

## Entangled

### On the Social and Ethical Friction of Fieldwork

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*This paper asks what we owe to our teams and our informants when we engage in research with and about people. Participant-observation – the defining methodology of ethnographic praxis – has long had trade-offs resulting from the many frictions inherent in it, all of which are essential to producing the unique insights and findings of this approach. As practitioners, we’ve often turned a blind eye to these, suggesting the significance of our work outweighs the consequences. But is that always true? This paper offers an equation of sorts for articulating and assessing the underlying forces creating friction in ethnographic research. While it does not posit an all-encompassing metric, it provides a way for researchers to be more cognizant about and deliberate with the ways we use friction in our projects.*

“I went to sleep with gum in my mouth and now there’s gum in my hair and when I got out of bed this morning I tripped on the skateboard and by mistake I dropped my sweater in the sink while the water was running and I could tell it was going to be a terrible, horrible, no good, very bad day.”

—Viorst, *Alexander and the Terrible, Horrible, No Good, Very Bad Day*

This paper grew from the events of January 2023, which was a “terrible, horrible, no good, very bad” (Viorst 1972) month. Not for me, per se. By most metrics, my life was good. I was deeply grateful. But that was the challenge.

As an anthropologist, my career is in large part a direct result of the people who participate in my projects as informants or colleagues. In January, many of the people who enabled my good life were most definitely *not* having a good life. Among the now-adults who had participated in my dissertation research two decades ago, Ruby (and her 7-year-old son) were homeless again amid Minnesota’s freezing temperatures because of a glitch in the supportive housing program. Others were struggling to stay afloat as inflation and rents rocketed up yet again. Students and former colleagues who had been pivotal in my career development now found themselves out of jobs as massive layoffs rocked the tech industry, and new graduates struggled to find work. Even women in South Korea, where I’d spent one month on a project about femininity, were “on strike,” protesting marriage and motherhood because of the way these institutions negatively transformed their lives (Jung 2023) – something we saw coming during that project and yet could not address.

Every day seemed to bring yet another story of struggle related to something I’ve studied. For three decades, I have loved this discipline beyond measure, and yet for the first time in my life, I began to question it. I kept hearing the admonitions of

a colleague ring in my head: “Be careful what you want to know, because once you know it, you cannot un-know it.” Suddenly, I was wishing I had not asked to know so many things.

At the root of my despair lay one question: What do I owe to these people whose stories, support and lives had made my good life possible? What is my obligation to them at this – and any – moment? And what do I owe my teams whom I’ve now implicated in tackling tough problems?

What I was experiencing was a unique friction emergent from ethnographic praxis. Each time we engage in research, the relationships generate friction: we are objects/people encountering each other in various ways, with various degrees of force, under different degrees of pressure, and often moving in different directions. These frictions arise from the complex identities we carry through our work, and the ostensible nature of why we do this. These frictions can propel our lives along different trajectories, depending on our ability to harness or withstand them. But how to do that?

This paper draws from physics to frame the ways that the many frictions inherent in ethnographic praxis shape our lives and the lives of those who participate in our projects. I offer an “equation” of sorts for considering the intensity of frictions on us, our teams, and our informants. If friction is a necessary factor in movement, how do we conceptualize where and how these impact us and others? What happens when we ease or reduce friction in our work? What are the trade-offs and for whom? While this may not directly answer the question of “what do we owe to people,” it provides a way to consider the relative costs and benefits to us and to others as we continue the ethnographic process.

## **THE PHYSICS OF FRICTION**

Let me begin with a caveat that I am not a physicist. Thankfully, there are many of them who write for people like me. So we should consider this more of a metaphorical romp through the science of friction than a detailed and nuanced examination of the discipline. This brief section is intended to create a shared framework for how we will use friction in the remainder of the paper. With that said, let’s begin.

Friction is the force that opposes the movement of one object across the surface of another that is in contact with the first; or, the force that opposes the movement of an object through a fluid (e.g., air, water). It is best represented by the equation:

$$\textit{Friction} = \textit{the coefficient of friction} \times \textit{the normal force}$$

The coefficient of friction is shaped by three primary factors:

- **The deformability of each object:** objects that are softer or more “deformable” generate greater friction
- **The roughness of the surface of each object:** irregular and rough surfaces create more friction; smooth surfaces reduce friction.
- **Whether objects are static or moving (sliding, rolling):** objects that are moving have lower coefficients of friction than objects that are static.

The normal force is a measure of the **mass and gravitational pull of objects:** essentially, how much matter an object contains, and how much pressure pushes (or pulls) them together. The greater the mass and gravitational pull, the greater the friction.

It is important to note that friction is an inherent requirement of movement – physicists have yet to identify any movement that is truly frictionless. As friction increases, the speed of an object slows, but movement increases – think about a pair of running shoes pushing against a textured racetrack, or the larger gears on a bicycle. By implication, reductions in friction increase the speed of an object, but reduces movement – think of tires spinning on ice, but unable to propel the car forward.

Each of these factors helps inform different dynamics within ethnographic research. I’ll describe each, and consider the implications for our work and for people as we increase or decrease the overall friction experience.

## **THE DE-FORMABILITY OF AN OBJECT**

Soft objects, deformable objects, tend to generate far more friction, so much that they may just cling to the object they are trying to cross, or the object trying to move across it. Picture a ball of dough that holds together just enough to be an actual ball. If you try rolling it, the dough will be quite slow – it will stick to the surface and quickly become un-ball-like. Moreover, if you try pushing a rolling pin over the dough without adding a layer of flour between the objects, the dough will simply stick to the pin and wrap itself around the object.

For ethnographers, fieldwork often demands that we become de-formable objects. It is built into the core praxis of our methodology: we are participant-observers (c.f., Malinowski 1922; Spradley 1980; Stocking 1983). We bend and flex our identity depending on the particular moment in our research process, sometimes joining in fully with the community, erasing the lines between us and them, while at other times, standing back, observing, tracking, and parsing what we see unfolding before us. We the researcher (and everything we have learned to date) are the refractive lens against which we process data. We willingly de-form / un-form / re-form our identities and backgrounds, values and assumptions, in order to learn a new way to be in the world. As we trace the complex, everyday lives of people, we seek

out these moments of personal, visceral confusion: where outcomes, explanations and choices do NOT make sense to us. The discomfort, dis-ease, confusion, anxiety, rage, joy – the very signals of our de-formability – become the template against which we seek to understand others.

Moreover, we are taught to “leave the field” when our new shape begins to harden – when we can predict how scenarios will unfold, when we can move through the community with ease, without calling attention to our outsider roots, when we understand nuances in language and expressions, when the underlying cultural patterns are clearer to us. When our new shape starts to resemble those of the community around us.

This requirement to be open to “de-formation” partly explains the long-standing bias against conducting research “at home,” as well as the mandate for extended, immersive research. This embodied knowledge (Roberts 2020) has long been touted as the gold of ethnographic praxis. We seek to increase this friction from softness as a way to elucidate the logic of others’ lives. By challenging our assumptions and perspectives (softening ourselves), and assuming a logic to others, we are forced to grapple with experiences until they make sense.

Yet this idea of being de-formable has rightly been challenged on two grounds. Many of those who had been historically marginalized from doing fieldwork – women, people with disabilities, people of color, people with families – argued that identities are never truly erasable: we remain defined (“hardened”) by elements of who we are wherever we go (c.f., Scheper-Hughes 1995; McLaurin 2001; Rosaldo & Lamphere 1974). The idea that we can become members of radically different communities ignores issues of power, privilege, and opportunity. For many, our physicality, our relationships, our minds – the things that make us “us” – make it near-impossible to simply decide to be someone new.

Second, some of the things we experience in research can def-orm us in ways that are, frankly, not good. Many of the experiences we have during the course of fieldwork can be physically, emotionally and mentally damaging. From deaths and near-death experiences (c.f., Rosaldo 1989), to assaults and rapes (c.f., Kulick & Wilson 1995), to bearing witness to cultural practices that induce physical or psychic pain on others – ethnographies are replete with things we wished we’d never learned or experienced. While these may be more common in long-term projects, they do occur in the kinds of work we do as well.

To that end, I am excited and grateful to see less emphasis on self-de-formation as a necessary factor in “good” research. But in acknowledging the limits of softness, have we toggled too far toward hardness? Have we reduced the friction too much? I do have concerns when studies do not include some measure of participation – when the researchers themselves are not trying the thing they are asking of others. We know that teams who have included senior stakeholders in projects report greater success in helping them understand the experiences of others (Beers et al., 2011). I know timelines for our work are often very short, but including

space for experiential learning across the team will only improve outcomes. Creating spaces for softness, for de-formability, brings back the kinds of friction that help us approach another person's life from a place of respect and curiosity. It returns people to the status of informant (expert teaching us), not subject (a person that is discussed or dealt with). In these shifts, we regain the foundations that underlay the original mandate to willingly change ourselves, while letting go of the pretense of full acceptance and transformation.

Let us also remember that friction is a dynamic of two objects. While we've covered the relative deformability of the researcher, we need to consider the softness of those who participate in our projects.

One of the first tasks in fieldwork is to "soften" our informants. We begin with gatekeepers: we identify those with power and influence, and seek to leverage their credibility by aligning with them, having them validate and approve our presence. We then work to build rapport more broadly, to earn trust and respect, to gain the confidence of and be a confidant to the wider community.

Early ethnographies often portrayed communities as "hardened" – it was the anthropologist who was "de-formable" not our informants (c.f., Evans-Pritchard 1969 [1940]; Benedict 1946). But this was another ruse of the ancients. As we've argued for the past several decades, our work impacts communities in both subtle and significant ways (c.f., Tierney 2000). Those early ethnographies informed colonial policy toward their stolen lands, with detrimental impacts that reverberate still today. As more of us rise to positions of power and influence in global firms, our work carries the same ability to de-form communities, and must be approached with the care we now know to bring to those tasks.

At the interpersonal level, recognizing the differences in power, privilege, opportunity, resources, and relationships between us and our informants can help us better identify when and how people might be vulnerable to "softness." When we position ourselves as a friend, as we are taught to do, we take on obligations incumbent of friends, and these can be significant in many communities, especially those that are resource- or relationship-poor. When we express interest in other's stories, we commit ourselves to their version, not our script, and may find ourselves mistaken as a therapist, minister, or other trained professional (c.f., Bernius & Dietkus 2022). When we say we represent a company and are interested in the "pain points," there may be a very real expectation that we will do something to change that experience.

In all of these cases, we are "de-forming" the other person – we are changing them through who we purport to be. We are opening opportunities to them that did not exist prior to our engagement. We are changing the scope of what is possible, what is valuable, what is achievable. Just as we need to be mindful of what deformations we undertake, we need to be extra mindful of the deformations we catalyze in others. For us, fieldwork is, by definition, work. For our informants, we are intervening in their lives.

## THE ROUGHNESS OF THE OBJECT AND SURFACE

In 2015, I spent several weeks in Seoul on a project about the praxis of femininity among South Korea's women culture-makers. It was an experience in cultivated and curated smoothness like I'd never experienced: impeccable homes, impeccable wardrobes, photo-perfect relationships, the right addresses, the absolute right wardrobe for any occasion, bodies that performed the cultural model of femininity. And yet, as we talked about their routines and their clothing, so much tension, friction, and roughness lay beneath it. Stories of being forced out of careers they loved, of dealing with in-laws, of husbands who worked shocking numbers of hours, of loneliness, of feeling confined within a very small, well-apportioned, gilded cage. On the surface, everything was perfect, yet they were unhappy in some profound ways. Did they need yet another \$20,000 handbag in their arsenal – another thing to facilitate and extend the appearance of smoothness? Or did they need a systemic change that allowed them to live fuller lives, to have moments of joy?

In the ethnographic encounter, the “roughness” of an object and surface are best understood as the revealed complexity of researchers and the community members. By “revealed complexity,” I mean the willingness of each party to share the fragments, frustrations, and challenges in their own lives – the experiences that have made us a bit prickly. If we borrow Geertz's (1973) metaphor of culture as “webs of significance,” roughness is best visualized as the places where the web may be torn: where the stories and pathways of our lives fail to connect, to make sense, to flow seamlessly to the next juncture. Roughness is our willingness to demonstrate or discuss our moral quandaries, our social concerns, our fears, and our general points of difference. These kinds of complexities are the texture – the roughness – of all human lives. To borrow from Goffman (1956), this is the willingness to reveal the “backstage” person beyond the slick, rehearsed “front stage” persona we curate. This applies equally to researchers and informants.

In long-term, place-based fieldwork projects, our roughness as researchers often emerges because we live right there, with everyone, and we show these edges by default of our humanness. Some of these frictions result simply from our habitus (Bourdieu 1972) – from the ways in which we embody power, status, wealth, and other axes of identity. By default of having human bodies, we come to occupy certain social categories within our work, whether these align to our own held identities or not. Other roughness results from being fallible. On difficult days, when we are overwhelmed from navigating systems that are confusing and new, when we are mentally exhausted from speaking new languages all day, or when we just miss the familiar. As our research progresses, new kinds of roughness appear as we develop trustworthiness and rapport with different informants. We share our lives, our joys, our edges. We build friend-like relationships.

In digital ethnographic research, where we live behind screens and screeners, we can opt to reveal little to nothing about ourselves (c.f., Walther 2007; Tufecki 2008). We can appear as opaque and slick as the technology that mediates the relationship. We may never reveal our name, our location, or the kinds of quirky facts that might enable people to create an accurate mental model of who we are. There is a freedom and possibility in this for many researchers. Elements of my embodied identity that I cannot (and will not) hide in person can be backgrounded during digital research. This gives me the ability to function almost as a disembodied mind, or as another social persona, laser-focused on the topic at hand, but not entirely human. In many ways, this enables us to move much more quickly through research because we are not actually implicated in the process. We are not a source of friction, of conversation, of slowing down and chatting. While many disciplines practice this as a way of mitigating bias, it can induce unknown sources of bias into our research should people manufacture stories about who we are and why we are asking certain questions.

Among our informants, roughness similarly emerges in a few different ways. Just as elements of our lives may not connect smoothly, so too do we find breaks and ruptures in theirs. In fact, the Manchester School focused entirely on investigating these ragged edges – for in pursuing the breaks, you understand both the systems that create them and the ideals that inform them (c.f., Gluckman 1955; Colson 1953). One of the ostensible perks of a researcher’s “outsider” status is that it enabled informants to be more direct about the roughness without fear of social judgment. However, in our global world, we need be mindful that we are never really “outsiders,” and poking at someone’s ragged edges may be costly.

At one level, we pursue and explore the roughness in others’ lives. This may come about in screeners, where we require people to acknowledge fragmentation as a requirement of participation. We see this in screeners for things like medical conditions, economic strains, systems involvements, family status, and so forth. Simply to participate, we need people to own their roughness. This can also occur by default of studying certain topics, where our questions will deliberately probe areas of known complexity, such as household finances, wellbeing, parenting and relationship dynamics, power relationships in organizations, and a multitude of topics that dive into social obligations and personal identity. As noted above, it was the driving force in a project that was ostensibly about luxury fashion.

People may share their roughness because we’ve acquired a role of confidant, friend, or something else other than “researcher.” For those who work in organizational ethnography, this often happens as teams may forget your real reason for being there; or alternatively, as teams realize the power of your role as official conduit for all things problematic (c.f., Lovejoy & Lucas 2020).

It can, at times, be induced more quickly as a factor of anonymity. In surveys or online forums, when participants feel secure that they cannot be traced, researchers can glean elements of this complexity through the careful crafting of

questions that invite people to share this richness. In a recent online project my team conducted on people's experiences of their communities, we heard snippets about discrimination and safety concerns, as well as the unexpected joys of small acts from strangers. So we know it's there. However, our ability to then follow these threads to understand more, or to link them with other elements of community life, is significantly restricted.

Just as we can hide in digital studies, so can participants. We may know little to nothing about them beyond what they are asked to share in a project. In fact, they may opt to be someone entirely different in their digital lives (c.f., Glazer et al., 2021). While many recruiting platforms go to great lengths to verify identities, it is not always so straightforward. While less than ideal from a research standpoint, this kind of seamless facade allows people a momentary respite from the roughness of embodied life, and allows them to imagine another existence altogether – one in which they are valuable and important to someone, namely, to us as researchers. At a practical level, it's a transaction – we pay them for their time. And for many, this income may be the difference between eating and not eating, or talking to someone during the day versus not. So while we may vent and rage about it, we should rightly be asking about the commodification of insights and the forces that drive some people to this path. But to study that, we need more roughness.

The more we can be attentive of our requests and requirements for exposure, the more we can understand where and how and why we are asking for it. In the end, what we ask of participants should in some way inform how we will use that information. Delving into sensitive topics with no intention of using the stories for some positive shift creates unnecessary friction in lives that are complicated. Yet in seeking out the roughness in other's lives, we need to be careful to avoid any claims to being able to solve all of these rough patches. While applied anthropology is the translation of meaning into action, there remain limits on what we can and should do (c.f., Bernius & Dietkus 2022). This is particularly true when the source of challenge lies beyond our scope of our mandate – which is so often the case for good ethnographers. In tracing the fragmented and fraying “webs of significance,” we will inevitably encounter systemic and historical injustices.

## **STATIC VERSUS MOVING OBJECTS**

It takes more energy to move an object from a state of rest than to continue the movement of an object once it is going. In short, static objects have a higher coefficient of friction than those already in motion. That said, objects in motion tend to stay in motion, hence it can be much more difficult to stop them.

As we think about this in research, we can conceptualize it as leveraging what is already known and moving, versus starting anew. There are four primary ways to do this. First, tapping into what is known about a community, a topic, and a human challenge enables you to identify key themes, perceive areas of roughness, and see



opportunity spaces. The Theory Death-Match (Dautcher et al., 2013) is one clever way to achieve this, as is the Frames format created by Stripe Partners (<https://www.stripepartners.com/viewpoints/algorithmic-everyday/>). However, leaning into popular culture can be similarly productive (Hanover 2022). All are productive ways of extending the work of others into new contexts.

Additionally, extending learnings across projects not only helps bootstrap new efforts, but prove additional return on investment for those who sponsor our work. Reviewing previous studies before instigating new work helps by reducing the time requirements (and possibly the costs) of projects (c.f., Guth 2022). For example, we connected insights from projects on back-to-school shopping and shopping for home appliances by considering the status implications of purchases. Similarly, we linked work on shame from a healthcare project to a new effort on mitigating shame among bankers and brokerage firms after the financial meltdown in the 2010s. By linking themes, we could begin projects from a known terrain, even if we shifted them past those foundations.

A related tactic is to learn across disciplines, silos and organizations. This helps us ask more novel questions, to pursue topics from a different perspective, and to “crowdsource” critical information that may be held as “tacit knowledge” from those who know. However, as Guth (2022) also noted, this can raise its own sources of friction due to who we are in these roles. As she advised, building strong relationships with key informants and gatekeepers can enable the smoother flow of information across silos and disciplines.

In the end, this may also explain the preference among many academic anthropologists to return to their fieldsite throughout their career: it is easier to extend past studies and relationships than it is to continuously build new ones. After years of work, we have well-established connections to people, places, and subjects. We speak local languages. It is much easier to keep going forward on these paths, especially as time becomes more limited in our unfolding careers. While rare in industry research, this could be accomplished with longitudinal panels, where the same cohort of people agree to participate in a wide range of research in order to ladder and bolster information across topic spaces (c.f., USC, RAND). It would enable connective themes akin to what is achieved in place-based long-term projects, but at a wider scale.

For all the benefits of keeping things moving, the risk is that these relationships can similarly be difficult to stop. While fieldwork is work, our blurry relationships can create scenarios where we have become something other than the research, as discussed above. Recognizing the impact of this on ourselves and our teams, as well as on our participants, is an important element of sustainable work. Establishing clear boundaries around roles, or creating rituals to end longer-term projects, can help teams and informants to shift relationships into greater stasis or end them as needed. Making space in debriefing work to discuss these closures also

provides teams with language and structure for elements of the project that may want to linger.

As we consider stasis and movement among the lives of our informants, it may be more productive to think in terms of interruptions and continuity. Part of the logic of place-based long-term projects as participant-observers is that our research falls into the flow of everyday events (cf., Malinowski 1922). It is not a distinct moment, merely part of the ongoing rhythm of lives. While there is a significant effort transitioning from stasis to movement as we launch a project, this tends to encompass most of the shift. Yes, there are always new introductions and new directions, but these often come as introductions (leveraging others' relationships), or by default of our greater incorporation into daily activities.

In the more typical organizational research or in many genres of UX and Consumer Insights research, we are asking people to stop the ongoing flow of their lives to make space for us. We are shifting them from a process of movement to one of stasis, asking them to pause, to reflect, to share, to advise, to demonstrate. Even when this may be appreciated, it is still a source of friction. Understanding when and how we make these requests may ease that, and potentially increase collaboration. Additionally, we should consider the nature of the disruption. When our work is close to the events happening in someone's life, it may cause less interruption to their flow. However, when our topics are further away – for example, exploring something from their past or future – we may need to consider the impact of this distraction on their lives.

## **THE NORMAL FORCE OF FRICTION**

The normal force of friction reflects the density of the matter in objects, and the gravitational pull between them. The denser two objects are, the stronger the normal force. Similarly, gravitational pull reflects the distance between objects: the closer together they are, the stronger the pull. We are better positioned to think of the normal force as augmenting the other factors that create friction: it amplifies or reduces roughness, deformability and movement. For example, deformable dense objects will create more friction; distant rough objects will create less friction

How might we think about this force in our research? I'd like to suggest two parallels to density and gravitational pull. Density might be properly conceived of as significance: the greater weight and importance of a topic or project, the greater the friction we will create and encounter. For example, in a project about the financial lives of rideshare drivers (Smith 2022), the significance of the topic was so intense for participants that they extended interviews, provided meticulous tracking of their money and expenses, and asked to prolong the study. Their financial state – which was typically quite precarious – was of such importance that when provided an opportunity to discuss it, they unloaded years of frustrations, fears, challenges, and

dreams. In this case, the density of the topic space enhanced the roughness of their lives.

Among researchers, often when we are on projects that are of critical strategic importance to our clients or organizations, this can enhance other frictions. For example, I was a participant in a project years ago that involved the alignment of internal resources to new strategic priorities. Listening to my colleagues discuss systems that had long frustrated them, I was intrigued that when asked about their work, their language changed to be almost hyperbolic – *essential, critical, only one who can do this, vital*. In creating a scenario in which people had to defend their value within an organization, the leadership simply enhanced the deformability of the teams. People quickly changed how they talked about their work in line with the new vision, shape-shifting in order to stay relevant.

In our work, attending to how “density” might create unexpected or unwanted bias in the outcomes is an important step in planning. Topics that are particularly fraught for a given community might open a floodgate of participation, and we should consider both how to honor and respect this opportunity, while similarly protecting ourselves and our teams as we may be quickly overwhelmed with materials. When our projects impact organizational dynamics, ensuring support from relevant stakeholders, and thinking differently about how to conceptualize the issue will ease some of the impact we create for others and ultimately for ourselves.

When it comes to gravitational pull, this is a measure of closeness. For our purposes, I’ll frame this as “proximity in time.” Specifically, gravitational pull refers to the distance between researchers and their deadlines. Whereas time is the great gift of long-term place-based work, it is a precious resource in more applied contexts. To that end, we may exacerbate smoothness in an effort to focus studies to “manageable scope,” leaving out elements of people’s lives that will seem extraneous, confusing, or tangential. Similarly, extending projects can exacerbate friction dynamics inherent in the underlying processes. In a project we led on the role of kitchen items in the running of a household (Sieck 2013), we exacerbated the movement/stasis dynamic our participants experienced by repeatedly inducing interruptions in their lives. Over a week-long project in which we took away multiple items from households (trash bags, storage containers, foil, etc.), they reported ever-greater challenges (friction) as the days wore on and they had to continually re-think how to navigate life in the absence of certain products.

While we often have little control over the deadlines that drive our work, we can be mindful about how research timeframes impact our methods, and our relationships with participants. Articulating the choices we make regarding smoothness/roughness, or de-formability, become ever more critical in providing the right context for interpreting the results. Similarly, longer projects are not inherently better if they do not capitalize on the opportunities for richer work.

## RUNNING THE EQUATION

As noted by physicists, there is no movement without friction. In our world, that means there are no insights, no strategies, no futuring, no careers – nothing we do as ethnographers is possible without friction. Which also means that we must not be glib about the toll it can take on us and our informants. While necessary, we don't need to exacerbate it through thoughtlessness or carelessness.

With that in mind, let's return to the equation and reconsider how we might better balance it on behalf of ourselves, our teams, and our participants.

$$\text{Friction} = (\text{deformability} \times \text{roughness} \times \text{movement}) \times (\text{topic density} \times \text{speed})$$

As you plan projects, this equation can help you consider the sources of friction which drive the work forward. The equation should be run for both the research teams, as well as those who will be our participants. There are no insights without friction, so consider which sources are necessary and productive, and how to corral those toward the good of the projects. As for others, the goal is not to exclude people, but to consider how their lives contribute to friction, and then determine when and if it can be balanced or managed.

There is no single answer for every project or every team. This is a conversation that must happen across the researchers to consider what level of friction is sustainable on any single project and across a portfolio of projects. Some elements will not be flexible – for example, projects on financial precarity or grave health conditions will inevitably create significant roughness and density. But knowing that, you can balance with more experienced researchers (potentially less deformable), with more time (reducing force), and with leveraging previous projects or prior research (enhancing movement).

In the end, I have returned in my head many times to each project where I have become deeply entangled in the work, assessing and reassessing the friction that binds us. In hindsight, I would have done some of these differently. While not a panacea nor a one-size-fits all, I believe this equation helps us consider when our requests are unreasonable, and helps us attend to these factors and forces as much as possible. In this way, at the very least we can strive to avoid owing reparations to others or ourselves for thoughtless and ill-planned work.

## NOTES

My first and deepest gratitude goes to those who have become entangled in my life – as colleagues, participants, mentors and others. Had I conceived of this equation at the onset of my research career, I do think some of the frictions that have defined our paths might have been different. I owe an enormous thanks to Rachel Singh, whose reading of a previous version of this paper inspired me to dig into physics and the equation for friction. And to Sophie Goodman, our session curator, who read many versions of this, in all its roughness and deformability, and helped find the good within it.

Finally, to my team at TRI who continue on this research journey with me. All weaknesses and challenges remain mine.

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