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On vain repetitions: The enactment of collective subjectivities through speaking in unison

1 Language and communication

Both informal and academic approaches to the study of "language" lean very heavily upon the metaphor of message passing. Each turn in a linguistic exchange is characterised by the encoding of an abstract thought into some physical vehicle, be it articulatory movements, sounds, written texts, signs, or emojis, which are then transferred from sender to receiver, where they are decoded to arrive back at the conceptual content. The roles of sender and receiver are quite distinct, and they may admit of spatial displacement without interfering with the business of message passing. The formal discipline of linguistics, since its structuralist beginnings at the start of the 20th century, and through its rebirth as generative linguistics in mid-century, has concerned itself primarily with the study of the code, both at the level of sounds (phonology) and meaningful units (syntax). The unspoken background to this picture is one of singular minds, descendants of the *cogito* of Descartes, epistemologically privileged, independent of, and separable from, their containing worlds. Scientific psychology has taken it upon itself to delineate the assumed mechanics of such minds, and the union of generative grammar and cognitive psychology in the 1960s, fuelled by the richly productive metaphors of computation and information processing, has given rise to an orthodoxy that subsumes vast amounts of work, and public funding, across many academic fields.

Against this background, the copious collective repetition of known texts spoken in unison as found in every church and temple, as prayer or as liturgy, must appear somewhat odd. Under such circumstances, the separate roles of speaker and listener no longer exist, for everybody is both. The conceit of message passing also fails, as the texts are known to everybody, have been curated and protected often over centuries, and their news content is, essentially, nil. Unlike conversational discourse, each utterance of the familiar phrase does nothing to dynamically alter a negotiation, to shift the common ground of discourse, or to sway an addressee with rhetorical force. To further alter the picture, everybody who partakes in such activity must be physically present in person. Participation in ritual and rite appears to demand presence. It almost seems as if there is a

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second kind of language, bereft of almost all the salient characteristics of linguistic communication, yet employing the same vocal channel.

The origin of the injunction of Matthew 6:7, "But when ye pray, use not vain repetitions, as the heathen do: for they think that they shall be heard for their much speaking" may be read as criticising either the repetition (but see Matthew 26:44, where Jesus repeats a prayer three times) or the apparent failure to generate meaning. The original term *battalogein* is obscure. Either way, an awful lot of the obvious characteristics of prayer and of ritual seem to raise interesting questions. Who is talking to whom, and why, with what effect? Nor are such vain repetitions confined to any one bunch of gentiles. The use of prayer beads in all Abrahamic traditions finds echo in Hindu, Sikh, and Buddhist practices employing *japamālā*, testifying to the global reach of such odd vocal behaviour.

Approaching this rich conundrum as a linguist and cognitive scientist, it seems natural to broaden the scope of inquiry somewhat. There are very many other occasions in which multiple people come together to partake in unison speaking, repeating known texts over and over. In a series of publications, I have suggested using the term "joint speech" to address situations in which several people say the same thing at the same time (Cummins 2018, 2013a, 2013b, 2014, etc.). The simplicity of the empirical definition allows us to employ it to pick out several highly valued forms of human behaviour. Once we frame our observations using joint speech as a guide, the principal domains that leap out are ritualised prayer, but also practices of political protest, and the boisterous enaction of group identity found in chants within many sporting traditions. Prayer, protest and sports do not exhaust the occasions in which joint speech is found, but they serve well to illustrate its ubiquity, and many of the shared characteristics that attend such behaviour, irrespective of the domain.

Notable properties of joint speech include not only the use of texts authored elsewhere, copious repetition, and the requirement of co-presence. We also find the frequent musicalisation of the voice, often abetted by the attendant use of synchronised gestures. The fist pumping of the protester, bouncing of the sports fan, or the head nodding of the reciter of the rosary all contribute to an exaggeration of the musical elements of the voice: strong syllables are made more prominent, phrase timing becomes more regular, and intonation patterns become more melody-like. Work songs provide another example of the elaboration of such embodied and coordinative elements to joint utterance (Gioia 2006). An examination of joint speech practices reveals a continuum between the speech-like sounds found when swearing a collective oath, and the plainsong of liturgical chant, with no clear dividing line between speech and music (Cummins 2013a).

There is obviously something worthy of empirical study here. We have the means to uncontroversially identify instances of joint speech, which are found

in situations of heightened subjective significance to participants, embedded in practices accorded a great deal of societal importance, and occurring, as far as this researcher can tell, in all human societies, and most plausibly long predating the advent of writing or any form of technology of mediation. The speech so produced has demonstrable idiosyncratic characteristics (Cummins 2014) and is entirely amenable to study. Yet a search of the scientific literature comes up almost empty handed. Whether we call it joint speech, unison speech, choral speech, or synchronous speech, there are no more than a handful of works on the subject, and essentially none that have thematised this vocal behaviour directly. Rappaport's account of the importance of collective unison speaking and the associated gestures in religious rituals stands out as an anthropological contribution (Rappaport 1999), but there is essentially no scientific tradition here, and no exploration of the empirical behaviour as it extends across these several domains.

It is not impossible, or even particularly difficult, to study joint speech using relatively conventional means, within existing traditions. Thus, the phonetician will find that having laboratory subjects speak in synchrony with one another is easy to achieve, produces a remarkable degree of synchrony, and serves to eliminate a huge amount of temporal variability in the speech so produced, with no more intervention than the request to speak in time with one another (Cummins 2009, 2004, 2003). The movement scientist will find a unique form of synchronisation differentiated from all other behaviours in which people do the same thing at the same time. In joint speech, there is no necessary reliance on a musical beat (e. g. when swearing a collective oath), and there is no scaffolding of the behaviour by inertial, gravitational, or elastic properties (as, e. g., in rowing, trampolining, dancing or marching) (Cummins 2011). The neuroscientist will find that cortical activity when speaking in unison with a live person is markedly different from that found when speaking either alone, or even with a recording of a person (Jasmin et al. 2016). This finding is all the more surprising as it obtains even when the subjects are not aware of any difference between experimental conditions in which recordings are employed and in which live speakers are used. The pattern of activity observed suggests that when speaking in unison with a live person, one's own voice is no longer obviously distinct from the voice of another. Thus in the live case, there is evidence of a blurring of the boundary between self and other—a phenomenon we might suggest is well known to those who sing in choirs, or who take part in liturgies with a great deal of unison chant.

There is thus something of a conundrum here. Joint speech is clearly of great importance to those who do it, everybody does it, everybody has always done it, yet it is a behaviour rendered invisible and incomprehensible by the linguistic

and psychological orthodoxy that understands the essence of language to be message passing between discrete and unobservable minds. Yet if we simply thematise joint speaking, there are rich empirical fruits to be harvested. Why does this behaviour seem to elude contemporary science? In what follows, I will try to suggest how recent developments within cognitive science may facilitate the development of a vocabulary that will allow joint speech to be recognised, described and understood.

2 Uttering

The empirical study of language since the late 19th century has sought to abstract away from the messy business of the here-and-now in which tongues and jaws cause the air to vibrate in complex ways, to the timeless properties of a self-contained abstract system that displays a great deal of internal regularity in patterns that are thereby dubbed "linguistic". Within structural linguistics, Ferdinand de Saussure distinguished between *langue* and *parole* (Saussure 1916). The former was the system whose regularities were to be elucidated by scientists. The latter was what speakers actually did. The regularities of *langue* obtain irrespective of medium, finding expression indifferently in speech (suitably considered), in writing, in signing, or in any other medium of transmission. The peculiarities of *parole* do not admit of such treatment, resisting partitioning into discrete categories, and context-independent features. The major shift that occurred in the 1960's saw the emergence of a cognitivist theory of mind that was conceptually entangled with a generative theory of language. Noam Chomsky, in laying the foundations of this kind of linguistics, distinguished between *competence* which reflected the learned and systematic capacities of a language user, from *performance* which was the raw data, conventionally understood as being rather too messy to admit of systematicity (Chomsky 1965). Once more, those aspects of language were valorised that could be lifted out of the context in which they occurred, and that could find equivalent expression in any medium of transmission.

But when we study language, we seek to understand a capacity that allowed for a radical transformation of our species over the last several hundred thousand years. The dates are imprecise, because we do not know when language as we know it emerged, or what intermediate steps might have happened. However we can be quite confident that the emergence of writing happened a mere five to six thousand years ago, and widespread literacy has only arrived, to most of humanity, within the last 500 years. This is no time at all from an evolutionary perspective, but writing has fundamentally changed humanity (Ong

1982). Language in oral cultures has many properties not found in a literate setting, although characteristics of orality are retained, for example in joint speech practices, even within highly literate cultures. Writing also makes commonplace the idea of a text that can stand by itself, untethered to its moment of authorship, and without being necessarily tied to a specific individual. The focus of academic linguistics has been on an abstract system untied to its material substratum, and disconnected from the context of authorship. It has missed the context-bound, ethically charged use of the voice in uttering, which is surely of greater relevance in understanding how humanity was so radically transformed.

For the act of giving voice, or uttering, is surely absolutely central to language from any historical perspective. Utterances are fleeting. Each utterance is inextricably tied both to the utterer, who bears responsibility for the utterance, and to a context, in which each utterance links back to the one immediately preceding, shifting the common ground of the discourse, and creating the conditions for subsequent contributions. Until the introduction of disembodied voices with the near simultaneous invention of telephony and sound recording (1876 and 1877, respectively), utterances addressed to another required co-presence. Joint speech is rather different in this respect, as illustrated in Figure 16. On the left of the figure, we find an abstract representation of the common ground that arises in conversational interaction. Each utterance modifies the common ground, and alters the trajectory of all future contributions. In the middle, we see a situation more akin to liturgy, where there is a greater degree of common ground. Here, individual contributions affect the subsequent trajectory less, but there may still be some back and forth, encoded in the formal generalized assent of an "Amen" or more fluidly in the dialogical interactions between a passionate preacher and a responsive congregation. This kind of call and response situation is common in situations of protest or political assembly too. On the right we see the kind of chorusing found when all present recite a known text in unison. All is now common ground, and there is no dialogical creativity from individuals. This is representative of the solemn recitation of a Credo, but also of the intimate familiar ritual of singing Happy Birthday.

In Connor (2000) a rich account is provided of voices issuing from places where no voices are expected. The path is traced from the Delphic oracle, through the manifestations of demonic possession in the middle ages, to the popular ventriloquist act that has, not coincidentally, spawned a sub-genre of horror movie. For voices that come from odd places seem to have a necessary association with a speaking subject. When a voice is heard, there is an obligatory projection of a subject, even if that subject must be understood as living in a crack in the rocks, or the belly of a teenager. The precise origin of the voice in the story of the Witch of Endor (Samuel 28:3–25) has tied theologians in

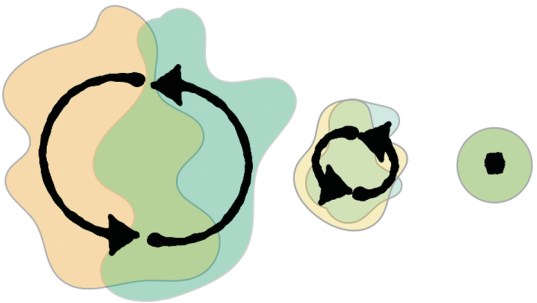

Figure 16. Hypothetical continuum from (left) conversational dialogue, through (middle) liturgy, to (right) unison speech. The abstract notion of common ground is shown in green.

knots at least since Origen of Alexandria. In tracing this rich history, Connor never loses site of the necessary connection between the speech uttered, and the utterer thereof.

In the collective voicing found in joint speech, we are clearly also dealing with a subject, but the subject is collective. When the people demand the fall of the regime, the aspiration is not merely the sum of a lot of individual aspirations. It is brought forth, or enacted, by the activity of chanting. When soccer fans proclaim "M-U-F-C OK!", they are making a collective identity as Manchester United fans manifest. The urgency of political protest, the swagger of a football chant, or the solemnity of the Credo all speak of collective intentions, desires, beliefs. They cannot be unpicked into so many individuals. And herein lies the problem for the human sciences as currently constituted. Not only is there no recognition of collective subjects, there is an entrenched insistence that agency, intentionality, and subjectivity lie at one and only one level in the natural world, that of the individual human person.

3 The subject of cognitive science

The science that arose with the innovations of Galileo, Descartes and Newton had profound consequences for our understanding of the Cosmos and our place within it. Change and motion within the mechanical universe they described was captured with great precision by simple equations, given some very specific idealisations. Bodies in motion remain in motion in a perfect vacuum only. In any realistic world, they come to rest due to dissipative forces. The third law of motion describes the application of force to a body as a symmetrical relation in which an equal and opposite force is exerted back. This mechanical

view of the world works wonderfully in a vacuum. It does not work so well on Earth, and it does not account for agentive, volitional movement at all. Physics has gone its own way since the 1600's, but the framework of physics does not now have, nor ever had, any account of agency, of volition, or of the actions of the animate.

The sciences were not formed all at once. All the important moves in the philosophy of mind, and especially the development of the notion of a private world, were developed in a period in which science necessarily danced around the Christian notion of the soul that informed not only science, but law, civil society, and the natural order more generally. I mean here not only the seminal notion of the cogito (Descartes 2013 [1641]), but also the grounding of the notion of experience in the ongoing activity of the senses (Hume 2016 [1748]) and the unseemly contortions required to tie these two together (Kant 1998 [1781], and other works). The unstable ground reached through this development is one of an inanimate world inhabited by singularly minded beings, whose contact with said world is mediated, always, through their own structure and form. Commonality of experience appears to be inexpressible within this vocabulary, and the well-known spectre of solipsism has never yet been banished from this account. This intellectual development long preceded the development of a science of biology, and the serious attempt to relate experience to physiology, e. g. through the study of brains. Unsurprisingly, the soul and the brain came to be more or less identified with each other through the unifying concept of the mind, or more fashionably today, the cognitive system (Reed 1997).

The legacy of this development has given rise to an odd orthodoxy that views itself as continuous with science in its commitments to observables, objectivity, and truth, but that relies on a complex understanding of the relation between the individual and the group, and also between the subject and the world, that have their origins in Christian theology and in Western accommodations between churches and the institutions of power. This orthodox view of the person underlies linguistics (as encoded message passing), cognitive psychology, and cognitive neuroscience. As long as the phenomena scrutinised by scientists are expressible within this framework, much science of a conventional nature can be done. It would appear, however, that there are lots of aspects to our being, including entirely public practices such as joint speech, that cannot be understood within this framework.

4 Alternative frameworks

Joint speech is not the only, or even the principal, way in which reliance upon a Cartesian subject, expressed within a mechanical worldview, runs into trouble. All progress in science is contested. There have been many critiques of this or that aspect of the cognitivist orthodoxy (as we might term it). As far back as 1896, Dewey lamented the crystallisation of the notion of a minded individual as an input-output system, whose behaviour was to be understood as driven by external stimuli, giving rise to behaviour that had more in common with a series of jerks than with the actions of a person (Dewey 1896). Gestalt psychologists likewise resisted the reductionist account of perception based on construction from sensory input (Smith 1988). The perceptual psychology of James Gibson tried to found an ecological psychology by more closely understanding the relations obtaining between a subject and relevant aspects of the world, without jumping to internalism (Gibson 2014).

More recent attempts to define alternative frameworks without shaking the scientific tree too much include the influential notion of the extended mind (Clark and Chalmers 1998), the emphasis on the role of the body, rather than just the brain (Wilson 2002), the singular importance of context without which no behaviour is comprehensible (Aydede and Robbins 2009), and the recent turn to "enaction" which will be considered a bit more fully here, with specific reference to the issue of joint speech (Stewart et al. 2011). Collectively these murmurings at the margins have yet to coalesce into a force strong enough to seriously threaten the cognitivist account. They have sometimes been prematurely lumped together into a larger framework called "4E approaches to cognition", where the 4 E's are Extended, Embedded, Embodied and Enactive, though everyone in the field seems content to add to and alter that list at will. There is work to be done in creating the necessary foundations for moving beyond the Cartesian notion of soul reified now as mind.

5 The button press and the handshake

In a short contribution of this nature, it is not possible to adequately explore issues as large as those thrown up by the familiar practice of speaking in unison. The territory is rich. Rather, I will try to sketch a very broad kind of distinction which each of the above traditions makes use of, but rarely if ever explicitly. The distinction I have in mind can be best expressed as a contrast between two underlying pictures of how we (for some version of "we") act upon the

world (for some version of "world"). It is to be hoped that this way of framing the unspoken commitments of various explanatory accounts of human behaviour might help in moving beyond a single positivist account grounded in a specific and contingent theology, and with a specific and contingent relation to the statements of authority.

In the first view, which I will call the button press, the world is considered to be inert and lacking in agency; agentive volitional action originates with the singular subject. This is not only the view underlying contemporary cognitive psychology, it has been the principal manner in which the account of agency has been nurtured within society generally, and it corresponds roughly to the scientific realist position. The commitments of this view have not only informed the natural sciences; they underlie post-enlightenment Protestant thinking upon which the logic of Western nation states have been crafted. Within this account, the world simply exists, and the agent bears responsibility for her actions. The prototypical inquiry conducted in this mode does, in fact, use a button press to obtain information about the subject. From this, inferences about reaction times, category judgements, and the like are made, but the principle datum is as slight as a button press. This view of the subject~world relation is well suited to a narrow materialist view, or to a strongly positivist kind of science.

The second view is the handshake, drawing on insights from complex systems sciences and constructivist approaches. Where the button press started with a subject and a world and sought from there to uncover their connection, the handshake approach starts with the relation, and taking that as primary, may work back to identify, tenuously, the entities participating in the relationship. In a handshake, the two interacting hands are not decomposable into two distinct animated objects, each controlled separately. The two hands are dynamically entangled, and inextricable, one from the other. When we approach human experience and behaviour in this manner, we need to undo many of our presuppositions about both subjects and worlds, as neither subject nor world here can be transferred into the button press account. A historical genealogy of this contrast could extend back to the opposition between Parmenides, for whom entities simply exist, chronologically ordered from the recesses of the past to the vistas of the future (with no account of the present, or now), and a Heraclitian view in which entities become discernible as they arise and dissipate in the flux of the present. These two stances are thus very old, but have never been resolved within a Western, or any other, cosmology. It is not too surprising then that the introduction of a strong theoretical position that comes from a Heraclitean point of view should appear in a book that self-consciously tried to inject some Buddhist cosmology into a Western scientific discourse. This was *The*

Embodied Mind (Varela et al. 1991), which has spawned a philosophical school known as enaction (Stewart et al. 2011).

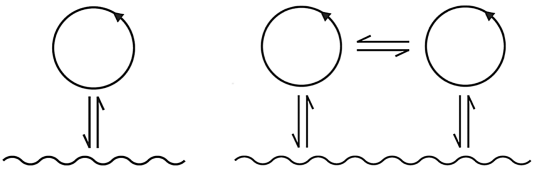

Figure 17. Left: Sense-making: The relation of a dynamically individuated self-sustaining entity with its environment. Right: Participatory sense-making.

The Embodied Mind introduced a kind of relational ontology into its scientific picture, whereby entities that are discriminable as agents are self-organised dynamical systems that have the property of being distinguishable from a background *in the domain in which they arise*. One might consider a single cell and its chemical relations with its surround, or a person with their many kinds of embedding in many kinds of domain, or a nation state with its embedding in a world of international trade and conflict. These all rely on the recognition of a system (cell, person, state) that exists within a domain (chemicals in a dish, the many domains of the person, the domain of international trade and law), and that continues to exist by maintaining its own structural integrity through regulated processes of exchange with its environment. The system will here eventually play the role of subject and the environment the role of world, but neither end of the relation can be said to have any independent existence. Rather, they arise as distinguishable poles in the self-sustaining activity of the system as it is observed by another. This is a constructivist, not a positivist, ontology, so that entities cannot be brought to court independently of the conditions that birth, sustain, and ultimately destroy them. The role of the observer is important to avoid slipping into an objectivist vocabulary. In the Buddhist-inspired language of *The Embodied Mind*, one might say that subject and world are brought forth through the self-creating, self-sustaining activities of the system. This basic systems-theoretical view is illustrated on the left of Figure 17, where the closed nature of the loop represents the discriminability of the system from background, and the bidirectional arrow indicates regulated exchange with the environment. Those familiar with the Buddhist notion of dependent origination, or codependent arising (Sanskrit: *pratītyasamutpāda*) will have encountered the notion of this kind of complementary definition before. The "handshake" lies in the relation of system to world, neither of which is decomposable from the conjoint picture.

The self-sustaining activities that allow the system to persevere introduce a cautious way to approach agency. We call these activities *sense-making*. By attributing the agentive origin to the system, rather than the world, we commit ourselves, for a specific discussion, to an apportioning of agency in one way rather than another. A different observer, attending to different indices of the relationship of a system to its world, might decide to attribute agency in a different manner. In the emerging picture, then, it is the dynamic activity of a transient system on its world that gives rise to the subject~world complementary pair. In enacting its identity, a system gives rise to, or enacts, both subject and world, in a suitably qualified sense.

The right-hand side of Figure 17 introduces an important outgrowth of this basic picture that incorporates the sense-making activities of others (De Jaegher and Di Paolo 2007). If one system engages in reciprocal exchange with other such systems (or with similar systems) then the co-arising of system and world becomes linked for both systems. For very many kinds of systems, including all organisms, the most important kinds of exchanges with their environment are precisely those with conspecifics, or with similar entities. Once the vocabulary of sense-making has been established, it is an obvious extension to suggest that collective sense-making should give rise to (largely) shared worlds. This extension of the basic picture has been termed *participatory sense-making*. As with the basic picture of a single system and environment, this account starts with the individuation of one or more entities on the basis of observed change over time. Collective worlds are thus also enacted.

The enactive picture is necessarily cautious about making strong statements about one kind of system or another (Cummins and De Jesus 2016). Sometimes, the concerns of conventional psychology seem to assert themselves, and one might be misled to think that the system here is a mind, or a person, without further qualification. Identification of the system with a person is particularly problematic, because persons are highly multi-dimensional constructs that demand nuanced and different treatment as our discussion veers from, e. g. discussion of somatic health, through considerations of economics, responsibility, experience, law, and beyond. This very plurality of the person suggests that we need many ways of approaching consensus without overly strong positivistic insistence on one theory-bound description over another.

6 Learning from joint speech

We can now return to the different kinds of ways in which our vocal activity sustains our co-being, as shown in Figure 16. The back-and-forth of conversation can

now be seen as participatory sense-making, understood as an activity that gives rise to a shared world (common ground), whose lineaments can only be discerned transiently. Consensus reached today may dissolve upon our next encounter. The examples of liturgical structure (middle) and the recitation of the Credo (right) illustrate processes that give rise to a greater degree of common ground. Why? Because these are rituals that are repeated again and again, in which the participants come together to establish common ground, from which they may address the world with a common ideology or perspective.

The vocabulary of enaction is not sufficiently well developed to unseat the established orthodoxy of the Cartesian subject with a strongly "protestant" kind of autonomy. Attribution of agency and autonomy is made here carefully, and extends to the dynamically unfolding processes of sense-making that arise in various kinds of activity. However, it does provide a vocabulary in which the slightly odd goings on of very many people speaking in unity might appear comprehensible. At the very least it might set the stage for consideration here of the kinds of collective subjects brought into being through the consensual activities of their participants. This would finally move the discussion on, beyond the appearance of "vain repetitions."

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