meant –this cannot be explained by how brains act on our behalf. Indeed, it is because of the role of circumstances that ecosocial appeal to meaning potential, like the cognitivist's invocation of presuppositions, falls wide of the mark. Examples like 'gravy' bring home that much talk is semiotically underdetermined. Rather than evoke multimodal performance, we need to get at how, in real-time, people act, believe and feel. Indexical events must be rethought independently of models that present linguistic communication as using reiterated forms or speech communities. *Contra* Bloomfield, interaction is –not primary –

but a second-order construct based in talk about human experience. As Thibault argues, we need to scrutinize the material process. To do this without relying on analysis, however, we need to ask how persons adjust to circumstances. We must, therefore, reject brain-body dualism by building on the work of Dennett (1991), Hutchins (1995) Clark (1997) and others. Below, therefore, I present human action and cognition as culturally distributed. While feelings, beliefs and acts matter, reports also use causal processes that link perception, action and culturally-derived experience.

Brains and bodies in the world

For brain-body dualists, experience is based in representations stored by a part of the body. In debate about indexicals, utterances of 'gravy' or 'ahma git me a gig' become either expressions of intention or construals of social experience. On the first view, an inner process exploits symbol-like cues and, on the second, bodies encode semiotic functions. In a familiar opposition, analysis invokes either a neural process or use of social resources. Appeal to form-based representations is countered by positing that representational arrays are used by signifying bodies. Both fall foul of the mereological fallacy (Bennett and Hacker, 2003) by attempting to explain the behavior of the whole by the workings of its parts. This is inevitable if interaction must be investigated by analysis or, indeed, in relation to re-iterated signs.

There are alternatives to representation-first views. With Wittgenstein (1958; 1980), opposing the outer to the inner may be conceptually confused. Activity may be controlled –not by one brain alone –but by what happens in a mode of life. Superficially similar activity (say, using a word-form) can, in different brains, set off distantly related cognitive processes. A classic example is provided in Hutchins's (1995) ethnographic work on how a naval team fixes a ship's position. While some of the crew use 'higher' cognitive functions (e.g. to check a position on a navigation chart), others rely on 'lower' ones that co-ordinate action with speech. For example, as a sailor reads off an alidade, he may utter *'three-zero-five*'. While relevant to several crew members, the utterance takes on its particular sense only as it is integrated with other activity. For the alidade operator, moving and looking enable him to use a notation (0,1,2,3...9) to describe what he 'sees' on the instrument. By contrast *three-zero-five* serves the bearing reader in plotting ship's position on a chart while, incidentally, monitoring the alidade operator's performance. It is precisely because of the contrasting indexical functions of such utterances that related procedures and artifacts became the basis of Western navigation. Fixing a ship's position is a culturally distributed process that, at the same time, reaches deeply into the brain. While the pelorous operator's work is largely automatic, the bearing reader consciously draws on experience of charts while attending to what can be seen. In Wittgenstein's terms, the sense of *three-zero-five* depends on no specifiable 'inner process'. Failure to recognize that that 'the same utterance' has many aspects is bound to vitiate any model that attributes understanding to a part of a person.

When the bearing reader reports what he does he may come up with the following. First, he may say, he hears the pelourus reader's utterance and, then, checks the chart against his understanding (viz. of what was said). While a reasonable way of *reporting* events, we should not take its folk psychology literally. Specifically, *three-zero-five* lacks any meaning. It is thus senseless to claim either that the utterance is 'understood' *before* looking at the chart or that what is checked is the chart. In fact, the

bearing reader understands by integrating listening with chart-focused looking. Simultaneous processes prompt judgments appropriate to his naval role. He understands by connecting what he hears with experience and concurrent activity.

Much sense-making depends on similar judgments. Once we abandon brain-body dualism, reports cease to be the only basis for investigating interaction. Unquestioned commitment to this (false) assumption, it seems, vitiates Gumperz and Thibault's models. Only analysis commits them to emphasizing reiterated signs. Only appeal to recurrent tokens forces appeal to cued presuppositions and meanings that index multimodal arrays. From a distributed perspective, by contrast, functions arise from a history of real-time judgments. Since cognition is culturally distributed, these draw on interactions shaped by neural, bodily and cultural constraints. Talk is biocultural. Indeed, the *three-zero-five* example shows that what is reported (in words) often contrasts with what we perceive and do. Dennett (1991) hammers home this tricky point around illusions associated with the 'phi phenomenon'. While we all see moving images in films, Kolers and von Grunau (1976) show that the effect is an illusion. Given rapidly displayed stills, neural events induce us to *report* something *not* based in biophysics alone. This is shown in experiments where subjects report a moving light that, at a given point, changes color.[4] In fact, the lights are different colors, one flashes before the other, and no movement occurs. The brain fictionalizes events as, in Dennett's (1987) terms, we 'take an intentional stance' to experience. Far from reporting what 'really' happens, we use word-based judgments. With 'gravy' too, we may learn to report how we judge our responses.

In asking about judgments, we focus on how biosemiotic events shape word-based reports. Causal processes, on this view, link brains, bodies and the encultured world. Cognition, then, is distributed in two senses (see, Spurrett, 2003). First, neural processing is synergistic, integrated between brain-regions, and largely unconscious. Far from being Cartesian, it is distributed *within* the brain. Bodily responding draws on neural processes that connect only distantly with how this is reported. Second, neural events spread their influence in time and space as, using resources beyond the skin, we modulate and control activity (e.g. Clark, 1997). While biomechanical, seeing 'moving' lights or hearing *three-zero-five* merges the cultural and the neural. Reports use expectations that play out in bodily response to activity. It is because our world is encultured that, as persons, we need word-based concepts. Human perception uses –not just on biology –but also historically-colored sense impressions.[5] These serve two main ends. First, they enable us to use folk psychology in interpreting people's actions around beliefs and desires. Second, the trick enables 'thoughts' to direct our own action and perception.

Meaning spreads

Both Gumperz and Thibault regard utterance events as based in re-iterated patterns. Drawing on brain-body dualism, they 'scientise' the folk view that verbal forms correlate with 'meanings'. What, though, if this is wrong? What if experience links biomechanical

[4] The apparatus is designed so that the red light flashes before the green light. While the precise details of the report depend on the physical facts of distance and timing, what are striking are the many circumstances where subjects report seeing a color change *before* the second light came on.

[5] Viewing mind as a valuable fiction arose in Dennett's (see, 1991) development of Ryle's work. Ross (2005) applies this logic to 'self'. Further, in a separate tradition, Harris (1981) argues that lay and professional theorists alike are bound to a 'language myth'.

events to verbal judgments? If cognition is culturally distributed, the beliefs that shape behavior (e.g. that *three-zero-five* has a meaning) are themselves derived from culture. They are anchored both in the brain and the multiple time-domains of human life. Applied to talk, the reported meaning of links sound to a way of speaking based in cultural patterns. Meaning spreads across time and bodies, using both words and transient bodily connections.

It is because meaning is spread that Gumperz and Thibault chase different targets. While one sets out to characterize the immanent sense of events, the other seeks interpretative categories and processes.[6] In Hacking's (1999) terms, while Gumperz pursues a phenomenal 'object' on which judgments depend, Thibault's work scrutinizes the 'idea of meaning (in its matrix)'.[7] If Gumperz regards the 'felt but not formulated' as arising in a brain, the ecosocial model posits that nonverbal signs are entrained behavior. Challenging both views, I focus on how meaning spreads. Seeing a light that seems to move or hearing 'gravy' are events of real-duration that sustain perceptual experience that induces us to make verbal ascriptions. Thus, later experience results, in part, from a person's history. While developed afresh, this logic fits Sebeok's (2001) epigraph to the paper. Did meaning not spread, communication could neither extend the sensorium nor prompt us to construe our social and physical worlds (Umwelt).

How can we explore the spread of meaning? A cognitive internalist will echo Hume and (perhaps) Kant by invoking physical and (perhaps) *a priori* content. In some way, appeal will be made to ahistorical primitives that allegedly map onto representations of the world. When one abandons mereology, by contrast, action is found to depend on the many dimensions of selection history. Decision-making draws –not on perceptual primitives –but reactions grounded in historical, developmental and evolutionary time. To get started, with Damasio (1999), we can ask how natural selection enables brains to generate felt experience. Using neuroscience, the 'feeling of what happens' is found to arise in interactions between physical invariants and causal processes. This 'core consciousness' emerges, he suggests, because natural selection favors somatic markers that regulate animal functions. Gradually, with the rise of learning, these prompt action that reflects an animal's familiarity with its world. Core consciousness thus obviates any need to represent the world's complexities. The feeling-of-what-happens[8], moreover, is manifest in how, in real-time, brains use three kinds of pattern. Detection of physical invariance sets off processes that, first, produce a sense of body-in-context. Second, the same invariances establish a felt relation to the world. Third, coming together, these prompt experience-based judgments or the feeling of what happens.

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[6] While Gumperz is seeking to characterize 'primitive' aspects of language that have not been described in the folk tradition, Thibault's work is based on the text-based units that, in Taylor's (1997) terms, are the basis for and product of linguistic reflexivity (c.f. Harris, 1998)

[7] These terms are taken from Hacking's (1999) realist model of what he terms 'interactive kinds'. Briefly, the idea of x (in its matrix) affects independently occurring phenomena associated with X. In a classic example, academic construction of the idea of 'child abuse' had long term affects on both abusing and the abused. In this context, I am suggesting that 'meaning' is an interactive kind. Whereas Thibault focuses on the idea of meaning (in a given matrix), Gumperz is concerned with meaningful phenomena (or 'an object'). Implicitly, a fuller view would spell out how the phenomenon influences ideas in a given social matrix and, of course, how this drove changes in the biomechanics of the phenomenon.

[8] Since I use the term to describe a felt relation with the world and not in Damasio's precise sense, I write it I adopt the convention of writing the 'feeling-of-what-happens'.

Core consciousness is independent of first person reports. It depends on events with real duration that are constantly updated. To imagine this, consider the feeling-of-what-happens during a fever or after losing a tooth. At such times, we feel alterations in both body-in-context and a felt-relation to the world. Asked to make reports, we attribute laziness to the fever or tongue movements to the attractions of a toothless space. Core consciousness prompts judgments that are necessary and sufficient for ongoing bodily 'experience'. Interactions unite what we call 'signs' with micro-events at the edge of awareness. In using Damasio's model, I build on only two postulates. First, the feeling-of-what-happens links external stimuli with the body. Second, felt bodily relations connect previous experience with fluctuating sound and movement. To interact is to live the feeling-of-what-happens by engaging with the world. As seeing and hearing prompt real-time judgments, meaning spreads together with the dynamical activity that colors experience. To understand *how* people hear 'gravy', we may gain from asking how core consciousness contributes to biosemiosis.

Towards understanding biosemiosis

Distinguishing 'what happens' from reports suggests that the reported may be influenced by core consciousness. Real-time judgments, then, may integrate events with a person's feeling-of-what-happens. At first sight this is puzzling: it is hard to see how *any* biological process can drive perception and action. Below, therefore, I use Barbieri's (2002) work to outline a plausible model. In this, he notes a parallel between meaning more than we say and the context-sensitive output of protein synthesis. Calling this 'semantic coding', Barbieri hints suggests that biosemiosis often uses related processes.[9] Accordingly, I ask if core consciousness can prompt real-time co-ordination. Specifically, I suggest that, on different time-scales, subjects link microdynamics with possible judgments. We can use verbal reports to regulate bodily movements and, conversely, change likely reports by modulating real-time activity.

Barbieri's work counters inflated claims for genetic codes. Instead of emphasizing replication, he stresses that protein synthesis gives rise to context-sensitive output. Far from being algorithmic, semantic coding uses dual feedback mechanisms. Protein synthesis is thus able to exploit probabilistic information together with energy given off by nucleotide reactions. In contrast to simple replication, a selective history also impacts on how proteins adapt to their cellular context. The properties of proteins-in-context, therefore, cannot be traced to the underlying biochemistry. Here Barbieri finds a parallel with language. What we mean is, simply, irreducible to what we actually say.

Biological systems produce output with context-sensitive functions. In applying a biosemiotic model to interaction, I begin with a computer game. In seminal work on Tetris, Kirsh and Maglio (1994) show that players of the computer game exploit two kinds of action. While some are aimed at 'physical goals' (and point scoring), others lack this 'pragmatic' property. Crucially, skilled players favor the more indirect 'epistemic' action. Although not carrying points, they use sideways translations or (apparently) redundant rotations. In detailed analyses, Kirsh and Maglio show how these epistemic

[9] Barbieri (2003) documents a set of 'organic codes'. While seeking to generalize this work to the broader biocultural domain, for current purposes what maters is the general principle. Biological systems can produce output whose functions adapt to the needs of a higher level system (e.g. protein →cell). It can be readily imagined that something similar allows brains to generate core consciousness.

actions simplify cognitive tasks. Although redundant when judged against an algorithmic model, they simplify *what comes next*. Tetris expertise, moreover, correlates with greater use of epistemic actions. How, though, do they arise? While Kirsh and Maglio do not discuss this, epistemic actions may well be prompted by the feeling-of-what-happens. Indeed, without a nudge from core consciousness, how could they be timed accurately? Later, I will ask if human expression uses fine control managed by core consciousness. My hypothesis is that, in talk and Tetris, biomechanics connect with the world through possible judgments that, over time, shape interactional dynamics.

In reporting on Tetris, players focus on ingenuity. For example, some use 'hot spots' to speed useful pattern recognition. Yet while stressing strategic decisions, success correlates with epistemic action. Thus statistical investigation of rotations, for example, shows expert sensitivity to relations between 'row-of-emergence' and 'type-of-piece'. Although not reported, experts have this practical knowledge.[10] Like conversationalists, Tetris players lack insight into how they achieve their goals. Further, as play is not algorithmic (Kirsh and Maglio, 1994), its basis is surely biomechanical. Given the program, epistemic actions prompt the world to 'alter the way cognition proceeds.' They allow what happens *next* to be managed using the screen to enhance our cognitive powers. Specifically, well-timed rotations allow us to *see* where to put a zoid (and avoid 'mental rotation') while translations reduce the *next* move to counting and tapping. Since epistemic actions are unmeant, unreported, and largely prospective, they resemble contextualization cues.

Unintended meaning in material practice

In scrutinizing Gumperz' work, I reached a tantalizing conclusion. While applauding his descriptions of unintended meanings, I deny that there are context-free 'cues'. Although we invoke patterns, no reiterated physical invariants occur. To contextualize 'gravy' is therefore not based in neural input-output. Further, since the sound arises in a collision between bodies, this moment of material practice cannot depend on *a priori* 'meaning potential'. Precisely because it emerges as people connect, we cannot expect it to fit the general model posited by analysis. Rather than appeal to static units or reconfigured arrays, there is reason to consider how meaning spreads. In this regard, it is instructive to recall that the phi experiment shows something about human experience of micro-events. In seeing two light flashes, material processes are fictionalized as biophysics is incorporated with verbal response. In Tetris and talk too, reports may conflate social and physical events with a person's embodied experience. Quite simply, the meanings or values noted by Gumperz may depend, in part, on hearer reactions. Judgements of 'neutral' or 'unfriendly' may resemble Tetris moves in using, not just biophysics, but also an individual's life history.

Interacting with the world can extend an animal's sensorium because judgments help it decide what to do next. Accordingly, given natural selection, they can have a central role in practical understanding. In humans too, the dynamics of core consciousness may help us optimize behaviour. I posit, therefore, that the feeling-of-what-happens operates in real-time as it evokes likely replies. Unintended meaning

[10] They were more likely to rotate doubly ambiguous shapes than ones with a single ambiguity. This suggested that, without 'thinking' (or being able to report on it), they had gained practical knowledge of which shapes emerged from which rows.

spreads as we integrate what we feel with what we say. By analogy, this resembles protein synthesis by connecting information-for-the-organism with energy-based dynamics. In Tetris, therefore, players use affect to make unintended but highly focused judgments. Their play connects learned responses to dynamics which simplify how a subject plays the game. By analogy, the real-time events of vocal and visible expression impact on how we talk. If so, biosemiosis can extend the human sensorium as we learn to report on causal processes that link brain, body and world. Pursuing this hypothesis, I return to the 'gravy' incident.

'Gravy' revisited: reaching beyond analysis

It is because Tetris is simpler than talk that it reveals how skilled actions use felt bodily relations. Below, I sketch why epistemic and pragmatic action may also influence talk (for empirical work, see Blair and Cowley, 2003). While a full account would address the points listed below, my current goal is only to move debate beyond a focus on analysis.

- Two (or more) parties draw on the feeling of what happens
- Events corresponding to pragmatic and epistemic actions are simultaneous (though managed in different time domains).
- Objectives can rarely be defined formally.
- During talk joint regulation and control depend on the simultaneous workings of at least two bodies (and brains).
- Each person's feeling of what happens is shaped by the doings of each of the individuals involved.

While lacking micro-descriptions of how bodies express 'gravy', all utterances exploit fluctuations in audible and visible expression. Further, from Gumperz' description, we know that the prosodic features include (among other things) a 'final falling contour'. No phonetician will deny that, in the first place, this makes 'gravy' a pragmatic action or, specifically, an 'offer'. Beyond this, however, it expresses attitude. Can being neutral or unfriendly derive from dynamics? Does one person's sensorium prompt events in another body? In Tetris, it seems, we can learn to use the program to prompt epistemic action. Might reports of conversation also use dynamics which enable experience to be used in 'simplifying the cognitive task'?

From a distributed perspective, the falling cadence (and visible movement) exert a controlling function. This fits both first person avowals and South Asian hearings of 'neutral' offers. For such parties, smoothness is, as Silverstein (1992) suggests, 'immanent in and emergent from interactional events': Speaking 'gravy' serves an expected function. What, though, if 'gravy' is heard as 'unfriendly'? How do the *same* dynamics prompt different effects? Since the event takes a few hundred milliseconds, it is prima facie plausible that *hearing* 'gravy' contributes to a felt-relation. In principle, this claim is open to empirical examination. For current purposes, however, we lack records of real-time bodily response and can therefore only hypothesize that the timing and energy of 'gravy' disturb a listener's core consciousness. The judgment of unfriendliness may reflect on how a physical event is incorporated in response. As with the phi phenomenon, perception may use experience in ways that do not reduce to biophysics. Just as fictionalization prompts us to *say* a light changes color, we may make a similar move in ascribing sense to 'gravy'. From Tetris, moreover, we know that humans not

only respond to micro-events but also that, in playing the game, felt relations ready us for what comes next. By analogy, if a felt-relation is (roughly) *unfriendly*, the feeling-of-what happens may simplify how we reply or, in other words, ready a person for action. The dynamics of conversation may prompt judgments which shape how we respond to each other during conversations.

From a folk perspective, first-person avowals have authority. In this sense, therefore, Gumperz is correct that we are *miscued* if we hear 'gravy' as unfriendly. Indeed, it is because such judgments are socially improper that we typically repress this aspect of experience. Informally, however, negative evaluations of persons *are* associated with the feeling-of-what happens. We may say to privately, for example, 'I just didn't like him'. Consistent as this is with Gumperz' observations about 'gravy', it allows new insight into why his *explanation* misleads. In trusting his own intuitions, he treats reports as 'truthful' and, by extension, assumes that felt-relations are caused by stimulus events. In contrast, on a biosemiotic model, what is heard is posited to be incorporated with the hearing. While we believe our own reports, they nonetheless involve fictionalization. Normally, of course, discrepancies remain in the background because while we live the feeling-of-what-happens, this is not reported. At most, we experience a barely perceived 'grating' effect. Core consciousness helps us to deal with others by using real-time judgments to modulate expression. Prompting response, they also lead to in continuous changtes in felt-relations. Over time, a person's life history shapes hearing but, without an analyst's prompting, its fictional element is un-noticed. Generally, felt-relations are lived: hearing gravy sounds neither neutral nor unfriendly.

A distributed model of cognition traces causal processes both within and beyond the body. Analysis uses folk views of cause-effect relations that, recently, have been formalized in input-output models. These, however, capture neither judgments based on how voices (and bodies) mesh nor how we modulate expression. On a distributed view, by contrast, real-time activity prompts continuous modifications in vocal and visible microdynamics. Not only are these central to the view presented but many theories have stressed the dynamic aspect of human encounters. This is true for theories of interactional synchrony (Condon 1979; Pelose, 1987), motor mimicry (Bavelas et al. 1987; Preston & de Waal, 2002), accommodation (e.g. Giles et al., 1991) intersubjectivity (Trevarthen, 2001; Cowley et al. 2004) and speech timing (Auer et al., 1999). Pursuing how dynamics shape encounters Cowley uses both frame by frame video analysis and acoustic displays to explore how meaning spreads. He has shown both that expressive dynamics are affected by potential ascriptions band that speaking as well as moving is modulated in real-time. Indeed, the feeling-of-what-happens is crucial to managing family conflict and affiliation (see, Cowley, 1993; 1994; 1997; 1998; in press). Recently, similar dynamics have been shown to help infants manage caregivers (Cowley et al. 2004; Cowley, in press). In a folk sense, indeed, animated conversation often means through its dynamics. Rather than trace contextualizing to *either* bodies *or* brains, subjects also use a history of bodily-based real-time judgments.[11] Affective processes co-ordinate speaking, feeling and acting such that, when words matter little, dynamics dominate talk.

[11] This argument parallels one presented in a paper based on John Shotter's readings of, above all, Wittgenstein (1958) and Merlau-Ponty (1962). The difference, though, is that while Shotter (2002) appeals to a first person view of 'chiasmic change' I suggest that the process may be grounded in biomechanics

Analysis & the extended sensorium

While sensitive to real-time events, reports also index meanings. In classic views of cognition, we explain both by events 'in the head'. Instead of accepting this simple view, I have argued that it deafens us to conversational dynamics. In extending the Gumperz-Thibault debate, I suggest that a history of real-time judgements plays out in the dynamics of talk. Conversations are biosemiotic events where interactional *minutiae* ready individuals for what may happen next. As responding bodies, we use experience that allows language to extend the sensorium. Gumperz, therefore, is right that talk is irreducible to symbols or, indeed, suffused with values. Yet, there are no contextualization 'cues'. While based in material cross-coupling, hearings of neutrality or unfriendliness are themselves judgments. These, however, cannot be brought into the open. To explain the particular sense of an utterance, we need to examine the indexical patterns that arise as a subject's responses are integrated with the interpersonal dynamics. This is the seminal importance of Gumperz work: the *human* emerges at the nexus of language and interaction.

While L&I centers on the Gumperz-Thibault debate, the collection explores many other aspects of constitute a stark a warning against premature theorization. While celebrating Gumperz' achievements, the editors bring home how much is unresolved. Given the debate, the attentive reader is bound to recognize that interactional *minutiae* matter. By extending the sensorium, I suggest, their dynamics shape much of talk. This is because dynamic minutiae allow subjects to use bodies in linking a history of judgments to what they hear. While ignored by cognitive psychologists, social theorists, computer scientists and others, conversation is deeply subjective. Indeed, if the responsiveness of human bodies contribute to social events these dynamics may help make humans so strikingly individual. This is the importance of the fact that even today, theorists battle over how we can understand an utterance of [greɪviː]. In sketching a way of resolving this debate, I emphasize that verbal signs are connected with biology. To become 'normal' members of a community we must, among other things, learn to report attitudes or values arising in the felt-dynamics of talk.

Analysis cannot clarify unique, holistic patterns. Indeed because cognitive internalists ignore dynamical phenomena, they have had little to say about conversations. While using lay-abilities to describe such events, their models do no justice to the complexity of interpersonal events. Conversely, in stressing interpersonal dynamics –and how we anticipate being heard –I emphasize that utterances are intrinsic to behavior. They are, however, irreducible to vocal gesture because, without thinking, we link their dynamics to previous experience. This, in turn, allows the fictionalization that enables us to perceive both selves and others. Dynamic patterns contribute to our subjective life insofar by linking life-history to what we hear. More speculatively, talk uses felt-relations that, given cultural experience, come to be reported. However, in making reports we fictionalize: X cannot be *heard as* nothing. It is in this sense, then, that language and biosemiosis constitute a necessary unity.[12] Bodily cross-coupling prompts belief in 'other minds' because sensitivity to affect makes us act as *subjects*. Experience unites vocal and

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and, elsewhere, detail empirical evidence for how our responding bodies make sense of action by picking up on each other's microdynamics (see, Cowley, in press).

[12] Here I echo Gregory Bateson (1979) who argued, in prescient fashion, that mind and nature constitute a 'necessary unity'.

visible expression with felt-relations and spoken words. In familiar contexts, intermeshing simplifies what comes next by giving us perceptions of attitude. Indeed, this too fits Gumperz' intuition. Even 'gravy' prompts evaluations colored by past hearings. While interaction draws on the verbal pattern, we also respond to the micro-dynamics of the event. If called upon to evaluate the felt-response, we may report that what we hear is neutral. If this does not occur, we truthfully report another sense-based fiction.

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