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ARTICLE

In the Grip of the Moment: Time, Touch, and Embodied Improvisation

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Abstract

This article explores the semiotic and embodied dynamics of improvisation by focusing on tactile interaction, risk, and the temporal conditions under which meaning must emerge. Drawing on ethnographic examples from competitive and free solo rock climbing, as well as greeting practices among Swahili women in Lamu (Kenya) and Toronto (Canada), I explore how improvisation operates not as a deviation from routinized behavior, but as a generative force. Through an examination of these disparate tactile encounters, I argue that under high-stakes temporal pressure, improvisation becomes a form of semiotic labor: an interpretive responsiveness to emergent signs that are not only felt in the moment but are also anticipated and evaluated against embodied memory. Rock surfaces and handshakes are treated as communicative environments that elicit the anticipation of qualia and require semiotic attunement when such anticipation fails. In such moments, I argue, improvisation does not simply fill a gap but constitutes a recalibration of meaning through the body.

Keywords: climbing; embodiment; greeting; improvisation; touch

Introduction

The scene is impressive. A climber makes her way up a 50 ft (15 m) artificial climbing wall that gradually curves over a large body of water. The young woman moves steadily, calculated and confident, as she edges closer to the top of the suspended wall. Hanging upside down and only a few moves away from reaching the top and the end of her climb, she reaches for and grasps a big, solid-looking hold. As she lets go of the opposite hand, intending to give it a rest and chalk up to make the last few powerful moves to the top, the safe-appearing hold comes loose and turns, causing the experienced climber to lose her grip and drop 50 ft into the water. Her fearful scream echoes over the surface. The climber later proclaims the event was "traumatic" due to the unexpected turn of events, wondering if she will ever "trust" holds again.

What traumatized the climber was not the fall itself. A professional athlete, she had taken many falls and often ones more dangerous than this. In contrast to drops from rock surfaces, where one could potentially hit the wall or, worse, the ground, a

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fall in (supervised) water did not hold much risk. More troubling to the athlete was the unexpected response of the hold to her touch. It was the sharp contrast between her embodied familiarity with what particular-looking climbing-holds afford and the actual response of the object in question that distressed the climber. And while appearance may have betrayed her before, in this case, the discrepancy between anticipated sensation and actual tactile interaction also did not allow for in-situ improvisation—a quick adaptation in response to the hold's unexpected reaction, based on embodied familiarity, allowing her to stay on the wall. The hold's betrayal was not visual; it was tactile. It failed to "answer" to her touch in the way she had anticipated, and the seconds available for adaptation were too few. What she lost was not control, but the ability to improvise under pressure.

While the climbing fall may seem unusually dramatic, the dynamics it highlights—of embodied anticipation, sudden surprise, and failed improvisation—also appear in more ordinary social encounters. Consider the following: while conducting fieldwork in Lamu (Kenya), a male interlocutor reached out to shake my hand upon greeting me. This was unexpected: in this Muslim community, men and women rarely engaged in direct physical contact. I hesitated briefly, unsure how to respond, but extended my hand, assuming I was being addressed differently as a foreign researcher and conscious of the social contact I was hoping to establish. As we shook hands, however, my interlocutor lightly caressed my palm with one finger—an action hidden from others present, but unmistakably flirtatious. Before I could react, he let go and proceeded to greet others present. The moment ended before any response could take shape, before improvisation was even possible.

This article argues that improvisation in tactile encounters—whether with rock or with people—is a semiotic process shaped by time and risk. For climbers, holds "respond" to their touch through resistance, friction, or instability; for people greeting others, partners' handshakes "answer" through pressure, pace, or withdrawal. In both cases, success—a continued climb or a positive interaction—depends on how quickly unanticipated responses are parsed and acted upon. These encounters are then about reading and responding to unforeseen signs, under pressure. By examining rock climbing and Swahili greetings as high-stakes semiotic ecologies, I show that interpretation does not wait for stability; it happens in motion, under pressure. In such moments, I argue, improvisation becomes a form of semiotic labor: the work of acting meaningfully when rules falter or collapse. I frame this as semiotic attunement or the embodied skill of sensing, interpreting, and responding to tactile signs in real time, when hesitation carries a cost. If semiotic labor foregrounds the high-stakes interpretive work of these encounters, attunement highlights the sensory orientation and embodied adaptation through which such interpretation becomes actionable. By showing how meaning emerges through semiotic labor grounded in attunement, I offer a reconsideration of semiosis that foregrounds risk, failure, and the real-time pressures of the social and material world.

I bring together phenomenological and performance-based accounts of embodied improvisation (e.g. Sudnow 1978; Novack 1990; Cash 2000), gesture studies (e.g. Kendon 2004; Noland 2009), and semiotics (e.g. Agha 2003; Keane 2003) to theorize how tactile action becomes sign interpretation under temporal pressure. My focus is less on verbal address and more on how meaning emerges through bodily

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responsiveness. I begin with climbing to explore how tactile improvisation emerges when actors must make sense of both the material world and their own bodies' unpredictable responses to touch. I then turn to handshakes and greeting styles among Swahili women in Kenya and Toronto, where social and affective risks—status, intimacy, relationships—are similarly mediated through touch and timing. In both contexts, improvisation under pressure not only solves an immediate problem but may also generate new gestures, new styles, and new norms.

Rock climbing, affordances, and improvisation

I first began contemplating strategy, time, and risk when observing professional or high-level rock climbing. As an amateur rock climber and academic interested in tactile interaction, I would watch with fascination how climbers prepared themselves for challenging routes. Collaboratively, they would scan the (artificial) rock surface, looking for signs indicating where the most difficult section of a route may be and how to move passed it. They shifted "between linguistic and other gestural forms of sign performance" (Ness 2016, 50), both verbally discussing and gesturally enacting how to touch holds and move their bodies in response to the rock surface. The climbing route then seemed to appear gesturally as a collaborative emergence (Sawyer 1999, 2000) before they even commenced the climb, only to be reassessed when the climber would fail to complete the route.

This "route previewing" is meant to help climbers pick up functional information about reachable, graspable, and usable holds, to chain movements together and find the intended route, based purely on visual information. In other words, previewing enables climbers to perceive and realize nested affordances—potential possibilities for certain movements. Climbers attempt to predict hand and foot placement, and their own bodily responses to those choices, by vaguely acting out movements, in a manner reminiscent of dancers marking their performance during rehearsals (see Ingram et al, this issue). However, this kind of "marking" does not pertain to a bodily action that was previously practiced and needs to be recalled, as it may be in a dance rehearsal. Rather, it concerns the anticipation of possible body placement and movement based purely on a distant visual cue of how a physical object may feel and respond to touch. While this ability to pick up functional information and the affordances nested in a particular rock surface is informed by lived experience (Merleau-Ponty 1945) and tactile memory, it is not (yet) based on direct physical engagement with the rock. Manning (2009) argues that climbing, therefore, is about the immanence of movement—how movement can be felt before it actualizes. I take this one step further and suggest that what climbers anticipate is not just movement but meaning. Phrased differently, climbers imagine a particular form of touch as meaningful—for their body and its capacity to respond to this particular hold—in advance of its realization. In this view, rock holds function as anticipated tactile signs, not just shaped in the moment of touch but foreseen through embodied memory and relational expectations. Yet, while experience and training may help climbers anticipate a particular tactile experience and its significance, they will not know for sure until they get up the wall.

Of interest, when thinking about improvisation, is precisely the potential discrepancy between the anticipated affordances based on visual cues and embodied memory,

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and the actual tactile exchange where a climber interacts with the rock. When the climber anticipates specific affordances but finds them absent or different upon touch, they rely on embodied experience to reinterpret the signscape and integrate this new information into their ongoing interaction with the rock. This is a semiotic act as touch becomes a mode of sign interpretation and bodily adjustment becomes a response to signs that shift mid-action. This tactile relation is also not unidirectional: the rock "responds" through slipperiness, grain, resistance, or by breaking or turning, requiring the climber to engage in quick interpretive work or semiotic labor. Improvisation, then, becomes an act of bodily knowing shaped by prior experience but innovative in the moment as the climber recalibrates meaning under pressure.

What makes or breaks a climber's success is precisely this interpretive work and quick improvised reaction to the rock's unexpected responses. A key component of climbing, this adaptability requires "an ongoing co-adaptation of a climber to a set of changing and interacting constraints, which are individually perceived and acted upon" (Seifert et al. 2017, 181). In other words, the tactile relation between climber and (rock) surface can never be fully foretold; it must be experienced (Manning 2009) and responded to. Ness (2022) therefore argues that every climbing movement effectively tests the veracity of the signs that a climber perceived before commencing the ascent; "each improvise[s] an experiment proving that the intelligence bodily gathered was accurate" (222).

Climbing then always requires an openness to the unexpected and an ability to improvise—to inventively adapt in a matter of seconds, by drawing upon one's embodied perception and bodily intelligence, even when the stakes are high. And this is, indeed, not much different from everyday life. Improvisation, after all, is a constant in human interaction. It does not suggest unbounded creativity, but rather in-situ responses to the unforeseen—whether that be a shifting rock hold, a misread jazz riff, or a mismatched greeting gesture. These responses may be unscripted, but they are never unstructured. For this reason, Bourdieu (1990) described improvisation as the practical logic of everyday life: creative yet constrained, shaped by embodied knowledge and social habitus. A pianist can only improvise impressively after mastering the rules of the composition. Similarly, the tactile exchanges I focus on in this article are both deeply habitual and sites of potential invention.

This interplay between familiarity, surprise, and risk is equally evident in hand greetings. Like rock climbing, greeting involves a previewing of the encounter, the perception of social affordances, and the need to adapt quickly to a partner's (unexpected) response. Handshakes highlight how our bodies mediate our relationship with others. The subtle nuances of a handshake—how firm, soft, or fast it is—can communicate emotions, intentions, and social positions. These tactile cues operate as signs that bodies learn to read and interpret, often unconsciously, but whose meanings are deeply shaped by context, history, and risk. When shaking hands, the body's sensory input (touch, pressure, length, etc.) shapes a person's perception and response to the other, making the handshake a site of embodied knowledge. But the interpretation of handshakes still depends on their function as signs: we may read a loose grip as reluctance, a prolonged hold as intimacy, or a caress of one's palm as flirtatious, depending on the context. In this way, the sensory is always already semiotic, not because every handshake has a fixed meaning, but because its interpretation is what enables response.

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I elaborate on these nuances of handshakes because it is precisely this convergence, I believe, that plays a central role in how we improvise in response to the unexpected in tactile exchanges. What begins as embodied perception (phenomenology) becomes semiotic interpretation (meaning), a process sharpened when delay is costly, and interpretation must be immediate. If rocks "respond" through indexical feedback—friction, resistance, or failure—handshakes amplify this semiotic labor by layering tactile feedback with interpersonal, affective, and cultural significance. Rocks and handshakes both provide indexical cues, but the latter adds layers of social legibility. In both cases, however, improvisation hinges on how quickly signs are parsed and acted upon.

From climbing to contact: improvisation across terrains

While climbing involves split-second improvisations on the rock face, it is not unlike how we navigate the dynamic, tactile world of social interactions. Both are domains of semiotic labor, where bodily responsiveness becomes a way of interpreting and acting on misperceived or uncertain signs. The stakes and surfaces may differ, but both rock climbing and handshakes involve high-stakes negotiations with the unexpected, under time pressure. Just as a climber adapts to unexpected tactile affordances in a dangerous environment, so too does a person navigate the potential unforeseen dynamics of a handshake.

In previous work, I drew attention to the importance of touch in hand greetings to underline the (contextually and culturally informed) strategies and tactics involved in the tactility of handshakes (Hillewaert 2016). I argued that, by manipulating the sensory details of hand greetings, a person can negotiate individual relations and simultaneously present a particular social persona. Rather than haphazard or improvised, I suggested that the tactility of handshakes is therefore often calculated and strategic. What I focused on less, however, was that precisely because touch happens between two bodies, it is also unpredictable.

In a way, our social interactions and particularly the greeting styles I focus on, are informed by a form of social previewing, a kind of anticipatory attunement to potential signs that allow us to assess who our interlocutors are and what the appropriate greeting will be. Just like in rock climbing, much of this previewing is informed by visual cues, but these expectations are always provisional, vulnerable to disruption.

In the ethnographic context where I work—that of Kenya's Swahili Coast—an individual will consider the estimated age of those present, their social status, and the context in which one encounters them to select both the appropriate order and style of greeting. Just as for a climber, these previews enable individuals to identify possible affordances of improving social relations with some or claiming a particular social status with others. Yet misperception can equally result in a subsequent failure of the exchange. In fact, more so than climbing, social interactions, and particular tactile greetings, are replete with uncertainty regarding affordances as the interaction is not one between an object that has been wrongly perceived but rather with another individual who equally gauges the social environment. Here too, touch is imagined in advance as meaningful, yet only takes shape in the moment.

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A misfired gesture

One day, toward the end of my fieldwork in Lamu (Kenya), I ran into my close friend, Hafsa,[1] as she went on a walk with, whom I presumed to be, female family members. I smiled as we approached each other and I quickly scanned the group, making note of the approximate age of those present. Assuming the women were similar to me in age or younger, I decided to greet Hafsa first and stretched out my right hand, initiating the hand greeting. Rather than offer to shake her hand, however, I presented my hand palm up, inviting Hafsa to place her right hand on top of mine, so I could lift and swiftly kiss the back of it—a sign of respect and affection among women in this Swahili community. Based on my experience with hand greetings among women in Lamu, I anticipated Hafsa to accept my gestural invitation by placing her right hand on my outstretched palm. I also assumed, however, that she would gently resist my attempt to lift her hand and swiftly pull it back, thereby preventing me from kissing her hand. Hafsa's swift refusal of my tactile greeting and her quick subsequent gesture of kissing her own hand would prompt me to do the same—bring the back of my hand to my own lips, gesturing a kiss. My initiating the greeting and my gestural intention of kissing her hand meant to signal my respect for her as a close friend. Yet, her refusal of the kiss would equally signal her respect for me. The eventual kissing of our own hands indicates mutual respect and consideration between friends or acquaintances. While described at length here, greetings like these happen in a split second and are informed by lived experience and habitual dispositions. While strategic and informed by social previewing, such greetings are embodied and tactile information (like resistance or lack thereof) quickly informs subsequent responses.

This time around, however, the exchange did not quite happen as I had anticipated. As I offered my right palm to Hafsa, she grabbed my hand fully (rather than placing hers lightly on top). She then quickly flipped our clasped hands around such that mine was now on top of hers, and swiftly lifted them to place a kiss on the back of my hand. In the instant in which this happened, I hesitated. I had previously observed similar exchanges among Lamu women who wanted to signal a close and intimate friendship, to both each other and observers. I knew what was expected of me in response: I was to just as quickly flip our clasped hands around, assuring Hafsa's hand was now on top, and bring them to my lips, such that I could reciprocally kiss the back of her hand. However, I had never experienced or "practiced" this hand flip. I decided to take a risk and improvise, though informed by my existing knowledge. I swiftly brought our clasped hands to my lips wanting to kiss the back of Hafsa's hand, only to realize I had forgotten to flip them, resulting in my kissing my own hand. The failed reciprocated gesture resulted in chuckles from Hafsa and her female family members, but the social faux pas was further ignored as she inquired where I was headed and if I cared to join them on their walk.

What happened here? Both Hafsa and I previewed this social encounter and anticipated certain affordances—I aimed to demonstrate (to Hafsa and her family members) my intimate familiarity with local social etiquette and intended to express my friendship and respect for Hafsa. Hafsa, on the other hand, wanted to seize this opportunity

[1] pseudonym

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to signal her particularly close friendship with me (the European researcher), to both me and her cousins. Yet, the tactile exchange unfolded differently from what was anticipated, requiring improvisation for both of us. My failed attempt to reciprocate entailed an evident social risk: my inability to "correctly" respond to Hafsa's tactile sign could have undermined my claim to semiotic fluency in Lamu's social world and could thus have challenged my social status. Hafsa, however, had equally taken a risk by offering this greeting in front of her family members. Her claim to an intimate friendship with me was challenged by our failed exchange and equally required improvisation and repair on her end. Her chuckle and further ignoring of the mishap appeared to succeed as the group continued with their walk without anyone remarking on the failed exchange. Hafsa did, however, not attempt the same greeting with me again.

The vignette captures my argument of improvisation as semiotic labor. Our encounter illustrates how meaning, though anticipated, does not reside in pre-scripted forms, but arises in the moment—in this case, through touch, timing, and the social risk of acting in ways that may fail. To frame the improvised response to a failed handshake as semiotic labor is to attend, not only to the embodied reading and responding to signs as they unfold. Improvisation here is not just repair; it is also the work of meaning-making under risk and uncertainty. And, importantly, this interpretive labor unfolds under temporal pressure as hesitation itself can signal failure.

In any handshake, time plays a significant role. The speed and timing of a greeting communicate something important about social dynamics: a too-slow handshake may signal hesitancy, while a too-fast handshake can seem disrespectful. Both in formal and informal settings, timing the handshake in the right way is an implicit rule of social interaction. In the case of hand greetings in Lamu, the swiftness of the exchange signals the embodied familiarity with social etiquette. Improvised responses to unexpected hand greetings, like the example above, can create a delay in response, resulting in discomfort or a failure in the interaction (and risk a breakdown of the social relation).

The temporal dynamics of a handshake, especially when the response is unanticipated, affect the overall meaning of the exchange and can shape future exchanges. This too is a collaborative emergence (Sawyer 2000). A misfired handshake can force an interactant to reinterpret previous assumptions about the social connection with the other, which in turn, will frame the future interactional shape. One can joke and laugh about a faux pas, and yet, the situation never emerges again. This element of time, or more specifically, the pressure to act meaningfully under time constraints is central to understanding semiotic labor across both social and material terrains. Let me elaborate on the interplay of time, risk, and improvisation in the context of climbing first, to then consider what these insights entail for social interactions.

Climbing and the temporal stakes of improvisation

Climbers must make decisions quickly as they move along the rock face. They cannot dwell too long on a hold, as the body may tire and muscles fatigue. This temporal urgency of the climb means that climbers often rely on quick improvisation based on their embodied knowledge. However, failed anticipation—such as grabbing a hold that turns out to be loose or not as expected—introduces a significant risk. Improvisation under time pressure therefore is a distinct form of semiotic labor: an interpretative act

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that hinges on the ability to recognize and respond to emergent signs of potential success or failure, enabled by an embodied cognition that draws on both past experiences and real-time adaptation.

In competitive climbing, such as the example with which I began, the stakes of correct anticipation and swift improvisation are high—a fall means dropping out of the competition. But in other forms, such as free solo climbing, the stakes escalate dramatically. Free soloists ascend a natural rock face without ropes or other protective gear, and a fall can be fatal. The risks here are not metaphorical; they are existential.

Free soloing gained widespread attention through the film *Free Solo*, which documented Alex Honnold's 2017 ascent of El Capitan in Yosemite National Park. Ness (2022) notes that free soloists often climb what she calls "semiotically exhausted climbs" (2022: 223)—paths so well practiced that each move has been inscribed into the climber's motor repertoire. In semiotic terms, she argues, the route then becomes "a token of a corporeally well-known type" (2022: 214). That is, through repetition and habituation, the climb becomes a form of embodied language. The near-lethal risks, then, are seemingly reduced due to the incorporated familiarity with the routes, requiring little to no improvisation. In Butler's (1990) terms, the movements sediment; they lexicalize—that is, they enter the climber's embodied lexicon of recognizable, repeatable moves—into a routine that feels automatic, though the stakes make it anything but.[2]

Despite this deep familiarity, free solo climbing demands continuous attunement. Even on a known route, conditions shift: rock surfaces change with weather, lighting, temperature, and the climber's bodily state may alter as palms grow sweaty and muscles fatigue. The potential need for improvisation is therefore never absent; it simply coexists with embodied certainty. This tension demands constant semiotic labor or an attuning to emergent cues that might signal potential rupture or readjustment. In fact, the very perception of certainty is what makes improvisation under time pressure so risky as the body must continuously remain open to sudden change. In this context, semiotic attunement and the improvisation it enables are not a stylistic option but a necessity. And when a high-stakes creative response to the unexpected is required, the temporal pressure is unforgiving as there is no time for contemplation or margin for hesitation. A late adjustment in grip or delayed shift in balance can turn proficiency into tragedy.

For this reason, watching a documentary like *Free Solo* remains a heart-stopping experience. Seeing a climber make their way up the El Capitan rock surface without any protective gear, with drone images repeatedly showing the intensity of the feat, drives home the lethal stakes. One may perceive the rock surface as an inanimate and unchanging object, assuming the elimination of the need for improvisation once the route is "semiotically exhausted." Yet minute shifts in the features of the rock shape, its surface, temperature, light, and shadow make every climbing experience unique, as does one's own body's changing ability to express its supposed incorporated familiarity.

[2]As I will elaborate on subsequently, I use "lexicalize" here to refer to the stabilization of improvised movements into embodied, repeatable forms within a local repertoire. While these may, over time, become enregistered (Agha 2003), I aim to capture the earlier moment, when improvisation stabilizes into a usable tactile vocabulary without yet carrying broader indexical meaning.

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Just like the safe-looking hold in the opening example shifted, so may the rock surface "respond" to the climber's touch in unexpected ways.

There is, therefore, always a temporal asymmetry between expectation and the unknown of what may happen, creating a paradoxical relationship with risk. Risk is both the reason one must act, and the reason that action may fail. The climber is forced to improvise because the success of the climb (and their life) is at risk, yet the very conditions of risk—including limited time—make it harder to improvise well. While the climber's embodied familiarity might give them a sense of control, the immediacy of time pressure makes improvisation into a high-stakes gamble where there is no opportunity to reverse a mistake once it is made.

Just as in climbing, social interactions require us to navigate tactile exchanges under time pressure. A handshake may seem simple, but its success equally depends on a swift and immediate adaptation to (unanticipated) pressure, rhythm, and context. In both domains, improvisations constitute more than reactive movements. Rather, they are instances of interpretive work, grounded in what I have called semiotic attunement and labor: the ability to recognize, recalibrate, and respond to shifting signs under (temporal) pressure. It is precisely in moments of breakdown—when anticipated meanings fail—that this kind of interpretive labor becomes significant. Importantly, time and risk are not peripheral to this labor but are central to it. The less time available, the greater the stakes, and the more demanding the work of attuned, embodied interpretation becomes.

However, improvisation under time constraint is not just a momentary act of repair. Over time, repeated responses to similar moments of uncertainty may sediment into recognizable forms. What once required heightened interpretive labor may gradually stabilize into legible signs. In this sense, improvisation does not just respond to failure; it can also give rise to lexicalization.

When improvisation becomes form

Occasionally, improvisations borne of risk and necessity become something more: they stabilize, are repeated, and gain recognition. This is what I consider lexicalization—a sedimentation of improvisational response into a recognizable and shareable form. What begins as an emergent act of semiotic labor, grounded in embodied memory and attunement, can through repetition crystallize into part of a local tactile lexicon.[3] In this sense, lexicalization is not simply the formalization of gesture, but the afterlife of improvisation. While such forms may, over time, become enregistered (Agha 2003) as socially recognizable signs indexing broader identities or norms, my focus here is on an earlier moment—when improvisation sediments into a usable and recognizable tactile vocabulary without yet carrying broader indexical meaning.

In climbing, for instance, an improvised movement in response to an unstable hold might later be recognized and practiced as a technique. When an improvised solution

[3]This process parallels what Hopper (1996) describes in linguistic terms as grammaticalization: the gradual stabilization of a form through repeated use. Like grammaticalization, lexicalization of gesture is not a discrete endpoint but an ever-present possibility, where a single repetition may already mark the beginnings of sedimentation.

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to a difficult crux—grabbing an otherwise unused side pull, performing an unexpected heel hook, or mantling onto a sloping ledge—proves so effective, it can get incorporated as an essential part of the route, repeated by others, and ultimately named and passed down as part of the climb's technical lexicon. Moves like the "Gaston," "heel hook," or "mantle" each bear traces of an original improvisation that, through repetition and recognition, solidified into canonical technique.

Similarly, in social interactions, a spontaneous gesture borne from urgency or perceived failure may enter a local repertoire. Tactile gestures that emerge in response to new social configurations, such as migration, generational change, or cross-cultural encounter, may likewise stabilize into recognizable forms. I found myself thinking about this process of lexicalization recently while visiting Swahili friends in Toronto, many originally from Lamu or Mombasa but now long-settled in Canada. I have often wondered how social expectations of respect and deference are retained or reconfigured in the diaspora, particularly in tactile practices like greetings. As I watched women greet one another, what stood out was the sheer diversity of styles: some kissed the hands of elders in a gesture of deference, others offered gentle hugs and kisses on the cheek. Among peers, I observed the familiar Swahili handflip I described earlier, but often it came after a Western-style kiss on the cheek, forming a seemingly new hybrid greeting.

As I observed these exchanges, I recalled my own behavior and responses during one of my first visits to a gathering of Swahili women in Toronto, shortly after I had moved there. Conscious of wanting to make a good impression and not offend, I remember instinctively falling back on the etiquette I had learned in Lamu. I scanned the room, identified the elder women first, and approached them with a quick *salaam aleykum*, gently kissing the backs of their hands. Turning to women closer to my age—women I met before but whom I knew only briefly—I anticipated the familiar negotiation of hand offer and refusal. Yet one woman surprised me: she grabbed my hand, pulled me close for two cheek kisses, and then unexpectedly lifted our clasped hands to her lips and kissed them. I hesitated for a split second and then improvised: I flipped our hands and kissed hers in return. Later that afternoon, I saw her repeat this sequence with others, with slight variations: sometimes a tighter clasp, sometimes more cheek kisses, sometimes the handkiss came first, and other times a hug followed. These combinations struck me not as random variation, but as improvised responses shaped by embodied memory, cultural expectation, and the immediate relational context. They were innovations grounded in familiarity—spontaneous, but not unanchored. The kiss-and-handflip pairing, for instance, appeared repeatedly, suggesting that it may be becoming lexicalized—a new, shared form in the repertoire of greeting styles among Swahili women in Toronto.

Over time then, such gestures not only stabilize and lexicalize as recognizable forms; they may also become enregistered as embodied indices of diasporic identity, marking these women's positionality both within the Toronto diaspora and upon their return to the East African coast. In this way, the lexicalized greeting becomes recognizable not simply as a shared gesture, but as a tactile expression of movement, migration, and situated belonging across multiple contexts.[4] Improvisation under time pressure

[4]Lexicalization also renders a gesture alienable: extractable from its original relational context and able to circulate across settings, acquiring new meanings and uses as it moves (e.g. Keane 2003).

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therefore does not just solve problems; it may create something new. These new forms, through repetition and uptake, may become shared tools. And when that something new proves useful, expressive, or resonant, it is repeated. What starts as improvisation can sediment into form.[5]

Discussion: improvisation as semiotic labor under constraint

This article advances a set of interrelated interventions into semiotic anthropology by treating improvisation under time pressure as a site for rethinking meaning-making, embodiment, and the temporality of signs. Through a sustained juxtaposition of two seemingly disparate practices—rock climbing and handshakes—I foregrounded the semiotic labor of anticipation and attunement, particularly in moments where there is a potential for failure and improvisation becomes necessary. In doing so, I have offered conceptual tools to extend our thinking beyond stable indexicality, toward a framework that considers questions of uncertainty and risk.

Improvisation under pressure, I have argued, reveals a form of semiotic labor distinct from conventional sign interpretation. In both climbing and handshakes, actors draw on bodily knowledge and anticipatory attunement to navigate uncertain situations where the "correct" move is not predetermined. Pairing athletic performance and everyday tactile exchanges revealed how emergent semiosis operates across registers. In both, actors are guided not only by habitus or rule-following but by a precarious, embodied sensitivity to what has not yet happened.

Improvisation in both contexts—whether reaching for an unexpected hold or responding to an awkward handshake—unfolds in an ever-narrowing window where expectations break down and one must act without the luxury of reflection or repair. In climbing, this window is existential; in social life, it may be relational. But in both, the risk of failure haunts the process of meaning-making. Time is then not just a backdrop to semiosis; it is constitutive of the semiotic event. Whereas indexicality is often theorized as stretching across time (e.g. linking past and future states), I foreground how temporal pressure transforms the semiotic stakes of improvisation, forcing actors to act before they know how their moves will be received or whether they will succeed.

Occasionally, however, improvised responses become something more: they stabilize, are repeated, and gain recognition. This is what I have described as lexicalization: a sedimentation of improvisational response into a recognizable, shareable form. What begins as an emergent act of semiotic labor, grounded in embodied memory and attunement, can, through repetition, sediment into part of a local tactile lexicon. In

[5]Theoretical accounts of gesture help illuminate this movement from improvisation to form. In gesture studies, Adam Kendon (2004) describes lexicalization as the process by which an initially idiosyncratic or improvised movement becomes conventionalized into a shared communicative sign. Considering the body's capacity for innovation, Carrie Noland (2009) similarly reminds us that gestures are never purely free nor fully scripted; they emerge from the body's encounter with cultural constraints yet carry within them a potential for change. Thomas Csordas's (1993) similarly considers embodiment as a perceptual and generative field: we draw on a repertoire of embodied memory, but that repertoire is never static. Each gesture carries its history yet makes meaning anew in the encounter. What unites these theoretical considerations is an attention to the trace of improvisation within the sedimented form. Noland's insight is useful here: what stabilizes never fully escapes the body's capacity to reinvent.

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this sense, lexicalization is not simply the formalization of gesture, but the afterlife of improvisation. Of course, not all improvisations stabilize; some fail or are forgotten. But those that successfully manage the risks of misrecognition may be repeated, routinized, and no longer felt as improvisation. By attending to this arc—from improvisation to potential stabilization and eventual enregisterment—we can better understand how novel meanings emerge and how certain forms come to count as semiotically legitimate.

Together, these insights push semiotic anthropology toward a richer understanding of fragile, embodied, and time-sensitive meaning-making, where signs are unstable, and failure is always a possibility. Improvisation in this view marks the edge of semiosis, where failure is looming, and yet meaning is made.

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