Channels of Human Communication

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Channels are paths. The historical course of the English word "channel" routes through French from Latin *canalis*: a tube, conduit, pipe, groove, channel, or canal. Channels include feeding-troughs, trenches, or veins in a goldmine. In more general terms, channels are passages for fluid, or the material means for carrying something from here to there. A channel is a conveyance, a route along which something passes or is directed. A channel is a means of access, the medium through which things move. Channels can be natural or artificial, open or closed, narrow or wide, shallow or deep. Channels draw our attention to the means of connection.

What, then, is a channel of communication? Channels of communication are the conditions of possibility for the movement of messages, meta-messages, and other signs. Because the concept of "channel" has relied on metaphors of conduit, container, and conveyance, theorization of channels has focused predominantly on concepts like alignment, attunement, affinity, and their opposites: misalignment, miscue, discord, and noise. The main theoretical problem that the concept of "channel" has opened up for scholars of communication is how the physical and psychological relationship between agents of communicative activity is conducted – what is given, what is constructed, and how the medium itself participates in the process. To speak about channels is to speak about modes and manners of connection, the paths between people. How channels are made and unmade is as important as the purposes to which people put them.

This entry is organized according to two connected thematic grooves in the theoretical landscape: channel as precondition of social relations, and channel as result of social relations. The first section follows the development of "channel" as an element in traditional models of communication, focusing on its role as a physical and psychological minimal threshold for communicative exchange. Drawing on Claude Shannon, Roman Jakobson, Charles Hockett, and Dell Hymes, this section describes how scholars mobilized "channel" as a unit of interaction in order to describe a total event of communication. In these frameworks, "channel" is a foundational piece of a larger puzzle (of communication, the speech event, language, or interaction). Linguistic anthropological scholarship has put channel (as a part) in relationship to some other object of interest, such as code, message, participant structure, power, or identity. The second section extends the insights of the first section by focusing on "channel" not as a minimum threshold, but as a process or effect, as something heterogeneous, negotiated, unbounded, contested, multiple, and so forth. This section begins with M.M. Bakhtin, then elaborates the role that the concept of "channel" has played in later scholarship on media and mediation, and concludes by describing two recent books, by Paul Kockelman and Alaina Lemon, that have addressed "channel"

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in terms of affordances and communicative infrastructure. In addition to standing in relation to other units of interaction, channels exist in relation to other channels, along with their histories, affordances, and social imaginaries. Channels can be understood as either preconditions for interaction, or as interactional achievements in their own right.

Channel as component

In 1948, Claude Shannon, working at Bell Labs, published the article "The Mathematical Theory of Communication," which effectively launched the field of information theory. This highly technical paper brought mathematical rigor to the determination of the limits of communication, the fundamental problem of which, for Shannon, was the "reproducing at one point either exactly or approximately a message selected at another point" (Shannon and Weaver 1949, 3). This article was reprinted as a book and paired with an accessible essay written by Warren Weaver ("Recent Contributions to the Mathematical Theory of Communication"), which helped to popularize Shannon's findings. Shannon's definition of the channel is the "medium used to transmit the signal from transmitter to receiver" (Shannon and Weaver 1949, 5). Whether this medium is a wire, two tin cans and a string, a coaxial cable, radio waves, or simply the air, the main problem that Shannon addressed with respect to the channel was how to measure – and approach – its capacity. As Shannon and Weaver describe, channels are subject to "noise," those unwanted additions to the signal, like static, distortions, or errors. The linear communication system that Shannon and Weaver present (see Figure 1) was a heuristic for addressing the problems of signal transmission, rather than a fully-fledged model for all human communication. Like Saussure's dyadic model of the speech-circuit, or Jakobson's model of the speech event, Shannon and Weaver's schema has been the starting point for posing a variety of questions about communication.

In "Metalanguage as a Linguistic Problem" ([1956] 1985), Roman Jakobson elaborates a model of the constitutive factors in a speech event and their corresponding

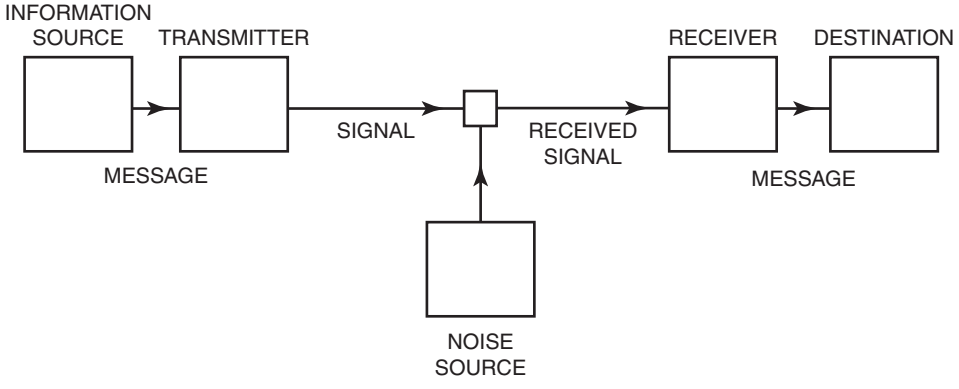

Figure 1 The linear model of communication from Shannon and Weaver (1949, 98).

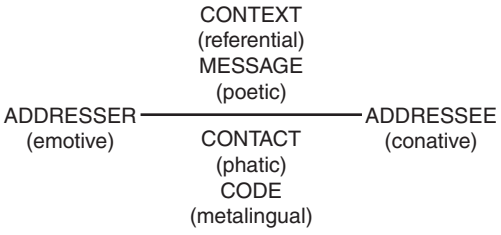

Figure 2 Model of speech functions from Jakobson ([1956] 1985, 113).

functions (see Figure 2). Jakobson draws from Ferdinand de Saussure's dyadic model of the speaking-circuit, as well as Karl Bühler's model of communication, which describes three functions (emotive, conative, and referential). To Bühler's triadic model, Jakobson adds three additional factors and corresponding functions. Jakobson's model delineates six primary factors, each with a corresponding function. Jakobson's model preserves the dyadic addresser-addressee model from Saussure's framework, and re-describes the addresser-addressee roles as those of encoder and decoder of messages. Saussure notes that the "presence of at least two persons … is the minimum number necessary to complete the circuit" (Saussure [1916] 2011, 11). One of the crucial dimensions of the Jakobsonian inheritance from Saussure is the notion that the speaking event operates as a circuit in which there are minimal thresholds. The channel is a baseline necessity for linking agents in a communicative circuit. "Channels," as the connections between those nodes, are constituted by the concept of a minimum threshold that is physical as well as psychological.

Among these six constitutive factors, CONTACT refers to a "physical channel and psychological connection between the addresser and the addressee, enabling both of them to enter and stay in communication" (Jakobson [1956] 1985, 113). The corresponding function – that is, the function that describes an orientation to this factor– is the phatic function. Here Jakobson draws on Malinowski's concept of "phatic communion" to draw attention to those messages "primarily serving to establish, to prolong, or to discontinue communication, to check whether the channel works ('Hello, do you hear me?'), to attract the attention of the interlocutor or to confirm his continued attention" (Jakobson [1956] 1985, 115). Jakobson asserts that this is the first verbal function acquired by infants, and the only verbal function that humans and talking birds share. The phatic function, therefore, is for Jakobson a baseline of linguistic possibility.

Foundational theorizations offer "channel" as a technical requirement, a baseline component of a larger system. For example, in "Logical Considerations in the Study of Animal Communication" ([1960] 1977) Charles Hockett compares the communicative capacities of animals by enumerating 13 "design-features" of language. Humans possess the full bevy of design-features of language, whereas all others, including nonhuman primates, bees, meadowlarks, and crickets, fall short in one or many dimensions. For Hockett, the first design feature is the "Vocal-Auditory Channel," the means by which signals in a language travel from the vocal tract of the speaker to the ears of his listener. Use of the vocal-auditory channel is a general mammalian trait, a necessary but not sufficient criterion of language. Though Hockett points out that, in a noisy

environment, one might also utilize the visual channel to figure out what the speaker is saying, this does not trouble his postulation of vocal-auditory transmission-reception as one of the pillars of human language. For Hockett, other channels beyond the vocal-auditory (such as channels of smell, touch, or extrasensory perception) are irrelevant to the definition of "language."

Later scholars of language and communication working in other paradigms would develop research programs that encompass these other forms of communicative practice. Among other contributions, scholarship on sign languages and gesture has effectively challenged the de facto vocal-auditory channel as a prerequisite for human language, and, in so doing, has generated a body of literature on multimodality in interaction. The assumption that face-to-face interaction, as the implicit concept of an unmediated "real" interaction against which all other communicative forms are derivative, partial, indirect, or otherwise lacking, has been described and critiqued by scholars of media and language (Manning and Gershon 2014). Scholars have elucidated the ways that channels presuppose, entail, and interact with one another. A flurry of scholarly interest in infrastructure, (new) materialism, and nonhuman agents has contributed to an uptick in interest in the physical means of communication. This has also contributed to a deepening engagement with both psychoanalysis, aesthetic theory, and communication theory – hermeneutic projects that have historically been at the margins of linguistic anthropology, even as they have contributed central conceptual tools. For example, psychoanalysis, in part, is a way to think about what it would mean to intercept the pathway between the unconscious (wishes, desires) and an array of seemingly unrelated and previously "meaningless" actions (parapraxes, dreams, and so forth). Although anthropologists rarely include the unconscious in their research programs, both psychoanalysis and linguistic anthropology have a romance with the concepts of mediation and transformation.

Dell Hymes's "Ethnography of Speaking" ([1962] 1968) builds on Jakobson's model of communication to propose a set of heuristic categories to form the backbone of the comparative descriptive work that the ethnography of communication promised. Hymes proposes questions that would enable linguistic anthropologists to describe and analyze the speech event, including its constituent parts and functions. Hymes divides the components of the speech event into seven factors. Of all the factors, he dispenses most quickly with "channel": he notes simply that "cross-cultural differences in Channels are well known" (Hymes [1962] 1968, 111). The self-evidence of "channel" contrasts with other components, such as "Setting (Scene, Situation)," which constitutes the greatest departure from Jakobson's model. A few pages later, Hymes enumerates a number of questions one might pose about each factor, and who might be interested in posing them. For Channel, he imagines that the "communications engineer" would be invested in knowing what can be told about it, whereas for Code, he expects the "fieldworker or learning child" to be interested (Hymes [1962] 1968, 114). When Hymes returns to "channel" later in the essay, he turns to the relationship of factors to functions. He is wary of combining physical and psychological connection under the rubric of channel: after all, "there may be a clear channel and no rapport" (Hymes [1962] 1968, 121). For Hymes, psychological connection is fully independent from channel, which is "physical."

Given how "channel" was operating in the neighboring fields of cybernetics and information theory, Hymes's allocation of channel to "engineers" and insistence that it is primarily "physical" rather than psychological makes sense. In the introduction to a special issue of *American Anthropologist* ("Toward Ethnographies of Communication") published two years after "The Ethnography of Speaking," Hymes elaborates more fully what linguistic anthropologists might investigate if "channels" are within their purview. He indicates that information theory and cybernetic studies of ethnographic systems of communication are "almost non-existent" (Hymes 1964, 24–25). Hymes makes clear in his discussions of orality and literacy, media (channel) determinism, and modalities of communication that linguistic anthropologists ought to step up to the challenge of identifying the ways that channels – as components of speech events – interface with other available communicative resources. Approaches that draw on information theory and cybernetics, then, offer a way forward to theorizing the significance of channels. Hymes does not cede channels (or, indeed, psychology) to other disciplines, but proposes that scholars draw upon them in order to come up with holistic accounts of the "system of communication" (Hymes 1964, 25). Later scholarship in linguistic anthropology has gone down this path, as I discuss below.

Interlude: Screens and screening

Are you still there?
[Read: Today]

Hello?
[Read: Today]

Read receipts in email or text messaging alert the sender that the recipient has opened a message. On some platforms, read receipts cannot be disabled; on others, like those for Apple iOS, they can be turned on or off, allowing users to leverage this quotidian technology of channel control. The recipient's power comes from manipulating time-to-response: the sender, alerted that the recipient has read the message, puzzles over why no response is forthcoming. Read receipts are an assurance that the physical channel is operating perfectly – after all, the recipient has received the message, and has dispatched a meta-message letting the recipient know this. But physical contact is no assurance of phatic communion. Read receipts allow a user to signal that the signal has gotten through, but has not garnered a response. The read receipt is an invitation to wonder why the recipient has not replied.

Mediation, infrastructure, and affordance

In this section I address the ways that channels have provided the basis for theorizations of media and mediation in anthropology and beyond. The account of "channel" that emerges from anthropology of media and technology is one that takes the physical

element as the baseline, and then defines various implications for the range of social and psychological phenomenon that channels might afford. These accounts stress, as Hymes did, the significance of registering a range of resources that agents may draw upon to produce conventional and novel social effects.

Our words are never fully our own, as M.M. Bakhtin emphasized. Linguistic anthropologists have a rich tradition of describing how we all speak, constantly and unwittingly, with other people's words. If, as Bakhtin wrote, we are "filled to overflowing with other people's words" (Bakhtin 1981, 337) one task that linguistic anthropologists have taken on is to plunge into the highly varied overflow in search of consequential patterns both above and below the thresholds of speakers' awareness. One way to think about interdiscursivity, intertextuality, citationality, or reference is as problems of channels and channeling. Making something of the strands of influence in any stretch of talk is as much about tracing individual paths (their arcs and consequences) as about determining how their convergence in that interactive moment matters. Bakhtin begins with heterogeneity and multiplicity by insisting that language is "heteroglot from top to bottom" (Bakhtin 1981, 291). For scholars working in a tradition colored by his thought, a key theoretical question is how the appearance of "unitary" social and linguistic types emerges, how consensus and stability are possible.

In an influential article called "The Conduit Metaphor: A Case of Frame Conflict in Our Language about Language" (1979), Michael Reddy argues that a pervasive pattern in the way that people speak about communication is the use of what he calls the "conduit metaphor." His larger claim is that the conduit metaphor is a "semantic structure in English, which can influence our thinking" (Reddy 1979, 296). In an idiosyncratic exposition, Reddy supports his claim with philosophical thought-experiments and an appendix containing 141 so-called core expressions (prepositional phrases and idioms in widespread use). His article directly engages the frameworks and legacies of Shannon and Weaver, Norbert Wiener, and Thomas Kuhn. Reddy's intervention in the domain of the conduit metaphor of communication ends on a note of warning. He points out that the conduit metaphor leads us to believe things about communication that are not only false, but harmful – that it causes us to focus on objects and texts as the vessels of communication, rather than on the human agents who do the vital work of interpretation. Instead of controlling the mediums, Reddy proposes that we attend to the entrenched ways in which we conceptualize them. While it is not within the scope of this entry to catalogue or reconcile the oft-divergent commitments of cognitive linguistics (for which Reddy's article sets the groundwork) and linguistic anthropology, a shared commitment is to analyzing entrenched conceptualizations and their cultural effects. In the idiom of linguistic anthropology, entrenched conceptualizations have been treated under the rubric of language ideologies, which include tacit and explicit beliefs about the forms, functions, and capacities of language.

In parallel to the concept of language ideologies, Ilana Gershon has developed the concept of "media ideologies" to encompass the attitudes, beliefs, and strategies that people bring to bear on their uses of media (Gershon 2010). Media ideologies are instructive in making sense of how people allocate meaning across available channels. For example, Gershon found that when her interlocutors narrated their

own relationship break-ups, they invariably described the medium in which communications took place. Making sense of the message involves assessing the framings that the medium provides. Her discussion of media switching elucidates how people distribute affect, attention, and identifications across a set of available channels, and impute intentions to others based on expectations of media ideologies. The starting point for media ideologies is that an ecology of available channels offers contrasting, variable affordances for expression and concealment. Linguistic codes, too, can serve as channels, and code-switching may signal a meaningful contrast in the way that speakers connect linguistic resources to a variety of social values and pragmatic effects. The relationship of conceptualizations of technology to language in social practice is a domain of inquiry in which scholars of media, linguistic anthropology, and history have converged (Gershon 2017).

Two exemplary recent works in linguistic anthropology, Alaina Lemon's *Technologies for Intuition: Cold War Circles and Telepathic Rays* (2018) and Paul Kockelman's *The Art of Interpretation in the Age of Computation* (2017) have a great deal to say about "channels," and do so through the language of communicative infrastructure, mediation, and affordance. Using Peircean semiotics as an enzyme, Kockelman digests a diverse range of theoretical approaches to interpretation, thereby identifying tacit shared assumptions and orientations, and reformulating the terms with which we may engage or dispute them. The main focus in Kockelman's book is on mediation, on the productivity of thinking through relations between relations. Kockelman takes "channel" to be the link between agents, or the relation between signers and interpreters. He observes that "channel" is both the precondition for (and the consequence of) joint attention. Chapter 2 ("Enemies, Parasites, and Noise"), for example, is about the relationship between codes and channels (in Shannon, Jakobson, and Serres). He points out that channels are "usually inseparable from infrastructure and institutions" (Kockelman 2017, 30). This observation enables Kockelman to follow the commonalities across scholarship on institution, infrastructure, and communication.

Lemon draws on fieldwork materials from Soviet theater training, telepathy science, and professional psychics to describe how people manage and scrutinize "channels" and their entailments. Along the way, Lemon focuses on what she terms *phatic experts,* people who specialize in qualities of contact. In both theater training and telepathy research, for example, people make gaps in order to close them, exercising intuitive and meta-communicative expertise. In Lemon's text, geopolitics looms throughout as a significant frame of reference and (false) opposition between overlapping regimes of practice, intuition, and thought. Part of Lemon's project is an ambitious re-description of the tropes of connection and contact that US–Russian communicative antimonies came to possess during Cold War and beyond. Lemon points out that theatrical and artistic practitioners developed and elaborated theories to describe multiple points of view long before social theorists became concerned with issues of "ontology" and perspective by way of ethnography. She makes the case that Russophone artists, poets, directors, and painters paved the way for the ideas "percolating through linguistics, literary criticism, and philosophy from the mid-20th c. on" (Lemon 2018, 163).

Both Kockelman and Lemon focus on communicative infrastructure as a way to think about degrees of freedom and constraint, displacements and proximities, convention and novelty, facilitation and hindrance, the conditions of possibility for attention and evaluation, and the buffering of social interactions, circles and lines, large and small. Both reach backward to recast linguistic anthropology's roots in more capacious ways: Kockelman by drawing lines of connection between Peirce and many varied social theorists, Lemon by finding the points of connection and influence between art and performance theory of the early twentieth century and the foci of later social and linguistic anthropological theory. In this sense, they identify submerged grooves, forgotten or otherwise underappreciated (or even unnoticed) paths in intellectual genealogy. This is because many familiar paths no longer work: the metaphors or commonsense positions in inherited communicative models rely on assumptions that we can no longer make. They mobilize and critique the "channel" concept, and in so doing, open up new channels for scholarship on technologies of intuition, frames of relevance, scales of resolution. Further, they invite us to think critically about what theoretical orientations and practical effects we replicate when repurposing, destroying, eavesdropping on, or otherwise encountering channels. In other words, they ask what we are committing to, and what we are missing out on, when we speak of communication in the familiar language of the conduit.

In the nineteenth century, the limitations of new technologies like the telephone gave rise to the "conduit metaphor," as people described human communication using metaphors from fluid mechanics (Krippendorff 1993). Fluid mechanics metaphors, which describe all the infelicities that may plague a channel (blocks, barriers, disconnections, clogs, and so forth) continue to slosh around contemporary tacit models of communication, and in turn shape notions of what conversation or interaction can be: a flowing substance (that can become blocked, stagnant, murky, poisonous, sour). Channels have long been conceptualized as the taut connections between bodies of water, enabling and restricting the flow of things that pass between them. The things that pass along a channel of communication are signs, along with implicit and explicit frameworks for interpreting them. Marshall McLuhan's memorable phrase "the medium is the message" set a provisional agenda for investigating the interrelations of form and content, code and channel. Linguistic anthropologists have demonstrated that talk involves a vast and variegated set of presuppositions and entailments about the social world – including how one speaks, when, and to what effect. Attuned to attunement, simultaneously detached and attached, involved but apart, anthropologists are professionally aware of the ways that channels can be blocked, or can lead in unpredictable directions. Although methodologically predisposed to following the paths cut in the world by our interlocutors, as writers, we twist, translate, and shatter those paths in the process of building something new.

SEE ALSO: Acoustic Channel; Attention (and Joint Attention); Bakhtin, Mikhail; Gaze; Heteroglossia; Hockett, Charles; Hymes, Dell; Interaction, Face-to-face; Jakobson, Roman; McLuhan, Marshall; Media as Channel; Modality, Multimodality; Phatic, the:

Communication and Communion; Sign Languages; Writing and Writing Systems: Introduction; Writing and Writing Systems: Sociolinguistic Aspects

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