

The space between silence: Human interactions beyond spoken words

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How do we make sense of the nature of human interactions that go beyond spoken words expressed in conversations and written articulation? These include *Paralinguistic cues*, the non-verbal vocal elements of speech, *Kinesics*, facial expressions and gestures, and *Proxemics*, how humans use physical space, personal distance and body position for implicit or explicit communicative purposes.

Such non-spoken gestures and silent interactions are rich forms of human expression; they are rarely if at all captured by machine learning systems or natural language models. This richness of communication embodies a great deal more than approval, disapproval or transmission of simplistic messages during extended interactions among individuals or groups, but encapsulate far more socio-cultural and contextual meaning that shapes our situational understanding and the affect of intended or unintended expressions.

Paralinguistic cues (or paralinguage) represent how something is said rather than what is said—modifying the meaning, conveying emotion, and often signaling confidence, fear or anxiety. Such cues leverage pitch, volume, intonation, speed of speaking, and how pauses are incorporated. These paralinguistic markers in one's vocal expressions often convey one's psychological states, playing a critical role in cognitive and meta-cognitive processes relevant to attitudes and persuasion (Guyer *et al.*, 2021). German philosopher Friedrich Nietzsche wrote that "we often refuse to accept an idea merely because the tone of voice in which it has been expressed is unsympathetic to us." Emotional expressions embedded in vocalizations convey not only the feelings of the communicator, but allow people to make inferences about a speaker's traits (Pisanski & Bryant, 2019), social intentions (Hughes *et al.*, 2014), and appraisal of the situation (Gregory & Webster, 1996).

In his play *Troilus and Cressida*, Shakespeare said: "There's language in her eye, her cheek, her lip". *Kinesics* is the interpretation of body communication such as facial expressions and gestures, nonverbal behavior related to movement of any part of the body or the body as a whole. Kinesics as a term was coined by American anthropologist Ray Birdwhistell (1952), who studied how people communicate through posture, gesture, stance and movement; his findings were synthesized in the book *Kinesics and Context* (1970). Based on descriptive linguistics, Birdwhistell argued that all movements of the body have meaning (though interpretations are culturally constructed), and that nonverbal behaviour has a grammar that can be analyzed in similar terms to spoken language. Thus, a "kineme" is "similar to a phoneme because it consists of a group of movements which are not identical, but which may be used interchangeably without affecting social meaning." (Knapp, 1972) According to Birdwhistell words in spoken language embody no more than 30-35% of the social meaning of conversations or human interactions (McDermott, 1980).

Proxemics is the study of how people use space as they interact with one another. American anthropologist Edward T. Hall coined the term in his seminal book *The Silent Language* (1959), altering the word proximity to identify his theory that humans perceive, organize and communicate through elements of space and time in unconscious ways that are shaped by culture. Hall argued that people from different cultures not only organize space (and time) differently but also occupy different sensory spheres.

In his popular book *The Presentation of Self in Everyday Life* (1956), sociologist Erving Goffman describes social life as a series of performances, where individuals manage how they are perceived through their appearance and impression. "People undertake different roles depending on their social setting and those around them, much like actors on a stage. Each social encounter thus involves a subtle negotiation of roles and expectations, based on cues including speech, appearance, and behavior." What emerges is a situational definition of social interactions, where individuals project a definition of the situation to others, implicitly demanding that they be treated in accordance with that projection. Goffman (1963) extends proxemic theory "by examining how attention and participation are organized in co-present encounters, distinguishing between unfocused (casual co-presence) and focused (goal-oriented) interactions shaped by implicit and explicit boundaries." Whyte (1982) situates proxemics in urban design, investigating how environmental and social affordances in our everyday urban spaces affect how people situate, interact and re-organize themselves spatially and proximally with others.

Hence, all these embodied, gestural, place-based, and situationally-defined facets, engaging paralinguistic, kinesics and proxemic phenomenon, greatly shape human interactions and communication both implicitly and explicitly. However, these are almost entirely ignored or unaccounted for in most of our digital interactions, particularly with and by AI-based conversational systems (chatbots) and embodied AI systems including advanced robotics.

In Stanley Kubrick's film "2001: A Space Odyssey" many viewers have speculated that the HAL 9000 computer on the spacecraft perceived several element of paralinguistic, kinesis, and proximal features on board the ship to recognize the unspoken (or obfuscated) interactions of crew members including lip reading, facial recognition, pupil dilation and eye movement, and social proximity to detect their emotional affect, anxiety and intentions, including their plans to disconnect HAL when it was perceived as a threat to their own survival. While the film remains a form of speculative science-fiction, the cinematic poetics of these eerie scenes demonstrate the rich and complex ways humans must interact and communicate in the "space between silence", in a quest to obfuscate their intentions from increasingly sentient and autonomous machines.

Today's AI systems remain far more simplistic despite the rapid evolution of large language models (LLMs) which are primarily trained on textual archives, conversational interactions or multi-modal data while having limited embedded perception or situational context, to learn and engage with the richness of human non-vocal paralinguistic cues, kinesics and proxemics that even infants perceive, understand and manipulate tactfully. My provocation is not about making better machine learning systems, but to consider what makes us truly human and the deeper challenges of computational understanding, while humans continue to evolve their expressive communications gestures shaped by sociocultural, embodied and cognitive learning to better perceive, enrich and obfuscate the relational codes and meanings in their interactions over time.

Bibliographic References

- Guyer, J. J., Briñol, P., Vaughan-Johnston, T. I., Fabrigar, L. R., Moreno, L., & Petty, R. E. (2021). Paralinguistic Features Communicated through Voice can Affect Appraisals of Confidence and Evaluative Judgments. *Journal of nonverbal behavior*, 45(4), 479–504.
- Pisanski K., & Bryant G.A. (2019). The evolution of voice perception. In: Eidsheim NS, Meizel KL, editors. *The oxford handbook of voice studies*. Oxford University Press; pp. 268–300.
- Hughes S.M., Mogilski J.K., & Harrison M.A. (2014). The perception and parameters of intentional voice manipulation. *Journal of Nonverbal Behavior*. 38(1):107–127.
- Gregory S.W., Jr, Webster S. (1996). A nonverbal signal in voices of interview partners effectively predicts communication accommodation and social status perceptions. *Journal of Personality and Social Psychology*. 70(6):1231–1240.
- Birdwhistell, R. L. (1952). Introduction to Kinesics: An Annotation System for Analysis of Body Motion and Gesture. Washington, DC: *Department of State, Foreign Service Institute*.
- Birdwhistell, R. L. (1970). Kinesics and Context. *University of Pennsylvania Press*, Philadelphia.
- Knapp, M. (1972). Nonverbal Communication in Human Interaction. *Reinhart and Winston*, New York, pp. 94-5.
- McDermott, R. (1980). Profile: Ray L. Birdwhistell. *The Kinesis Report*, 2, 3: 1-16.
- Hall, E.T. (1959). The Silent Language. *Doubleday*, New York.
- Hall, E. T. (2005). "Proxemics." *The Anthropology of Space and Place: Locating Culture*. Ed. Denise Lawrence-Zuniga and Setha M. Low. Malden: *Blackwell*. 51–73.
- Goffman, E. (1956). The presentation of self in everyday life. *University of Edinburgh, Social Sciences Research Centre*.
- Goffman, E. (1963). *Behavior in Public Places: Notes on the Social Organization of Gatherings*. 248 pages.
- Whyte, W. H. (1982). *The Social Life of Small Urban Spaces*. Vol. 10. 466–468 pages.
- Film: 2001: A Space Odyssey (1968). Stanley Kubrick (director) and Arthur C. Clarke (screenwriter). Metro-Goldwyn-Mayer (MGM). <https://www.imdb.com/title/tt0062622/>

Author's articles and artistic works relevant to this essay

- Lee, S., Truong, L., Choi, D., H. Paakki., & Sawhney, N. 2025. Into the Unknown: Leveraging Conversational AI with Large Language Models in Supporting Young Migrants' Journeys Towards Cultural Adaptation. *ACM CHI Conference on Human Factors in Computing Systems*, Yokohama, Japan.
- Unlu, A., Truong, S., Sawhney, N., Sivelä, J., & Tammi, T. 2024. Tracing the dynamics of misinformation and vaccine stance in Finland amid COVID-19. *Information, Communication & Society*, 1–25.
- Truong, L., Lee, S., & Sawhney, N. 2024. Enhancing Conversations for Migrant Counseling: Designing for Trustworthy AI-mediated Collaboration between Migrants and Service Advisors. *ACM Conference on Computer-Supported Cooperative Work and Social Computing*, San José, Costa Rica, November 9-13.
- Vitiugin, F., Lee, S., Paakki, H., Chizhikova, A., & Sawhney, N. 2024. Unraveling Code-Mixing Patterns in Migration Discourse: Automated Detection and Analysis of Online Conversations on Reddit. *Workshop on*

Data for the Wellbeing of Most Vulnerable. Proceedings of the 18th International AAAI Conference on Web and Social Media (ICWSM), June 3–6, 2024, Buffalo, New York.

Kajava, K. and Sawhney, N. 2023. Language of Algorithms: Agency, Metaphors, and Deliberations in AI Discourses. Lindgren, S. *Handbook of Critical Studies of Artificial Intelligence*. Edward Elgar.

Sawhney, N. March 2019. Zona Intervenida: Performance as Memory, Transforming Contested Spaces. In *Rethinking Peace: Discourse, Memory, Translation, and Dialogue*, Edited by Jeremiah Alberg, Alex Hinton and Giorgio Shani, Rowman & Littlefield International.

Sawhney, N., Graver, C., and Breitkopf, E., 2018. Audio Journaling for Self-Reflection and Assessment among Teens in Participatory Media Programs. In *Proceedings of the 17th Interaction Design and Children Conference (IDC '18)*, Trondheim, Norway. ACM.

Sawhney, N., Wheeler, S. and Schmandt, C., 2001. Aware Community Portals: Shared Information Appliances for Transitional Spaces. *Journal of Personal and Ubiquitous Computing*, 5(1), pp.66-70.

Sawhney, N. and Schmandt, C., 2000. Nomadic Radio: Speech and Audio Interaction for Contextual Messaging in Nomadic Environments. *ACM Transactions on Computer-Human interaction (TOCHI)*, 7(3), pp.353-383.

Clarkson, B., Sawhney, N. and Pentland, A., 1998. Auditory Context Awareness via Wearable Computing. *Energy*, 400(600), p.20.

Schilit, B.N., Wilcox, L.D. and Sawhney, N., 1997, March. Merging the Benefits of Paper Notebooks with the Power of Computers in Dynamite. In *CHI'97 Extended Abstracts on Human Factors in Computing Systems* (pp. 22-23). ACM.

Soundscapes of Kora (*Nepal/Tibet & USA*), Sound Artist, Experimental Sound Work and Exhibition
Sound installation based on soundwalks in Mt. Kailash, Tibet and Kathmandu, Nepal, supported by the India China Institute (ICI). Kailash Cartographies Exhibition curated by Sreshta Rit Premnath, Arnold and Sheila Aronson Gallery, Sheila C. Johnson Design Center, The New School, March 9 – April 3, 2017.
<https://nitinsawhney.org/2019/02/15/soundscapes-of-kora/>

Synopsis: Kora is a both a pilgrimage and a form of meditative practice in the Tibetan Buddhist and Bön traditions. Practitioners perform a kora by circumambulating a sacred object or space; the Buddhists walk clockwise, while the Bön do so counterclockwise. How do the ritualized acts of walking, chanting and listening deeply in such sacred landscapes transform one's spiritual experience? How does undertaking a kora function as a sensory form of placemaking, rendering every step a devotional act of embodied cartography along a sacred journey?

Digital Archive of Soundscapes: <https://www.mixcloud.com/SacredSoundwalks/>

Zona Intervenida (*Guatemala/USA*), Co-Director, Documentary Film

Feature-length documentary (duration 60 min), co-directed with Bonifaz Diaz (2014), Spanish (English subtitles). Film Website: <https://zonaintervenida.org>

Short excerpt showcased at the Sundance Film Festival in a special panel session: "When Experimental Storytelling Provokes Social Inquiry", Park City, Utah on January 22, 2017: <https://vimeo.com/299907933>

Synopsis: The film is an artistic exploration of a contested site in Guatemala, bearing witness to historic memories of civil war and moments of economic revival, while remaining paralyzed in the midst of a fragile peace. It follows a collective of young artists who use dance, performance, and poetry to intervene in a former train station in Quetzaltenango, converted to a military base in 1945, where untold violence was perpetrated for decades. Through movement, music, seeds and spoken word, the artists seek to activate and transform the dark memories of the space, while engaging public imagination and bringing light to Guatemala's silenced past.