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Communication

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The word “communication” first appeared in 1422, according to the *Oxford English Dictionary*, and was used to refer to “interpersonal contact, social interaction, association.” By the sixteenth century, the word had acquired another sense: “the transmission or exchange of information, knowledge or ideas.” The plural form, “communications,” was introduced in 1907, to refer to transmission by way of machine or technology. Even in this technological sense, however, the notion of communication implies a transmission of information from one biological entity to a similar one. In recent years, technologies and techniques of communication associated with disability are transforming all of these meanings by extending the notion of transmission of information well beyond the circuit of biologically similar speaking bodies. Disability studies and sign language studies have concerned themselves with what have been considered “nontypical” communications, conducted by differently abled bodies, via different appropriations of technology.

All animals communicate, but only humans use language. Bees dance to indicate where pollen is found, but only humans have words and sentences to indicate ideas and concepts, including the dance behavior of bees. Other forms of communication may parallel and at times substitute for speech, but they are not primary linguistic systems.

Sign languages—which are found in all inhabited parts of the world—are similar to spoken languages

(Sandler and Lillo-Martin 2006). Sign languages have phonology, as do spoken languages, except instead of vowels and consonants, signs are made up of combinations of movements, locations, and hand shapes. Sentences in natural sign languages display hierarchical organization and exhibit syntactic structure. Young signing children, deaf and hearing (such as those with signing parents), acquire sign language in ways that are not different from children acquiring spoken language (Corina and Singleton 2009). When deaf signers suffer stroke and have damage to the language areas of the brain, they too, like hearing aphasics, can show loss of sign language ability (Hickok and Bellugi 2010). Sign languages may differ from spoken languages in the *modality* of expression, but in terms of their organizational properties, they are fundamentally linguistic. Sign languages of deaf communities may be fully expressive linguistic systems, but they are often viewed as secondary replacements when speech—the default modality in human language—is not possible.

A unimodal view of language, as primarily spoken, ignores contrary examples in human communities of how the body is used for language. Among the Walpiri of western Australia, widows observing a period of mourning do not speak, instead using sign language to communicate with others (Kendon 1988). There are yet more examples of the flexible possibilities of the human body for language. Khoisan languages of southern Africa use clicks as phonemes in addition to the more familiar vowels and consonants of most spoken languages. The existence of clicks is comparatively rare in the world of spoken languages but demonstrates that speech can be molded in diverse ways. In deaf-blind communities, signers communicate by tactile means with each other, holding each other’s hands as they sign. It is common to think of these as adaptations, or unusual modifications made to accommodate a special need. “Adaptation”

follows from thinking of language as having a basic template, or universal properties, upon which modifications are made. But these examples show that languages are systems that can employ different signaling properties. The body offers multiple communicative resources that are organized differently in different contexts. The ways that language can be built from different parts of the body are surprisingly myriad. If language is viewed as inherently *multimodal*, then humans' ability to move between different modalities in different communities seems less exotic and more indicative of flexibility.

Studies of new sign languages emerging in small villages around the world show that when deaf children are born into a community, hearing residents adapt their gestures to produce longer signed strings in an effort to communicate. As more deaf children enter the community across more than one generation, the community changes from an exclusively speaking community to one where a sign language is a common second language in the community in addition to a spoken language (Meir et al. 2010).

Beyond stretching our notion of how languages transmit information via means other than speech, disability studies can help us to move beyond a transmission view of communication. James W. Carey's "ritual view of communication" focused not on "the act of imparting information but [on] the representation of shared beliefs" (1992, 15). A focus on "ritual" shifts away from the idea of messages and their properties, to performance, activity, and the materiality of communication itself. In this framework, meaning is not so much the definition of a word or sentence but instead is constructed in situ, in social and cultural activity. Human actions are not simply executed but are "situated" in time and place. In this framework, language is not a disembodied, logical system but is perpetually constructed and reconstructed in social and cultural activity. The concept of activity

as a unit of analysis recognizes all levels of expression, from the minute details of discourse—from pitch, emphasis, gesture, head tilts, and eye gaze—to the performative aspects of making meaning within the institutions of the home, school, and the workplace.

The foundation of this communicative ability is "shared intentionality," or the ability to engage with others in a common activity. Humans have a unique predisposition to follow the eye gaze of others and to comprehend others' pointing and indexical reference. A similar construct is "intersubjectivity" (Cole 1996; Wertsch 1991), or the ability of humans to recognize in each other their expressive states, including their emotions, plans, and goals. Understanding the basis of shared intentionality and intersubjectivity necessitates a notion of the mind that encompasses more than the individual and his or her internal space, but is extended through the body and *distributed* in social interaction (Bakhurst and Padden 1991). Communication exists in what Ludwig Wittgenstein referred to as a "web of meaning," an ecologically coherent system that locates human bodies in an interrelated moment.

Such notions from the field of communications as distributed cognition and situated practice overlap conceptually with disability studies' repositioning of the human body. In both fields, human bodies are not simply vessels containing brains but are themselves complicit in human sociality, cognition, language, and social interaction (Rohrer 2007). Bodies interact with and on the world, grasping objects or modeling them abstractly in gesture. A physicist describing the structure of molecules gestures as she speaks in order to show the shape of what is unseen. A young child tries to grasp an object out of reach, and her hand changes into an indexical point producing joint reference (Vygotsky 1978). A group of officers stand around a table and jointly solve the problem of navigating a ship into harbor by moving

their hands around a map (Hutchins 1995a). Configuring the mind as an extension of the body leads to a concept of communication as fundamentally *multimodal*, in which all parts of the body are orchestrated together as it interacts with the world.

Multimodality and embodiment together with distributed and situated practice open up ways to conceive of communicative forms and practices in diverse bodies, but disability is not explicitly treated in this work except for a few notable articles. Goodwin (2000) describes an aphasic who, despite a greatly reduced vocabulary and repeated use of gestures, manages to push caregivers into expanding their abilities to interpret his wishes and intentions. A differently abled body does not merely attempt to communicate, but by his realignment of himself with material and communicative resources, he compels new forms of engagement and interaction. In such scenarios, communication is an aspect of human functioning that is always being constructed. For instance, parents of a blind child achieve intersubjectivity and shared intentionality not by shared eye gaze but by coordinating their actions with her hand movements (Bigelow 2003). Autistic children are said to lack shared intentionality because they do not track the eye movement of others, but as recent research has shown, their sociality and interest in others are simply achieved by other means, such as physical proximity and verbal engagement (Akhtar and Gernsbacher 2007).

Disability studies can also shed light on the centrality of technology to notions of communication. In the broad sense of the word, technology is about material objects, the fund of knowledge about their use, and the institutionalization of the technology in cultural life. Technology refers to material and cognitive tools that are extensions of minds and bodies. Counting by use of an abacus is both a technology and a cognitive tool for computation. In such a view of technology, the

relationship between the material and the cognitive is continuous, that is, antidualist, and not defined strictly by materiality. Ideas about mind, body, and technology have consequences for communication and disability. If technology is described as an appendage, then it can seem “secondary,” “supplemental,” “compensatory,” or “ventriloquist,” all terms which suggest that it adds to or amplifies human behavior. But if technology is seen as extensions of the body and mind, then technology is one part of an activity within which the human body operates rather than a supplement to that activity.

The rapid expansion of technologies of the body—particularly as tools of accommodation for people with disabilities—has led to changing notions of personhood. One recent case involves individuals with “locked-in syndrome” (LIS), who experience minimal outward body movement resulting from trauma that affects their motor behavior, making it difficult if not impossible to ascertain their communicative intentions. One such individual successfully petitioned the Spanish courts to restore his legal rights, namely, the ability to vote and to manage his financial affairs. The Spanish Supreme Court agreed that his use of a digital voice demonstrated that he can “materially carry out his decisions” (Domínguez Rubio and Lezaun 2012, 69). Domínguez Rubio and Lezaun argue that “those capacities and processes that have customarily defined the person—agency, intentionality, speech—need not be performed within the confines of the biological body, but may be enacted through extended systems of care and knowledge” (74). It is such cases of disability, of “extended systems” that stretch beyond the normal speaking body that have redefined communication and language for the present century.