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Original Research

Practical rationality as a determinant of formality in communicative situations: toward a procedure for causal interpretation in qualitative communication research

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Abstract

This article develops an updated version of formality as an analytical framework in the comparative study of communicative situations, and especially of meetings. The discussion remakes Judith Irvine's formality framework by adding to it the explanatory principle of practical rationality as used within Weber's Interpretive Sociology. This conceptual move provides an efficient and accurate means by which to infer the final causes, reasons, or ends of communicative situations. To illustrate this analytical approach and how it can contribute to qualitative theorization in general, the article conducts an in-depth ethnographic and comparative examination of civic software production meetings in Israel and the United States. The overall argument of the article is that practical rationality can provide a valuable means for deepening explanations of cultural difference in qualitative communication research.

Keywords: qualitative research, ethnography of communication, rational choice theory, formality, meetings

In the initial stages of any ethnographic research on meetings, one immediately notices the kinds and degrees of formality that give the meetings shape and credence. The study of such observable formality has so far gained little attention—perhaps due to an assumption that the formality of communicative situations has no theoretical consequence. Indeed, the most rigorous attempt to develop a "formality framework" within the Ethnography of Communication (EOC) and qualitative communication research more generally was abandoned by its creator—Judith Irvine—in 1979 for that same reason. The present discussion goes against this trend by arguing that the analysis of formality is essential for discovering the raison d'être of any meeting.[1]

In constructing this argument, the article addresses an unspoken issue of immense disciplinary concern; that is, the inability of qualitative/interpretive communication researchers to deal with even the simplest "why" question that presupposes true relations of causality. While qualitative analysts can delimit any communication unit X and describe it in great phenomenological detail, they do not yet have any scientific method by which to explain why X varies, or why X exists at all. This analytical limitation entails a cognitive dissonance. On the one hand, one treats all causal explanations as culturally and historically contextualized accounts by scholarly training. In this regime of thought, what renders an explanation meaningful, acceptable, or preferable is not its absolute truth value, but rather the historical circle of cultural values and institutional contexts of justification in which it is enacted. On the other hand, one is constantly required to treat some accounts as more valid than others by the intellectual and practical necessities of research and workaday life.

To address this contradiction, the article returns to the observation that any circular act of interpretation must presuppose some ideal or etic type.[2] To the extent that one accepts the application of etic types in the development of descriptive theory [such as Hymes's (1972) SPEAKING mold], one can equally use etic types of causation to create qualitative/interpretative explanations of at least some communication phenomena. In particular, the present discussion shows how EOC scholars, ethnographers of meetings, and other qualitative scholars in organizational communication can use the type of causation known as *practical rationality*—i.e., the viewpoint of a purely informed rational actor maximizing utility—to infer situational ends from observable features of formality.

In proposing practical rationality as a first etic type of causation, this article advocates a return to one of the oldest principles of causal interpretation. The idea that something exists or is used in a particular way for a *practical reason* is fundamental to philosophies and religions around the world—from ancient Greek philosophy to Talmudic thinking, Hinduism and Confucianism, to name but a few. In modernity, the term "practical rationality" derives specifically from Max Weber's book Economy and Society (1968) that lays the foundations for his Interpretive Sociology (IS). As Norkus (2000) has persuasively shown, Weber's IS has both etic and emic sides. The emic side, which gained special visibility in anthropology through the work of Clifford Geertz (1973, 1983), is compatible with the aforementioned perspective that treats all explanations as cultural–rhetorical accounts. The etic side of IS, which is yet to take root in our discipline, has developed into the unifying paradigm in the social sciences known as Rational Choice Theory (RCT).

Going back to Weber's original framework [as transmitted through Norkus's (2000) seminal work], this article argues that the comparative analysis of communicative action

requires the application of both etic and emic perspectives. On the one hand, the reason for a given action or interactional move depends, for its intelligibility, on a specific—cultural and historical—context of justification. On the other hand, one can only compare between any two such "culturally flavored" reasons by virtue of a more general—or etic—notion of human reason. Practical rationality provides a best possible heuristic for causal interpretation in qualitative communication research because it is the simplest and most parsimonious principle of rational action one can think of (Elster, 1985). In showing how practical rationality can be used in relation to socially situated perspectives of real human beings, the present discussion is inspired by and can be considered as an implementation of Karl Popper's "zero method" of causal interpretation. On his account (1957, p. 141):

> I refer to the possibility of adopting, in the social sciences, what may be called the method of logical or rational construction, or perhaps the "zero method." By this I mean the method of constructing a model on the assumption of complete rationality [...] on the part of all the individuals concerned, and of estimating the deviation of the actual behaviour of people from the model behaviour, using the latter as a kind of zero co-ordinate.

Instead of starting from the actual experiences of individual human beings—their emotions, actions and thoughts and the material substances and processes that make these up, one formulates a best possible course of action, and then uses it as an *idealist basis of certainty* in comparing between cultural expressions of practical reason.

To show how this can be done, the remainder of the discussion is organized as follows. First, the empirical puzzle that led to the writing of this article is reconstructed in ethnographic detail. Second, the intellectual problem of causation in qualitative/interpretive research with which this puzzle is associated and with which this study seeks to grapple is defined in relation to Irvine's formality framework. Third, the key product of this article—i.e., a procedure for the discovery of any meeting's raison d'être is formulated and explained. Fourth, the data by which this procedure is illustrated is described and accounted for. Fifth, the analysis is conducted and its theoretical implications are drawn.

Research problem

Given that this article emerged from a practical necessity rather than intellectual curiosity, it will be helpful to start with a brief description of the research settings and the empirical puzzle that invited the present intervention. Within qualitative communication research, such descriptions function not only to provide a background for the inquiry but also to establish the authority of one's ethnographic expertise, and, hence, the validity of the inquiry (Tracy, 2010, 2012). Let me start, then, with the social context that grounds this discussion.

> Imagine that one evening, as you drive home from your workplace, you notice a new construction site near your residential area. When you moved here several years ago, your contractor said that no further building is planned, at least not in the near future. But now, it seems like the quality of your life is about to change for the worse. This worries you and you want to know what is going on. When you get home, you upload the Open Urban Building Scheme website on your smartphone. To your dismay, you realize that the construction site you saw is the beginning of a much wider plan. This is more serious than you thought. You decide to share your concerns with your neighbors, so you click on the Facebook link provided. As you reach the Facebook page you realize that others have already expressed their concerns on the issue. You join the conversation and make your opinions and feelings public. As the discussion unfolds, you and your fellow citizens decide to take further action.

This fictionalized example was reconstructed from interviews and fieldwork materials to express the way in which the actual programmers who develop the Open Urban Building Scheme envision its typical use. These programmers see themselves as members of the Israeli voluntary association The Public Knowledge Workshop (PKW) whose stated mission is to develop websites that make government and public institutions more transparent and accessible to the Israeli public.

My interest in these developers originated with a curiosity about the communicative status of programming languages and computer code. Making EOC my "strategy for encompassing situations" (Burke, 1941/1973), to address this question I had to locate specific individuals and groups who perceive their uses of programming languages as means for social and civic ends.[3] The organizations Code for America (in the United States) and PKW (in Israel) seemed a good fit with this requirement. I thus started my fieldwork with a local "brigade" of Code for America called Code for Boston (CFB) in the fall of 2013, and later expanded my exploration into PKW field sites in the winter of 2015. In what follows, I first describe the empirical puzzle that emerged from a comparison between the organizational features of the two field sites, and then specify the theoretical import of addressing this puzzle.

The empirical puzzle

At a very early stage of the research, it became apparent to me that the central arena in which CFB participants gather to perform their tasks is a communicative situation they call "hack night." A hack night is a type of meeting that presents the ethnographer with clear temporal and spatial boundaries. From their inception, hack nights were meant to be regular occasions that occur on a specific day of the week (Tuesday) within a specific time frame (19:00 to 23:00) at a particular place (the Cambridge Innovation Center in the city of Cambridge, MA).

The pattern that gives shape to the typical hack night is an interplay between stasis and mobility. Upon entry to the meetings, one will observe individuals and small groups sitting around tables of various shapes that are spread out in the meeting space. These are usually members of local voluntary project teams who are developing a specific civic software such as the MBTA ninja that employs a crowdsourcing technology to provide users of the Boston subway with means to report on real-time delays in local train transportation. Most of these participants sit behind laptop computers. Some are engaged with their screens while others are busy talking.

At the same time, one will also observe a slow but steady traffic of people. Some walk in and out of the meeting space

while others walk around the tables or gather together for varying periods of time in a different location (such as the coffee corner). These participants include the group's organizers, members of the different project teams, and a variety of other visitors and interested parties such as the principal data scientist for the city of Boston; and Jason, a younger man who identifies himself as a "nerd" with a lifetime interest in cybersecurity.

Against this background, multiple communication units gained salience as they came to my attention. There were smaller situations that resembled an open state of talk in which project team members could "initiate a little flurry of talk, then relapse back into silence [...] as though adding but another interchange to a chronic conversation in progress" (Goffman, 1981, p. 135). There were loosely organized communication events such as casual, professional and introductory talks among the different participants as well as more formal events such as an orientation for newcomers with one of the group's organizers. And there were a variety of programming events such as problem-solving sessions where participants gathered to work on a particular line or section of computer code.

I visited these meetings regularly and at one point also joined the MBTA ninja project team. However, a sense of uncertainty arose in me from the difficulty in locating a focal unit of analysis. This obstacle encouraged me to extend my exploration to PKW development meetings in Israel. Indeed, upon entry to this comparative field site, I was confronted with empirical details that helped distinguish between the two situations. Of particular salience was the tendency of PKW development meetings to be far more static and rigidly organized than what I had observed at CFB hack nights. In the development meetings, one could notice that clear boundaries had been established among members of different project teams and that participants in these groups always worked in fixed locations within the meeting space. This was in contrast with CFB hack nights that appeared to promote participants' movement around the space and interactions among different project teams.

Once I concluded my fieldwork in Israel and conducted a preliminary examination of the data, what became increasingly clear was the significance of the project teams themselves as organizational means within the communicative situations of a hack night and a development meeting. As I continued to review the perspectives of PKW participants, I found several corroborating testimonies that spoke directly to this observational fact:[4]

(1) Interview with a community coordinator for PKW (5/1/2017)

1. Jon: The question of whether it is a community or communities is a [...] debate that takes place when we don't have more interesting things to argue about. I think the workshop is a collection of communities, and I know [that the person] who replaced me as a communities coordinator perceives [themselves] as a community coordinator. So, I'm not sure it's that interesting. I can explain my position-
2. Nim: Do tell, do tell.
3. Jon: [...] There are people who sit side by side in the same room for a year. Table beside table. And they don't know each other, and also neither of them knows what the other is doing, what are the challenges that he deals with [...] When I was in the formal side of things [...] we thought that one of the goals is to try getting [people] to know [each other...] but eventually I believe that if you will ask the active people what is their frame of reference, so they will tell you. It is the project. And in this sense, the workshop is an umbrella organization for several different and changing initiatives [...] And this is the main reason for why I don't perceive it as a unified community.

(2) Interview with a core team member (11/16/2016)

1. Nim: Okay, so the public knowledge workshop, you say it is a?
2. Mei: The public knowledge workshop- what you understand very quickly, also in how they talk and also in the volunteering, it's like, there are almost no volunteers in the workshop. Like the volunteers volunteer in a specific project. And from your point of view, when you are in this project, you are not interested in what's going on elsewhere. Not in a bad way, like it's just your identity is an identity of projects. Like you care about the project, when the project goes live [...] like on what [the team] works, where [the team] is located [in the production process], things like that.

In excerpt 1, Jonathan, who served in the official role of a community coordinator identifies the social boundaries among PKW project teams and claims that the primary frames of reference for participants in these groups are their "projects." In excerpt 2, Meirav, who participated in a project for more than a year, provides a restatement of Jonathan's claim.

As I moved to consider my data from CFB field sites, I found similar but less explicit views. For example, in one ethnographic observation of the aforementioned project whose members developed a subway train delays application, I loosely documented the following conversation:

(3) Fieldnote from a CFB hack night (4/21/2015)

Sam asks me about the kind of perspective that I'm using in this research. I answer that I'm doing ethnography and that my goal is to study the "exotic tribe" of Code for Boston's programmers. Sam says that he took an anthropology class in college, so he knows what I mean. At a later point, Mark comes back into the room and joins the table. I ask Mark if he is in touch with CFB organizers or the members of other project teams. Mark answers that he is not affiliated with the organization at large, and Sam seems to nod in agreement. Mark says he has no idea what the other teams are doing, and Sam updates him about the activities of one such team. Mark tells us that he learned about CFB from another team member, who happened to be his running partner, and says that this is the only social connection that he has, and the only reason for why he is here. Sam says that he decided to join the team when he "shopped for a project" upon his arrival at the hack nights for the first time, and remarks humorously that CFB is made of lots of "small tribes."

(continued)

As apparent from this excerpt, Mark's account of CFB hack nights combined with Sam's description of "shopping for a project" among "small tribes" fit with Jonathan's assessment of PKW as a segmented community. However, Mark and Sam's comments are less definitive and reflexive. For example, Sam takes care to show that he knows what other teams are doing, and his passing remark about group boundaries among different "tribes" is conveyed in a light-hearted and subtle manner.

More generally, I found that CFB participants tended to talk less about, and be less concerned with their organization of production in comparison to their counterparts in PKW. This discursive difference reflected the difference between the spatiotemporal organization of hack nights and development meetings that I attended and observed earlier. While project teams functioned as centers of gravity in both situations, hack nights were the more fluid of the two. CFB project teams did not attend hack nights on a regular basis, and when they did attend, they did not sit around regular tables. Members of different project teams moved around the space freely and routinely, and the arrival of drop-ins looking to "shop for a project" was much more frequent. It thus became clear that PKW development meetings were more "formal" than CFB hack nights (see Figure 1). Quite naturally, this led me to ask the proverbial "why" question, i.e.: why would the development meetings be more formal than the hack nights? And, more generally, what can this difference in formality tell us about voluntary software production as a mode of civic participation?

Theoretical import

Within EOC, there is not yet a method by which to address such "why" questions. When EOC scholars do ask why questions, they do so implicitly by reference to known cultural differences between large speech communities or societies. For example, in the case at hand, one could say that PKW development meetings are more formal than CFB hack nights due to the prioritization of "doing" over "telling" (or action over speech) among secular Israeli Jews (Katriel, 1986, 2004, 2021), and conversely the sanctification of "communication" as a ritual means for the management of interpersonal relationships among middle-class Anglos in the United States (Carbaugh, 1988; Dollar, 2021; Katriel & Philipsen, 1981). This form of explanation is unsatisfactory not only because it does not specify any way by which to validate its claims; it is also lacking situational specificity as it proposes that the factor of "cultural style" (Carbaugh, 1989) may affect the ways in which individuals will perform a variety of actions across different types of situations.[5] While this factor may have relevance to the meetings at hand, a more complete explanation will also account for the raison d'être of these meetings, thereby addressing the "why" question of final causation in addition to the "how" question of cultural style (as a general preference for how to do things). The ability to develop such *observer explanations* will allow ethnographers to increase the efficiency and accuracy of their investigations. Knowing the raison d'être of a meeting at the early stages of an ethnographic exploration will help analysts adjust their research designs in studying their particular issues of concern, whatever these might be.

While focusing the discussion on EOC, the intellectual problem described here and the logic for its solution can be considered as private cases of a much more profound issue in qualitative/interpretive communication research, namely the difficulty to address "why" questions that presuppose scientifically valid accounts. To date, the pedagogy of communication takes for granted the artificial and largely unwarranted opposition between qualitative and quantitative "philosophies," and the division between descriptive and explanatory research it entails. To the extent that the hermeneutic act of posing a "why" question is part of the human condition, any attempt to forbid the interrogation of such questions in qualitative communication research as elsewhere is futile. A more productive approach will be, first, to admit that we all engage in causal thinking, and, hence, second, to start formulating our intuitive thought processes into more systematic procedures. While the procedure of rational interpretation developed here is articulated in EOC terms, it should be readily translatable to other qualitative terminologies in organizational studies. Indeed, I consider such translatability as one way by which to test and generalize the findings presented below.

Rationale

The concrete aim of this article is to provide a procedure by which ethnographers could determine the raison d'être of any meeting. To that end, this section first establishes an epistemological position for the endeavor, defines the reasoning of EOC theorization in Aristotle's terms of *formal causation*, and shows how this approach prevents us from addressing puzzles such as the one constructed above. The discussion then argues that the best way to overcome this limitation is to integrate Aristotle's principle of *final causation* into EOC reasoning. The concrete product of this integration is an updated version of Irvine's (1979) formality framework that can be variously applied in the comparative study of meetings.

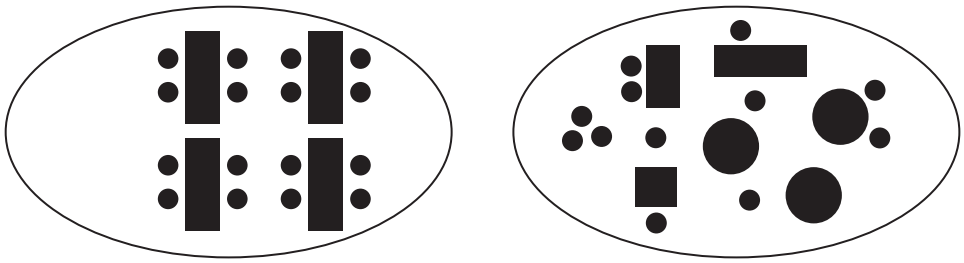

Figure 1. The ethnographic puzzle.

The formal causal reasoning of EOC

The basic epistemological position of this discussion is that the structure of human reasoning—scientific or otherwise—involves a necessary relationship among three elements: an inquirer, an object of inquiry, and a frame of reference in which the object of inquiry achieves its minimal level of intelligibility vis-à-vis the inquirer (Bernstein, 1983; Chang, 1996, p. x; Gadamer, 1975; Heidegger, 1927/2008; Plato, 2010). In order to demarcate, define, or analyze a particular phenomenon, one needs to posit it against some conceptual background. In quantitative communication research, this conceptual background is a scientific theory that specifies relationships among statistical variables. In qualitative communication research, and especially within EOC, it is a theory of social grammar that provides practitioners with categories and continua of units and components for the modeling and classification of human (inter)actions and interpretations.

From a philosophy of science standpoint, this kind of ethnographic theorization reflects the principle of causation that Aristotle (1996) called "formal." According to this principle, for their consistency and recognizability as tokens of types, observable phenomena depend on the units and components that pattern them in space and time. The object of EOC theorization can thus be defined as an etic framework by which to construct a formal explanation for any communication phenomenon. Accordingly, creative development of EOC theory occurs when inquirers discover that their descriptive grammars cannot model or classify the patterns they attempt to trace. For example, in the case at hand, I could only sense but not see the precise differences in the formality of CFB hack nights and PKW development meetings without the proper analytic lens.

The merits and limitations of using such analytic lenses within EOC can be best unpacked in terms of Katriel's (1991, 2010) key methodological notion of *encirclement*. On her account (2010):

> Encirclement [is] the product of the kind of attention that turns social scenes into research sites, social practices and events into research topics [. . .] It is often experienced as an intuitive response to things observed and heard, yet often I find in retrospect that it has involved a specific, theoretically-guided kind of noticing, one that creates links between empirical details and forms of abstraction [. . .] It is never just a matter of being in the field—though that is a must—but of being there in a particular way, not in the way of immersion but constantly attuned to its distinctive structural, emotional and aesthetic qualities.

Katriel's description of encirclement as the fundamental move by which EOC scholars frame their focal units of analysis strongly resonates with Merleau-Ponty's (2004) phenomenological interpretation of Paul Cézanne's painting technique. According to Merleau-Ponty, Cézanne's paintings depict the inherent tension between the conceptual and perceptual dimensions of experience that constitute the relationship between the painter and his object of observation. On one hand, Cézanne's encirclement outlines the contours of an object in the abstract world of geometry. On the other, it is an open-ended attempt to go around the multiple and shifting features of that object within the spatial and temporal world in which it is presented to the painter. The works of painting and ethnography are analogous in the sense that both the painter and the ethnographer create links between empirical details and forms of abstraction in delimiting their objects of observation. Much like the geometric forms that direct the gaze of the painter, the descriptive units and components that guide the attention of the ethnographer are "abstract entities that exist only in the analyst's descriptive framework" (Duranti, 1985, p. 201). In ethnography as in painting, the use of such descriptive units always runs the risk of depriving the objects of their depth, or "the dimension in which the thing is presented not as spread out before us but as an inexhaustible reality full of reserves" (Merleau-Ponty, 1964, pp. 14–15). The task of both the ethnographer and the painter is therefore to construct a representation "of an emerging order, of an object in the act of appearing" (Merleau-Ponty, 2004, p. 272).

Attending the nuanced interplay between etic types and emic tokens in the construction of formal explanations is essential to any EOC research. The central limitation of this approach, however, is its inability to address puzzles such as the one constructed above. Assuming that there is (or could be) an etic framework for the comparative analysis of formality features, one could describe the organizational differences between CFB hack nights and PKW development meetings in great detail and precision. However, no such phenomenological description could ever lead one a step closer to the causes of or reasons for these differences. In order to theorize such ends, one needs to complement the EOC principle of formal causation with the principle of causation that Aristotle called "final." The key conceptual move of this article, and where its contribution to qualitative communication research lies, is the execution of this task in relation to Irvine's incomplete attempt to devise a formal-causal framework for the comparative analysis of formality features.[6]

The case for Irvine's formality framework

The impasse that prevented Irvine from completing the development of her formality framework confirms the need for a method by which ethnographers could address "why" questions. Irvine starts her article by defining "formality" qua *degree of organization* in relation to four etic continua: (a) *situational focus* whose poles are task-oriented and spontaneous activities; (b) *positionality* whose poles are structural and personal identities; (c) *code consistency* whose poles are reiterative and improvised performances; and (d) *code structuring* whose poles are fixed and tentative rules for the selection and usage of communication channels (e.g., the degree to which a given dress code is specified or mandatory in a given setting). After discussing each continuum, Irvine concludes her paper with the following, unexpected remark:

> Is there [. . .] any sense in which all four aspects of formality are related—a sense in which formality remains useful as a cover term? I think there is, but it is so general that it is not very useful as an analytic tool. The only thing all four criteria have in common is that all of them concern the degree to which a social occasion is systematically organized [. . .] The thrust of my argument, however, is that being organized in one way does not necessarily mean being organized in other ways to the same degree or at the same time. In fact, the various ways in which a [situation] is organizable may be complementary or antithetical, rather than additive.

In terms of the forgoing discussion, Irvine's four types of formality do not constitute a single descriptive framework because they cannot be used to define and model *patterns* of communicative situations as tokens of structural types in accordance with the principle of formal causation. Notably, this qualitative notion of pattern is very similar to the quantitative notion of *correlation*. For quantitative analysts, a correlation is any co-occurrence of variables that cannot be expected on the basis of chance alone. Similarly, the qualitative notion of pattern derives from the observation that "when communication occurs, it exhibits, or instantiates, not randomness, but some kind of systemic organization" (Carbaugh et al., 1997, p. 3). The problem with Irvine's framework can thus be defined as an empirical impossibility to establish a positive correlation among the continua of situational focus, positionality, code consistency and code structuring across communicative situations.

However, a correlation between structural features is not the only way to think of analytic systematicity in the social sciences. Another option from which qualitative analysts generally shy away is the relationship between cause and effect. Instead of asking if the appearance of one type of formality to a certain degree is positively correlated with that of another, Irvine could have asked, for example, why is a certain situation formalized in a particular way, while another similar situation is not? A more precise question could have been: Why do these types of formality appear to these degrees within this particular situation, but not in others? Or conversely, is there a common cause for the co-appearance of these types of formality to these degrees within this particular situation?

Integrating the principle of final causation into Irvine's framework

EOC scholars and other qualitative analysts rarely ask such questions of causality for a variety of reasons that can be traced to broad intellectual processes that took place within the social sciences between the early 1970s and the late 1990s, and came to be known by terms such as "the linguistic turn" (i.e., a shift in focus from the study of objective realities to the study of reality-constitutive communication systems) and "the crisis of representation" (i.e., the gradual realization that any documentation of reality is, at least in part, a communicative construction). One important consequence of these processes for the discipline of communication (among other social scientific disciplines such as political science) has been a separation between "quantitative" (or post-positivistic) and "qualitative" (or interpretive) types of research design. While communication scholars take this opposition for granted, it cannot be easily defended on philosophical grounds (e.g., King et al., 2002). Specifically, as I have shown above, qualitative and quantitative researchers are constrained by the same epistemological requirement; both types of researchers must fix their phenomenal or emic units of observation by means of some conceptual or etic lens.[7]

To the extent that one accepts an interplay between etic types and emic tokens in the case of formal causation, one cannot find any epistemological limit that prevents one from doing the same in the case of final causation. The final cause of something, according to Aristotle, is its teleological or intended end (whether or not this end is realized), e.g., the final cause of an acorn is the best possible oak tree to which any such acorn can potentially grow. Within EOC and qualitative communication research in general (to include rhetoric studies), the final causes of occasions such as communicative situations and events are assumed to be human ends. Indeed, for Hymes (1972), the ends of a situation, event, or act are understood in terms of collective and individual goals. Collective goals are the desired ends of an individual group or community. For example, the communication event that the Waiwai of Venezuela call "oho-chant" has several varieties, according to "whether the purpose to be accomplished is a marriage contract, a trade, a communal work task, an invitation to a feast, or a composing of social peace after a death" (Hymes, 1972, p. 61). In contrast, individual goals are the distinct ends of each participant who enters a given situation. Thus, for example, "both sides to a Yakan litigation wish to win," and, more generally, it is evident that in many legal negotiations "the purpose of some may be to obtain a favorable settlement, of others simply that there be a settlement" (Hymes, 1972, p. 61).

The idea of explaining the final cause of a situation by human ends, then, is part of the EOC tradition of cultural interpretation. The remaining question to address is therefore one of method, i.e., how to produce scientifically valid knowledge about the actual goals that serve as a meetings' raison d'être? Within communication, common scholarly sense is to take a materialist perspective with regard to the psychology of individual actors. However, such an approach is hardly likely to succeed. It is difficult if not impossible to access individual minds and thus to support analytical claims that posit intentions as the final causes of something. Additionally, the experimental and statistical tools of social psychologists cannot be easily translated into ethnographic research tools even if this was desirable.

There is, however, another approach one could take. While this approach has been hegemonic within the social sciences, it has so far gained little visibility in our home discipline.[8] This approach to *rational interpretation*, whose modern origin can be found in Weber's Interpretive Sociology (Norkus, 2000), is idealist rather than empiricist. As such, it shares a basic affinity with the hermeneutic orientation of EOC. The key difference is that the proposed framework takes observable features of communication as symptoms or expressions of an imaginary actor's *practical reason* rather than of that imaginary actor's *cultural competence*. Hence, one enters the hermeneutic circle with the assumptions that: (a) any situation has a final cause and (b) this final cause is *practically reasonable*.

In taking practical rationality as the last horizon of intelligibility of final causation (Forte, 2008, p. 436), one needs to specify a procedure by which to establish certainty about the raison d'être of a situation without relying on the emic perspective of participants. My proposed solution is to follow a two-step procedure. In the first step, one uses encirclement to establish links between the organizational means at use and Irvine's formality continua. Analytically, this involves a nuanced adjustment of the etic lenses in accordance with what one sees in the field. In the second step, these images of formality are addressed as tokens of a final (rather than formal) causal type. This final causal type is the best possible choice or course of action by which a purely informed and rational actor is likely to achieve a desired end. The product of this procedure is the requested basis of certainty. This idealist basis of certainty can then be used (e.g., within the framework of a third analytic step) to examine the validity of

participants' accounts (qua emic expressions or tokens of similar situational ends).

Method

Field sites and data

Before turning to illustrate how this procedure could work, let me briefly review the data used in the remainder of the analysis. As discussed above, the focal communicative situations are PKW development meetings and CFB hack nights. PKW is an officially registered voluntary association of software developers who undertake to build internet websites through which detailed information pertaining to government activities and officials may be made more transparent to the public. As apparent from PKW official mission statement that appears in the organization's website and other related texts, this group's mission is to provide other civic actors such as investigative journalists with specialized software tools for the enforcement of public accountability. The group develops these civic software tools through small project teams known by the local term "electroknights," which is sometimes abbreviated to the English word "eKnights." Within PKW volunteer setting, there may be multiple projects operating simultaneously on completely separate civic tools, each of which is referred to as its own eKnight. The volunteers in the different eKnights are associated administratively to PKW, but function mostly within the confines of their individual teams with no official affiliation to the organization at large. At the time of my fieldwork, participation in PKW was anchored in six such eKnights. Five teams regularly attended the development meetings, and one team worked primarily online.[9] The production activities of these six teams are documented in the online GitHub platform, and are therefore easy to track.[10]

The American group, CFB, is a local branch or "brigade" of the larger organization Code for America that operates on a national level. Like their counterparts in PKW, CFB participants associate themselves with specific project teams, rely on the GitHub platform for the development of their software products, and meet on a weekly basis within the framework of hack nights. Participation in the two groups somewhat differs, however, in both ideological and organizational terms. Ideologically, the mission of CFB is to collaborate with local governments and public agencies in developing websites and mobile applications that provide public services to residents in the specific urban area where it operates. This ideological emphasis reflects a more general trend within the globally emergent Open Government Data movement with which these organizations loosely associate themselves—i.e., the trend to mobilize public data for either developing localized urban services or promoting government transparency and accountability. On an organizational level, the two groups differ in their distinct processes of institutionalization. Whereas PKW emerged from the bottom-up through the spontaneous growth and split of one Knight, CFB was created from the top down after a single individual who was elected by the parent organization as a "brigade captain" undertook the recruitment of local developers and the facilitation of projects.

Data collection procedures

The data used here derive from a larger ethnographic study conducted between the years 2013 and 2017 in Israel and the United States. In 2015, PKW would typically hold 2 weekly development meetings located within a high-tech tower rented by the Google corporation in the city of Tel Aviv, and to a lesser extent at a high-tech "hub" in the National Library of Israel in the city of Jerusalem. Aside from the development meetings, PKW administrators used to organize occasional "hackathons." These larger events are locally defined as intense development meetings that encompass an entire weekend.[11] Finally, one of PKW participants—a professional web developer and programming teacher—started in 2014 a personal initiative that he called "hackita," an amalgamation of the English word "hack" and the Hebrew word "kita" or class (as in classroom). Hackita is an 8-week programming course that focuses on the technological means by which PKW eKnights are produced.[12] In total, I attended development meetings in Tel Aviv 10 times for 3–4 hrs per visit, and the hackita02 meetings in Jerusalem six times for 6–8 hrs each. This attendance provided me with opportunities to participate in informal activities such as a small open government data conference, a variety of public lectures, and other meetings between PKW eKnight founders and hackita02 students, all of which improved my sense of how the teams work. My naturalization into the social setting of the Jerusalem hub allowed me to use audio recording devices on five different occasions.[13] The open government data conference I observed in Tel Aviv was also audio recorded. Beyond these opportunities for audio recording, my naturalization into the PKW volunteer setting provided me with crucial access to individual participants with whom I could conduct more in-depth interviews.[14]

Altogether, I managed to talk with 10 individuals, 8 of whom were active or veteran participants in one of the eKnights. The other two were members of the PKW administrative body.[15] I approached these interviews as open-ended conversations whose range of topics could be narrowed down as the study progressed. I started each interview with a request for a biographical story that would begin wherever the interviewee deemed appropriate and would then conclude at the chronological moment of his or her integration into PKW. After the completion of this story, I would pose general questions about the group's mission statement, organizational features, and communicative practices.[16] This procedure allowed me to eliminate topics less germane to the study and sharpen my focus in subsequent interviews on more relevant matters.

My earlier fieldwork among members of CFB adds to this corpus two datasets. The first dataset consists of in-depth interviews with the CFB brigade captain, his wife who served in an administrative role, the leader of MBTA ninja, a representative of Cambridge City Hall who participated in one of the group's projects, and the official Brigade Program Manager for Code for America.[17] The second dataset is based on ethnographic fieldnotes taken in CFB hack nights that were hosted by the Cambridge Innovation Center in the city of Cambridge, and on video footages taken in one of the group's yearly hackathons. In total, I attended hack nights in the Cambridge Innovation Center 20 times for about 2 hrs per visit. All the hack nights were documented based on handwritten field notes. The hackathon at issue is the 2015 National Day of Civic Hacking. Within the framework of this event, I videotaped a particular project team that developed a website called Need Now whose purpose is to provide homeless people with information about relevant city services and shelters. The project was proposed and initiated by the representative of Cambridge City Hall I interviewed.[18]

Results

Step 1: formal causal analysis of formality via encirclement

The first analytic step in the proposed procedure is to determine the types and degrees of formality that distinguish between the two meetings. This is based on a move of encirclement whereby the ethnographer attempts to create links between etic forms of abstraction (i.e., Irvine's four continua) and emic usages of organizational means. Here, encrieclement involves a prioritization of what one sees over what one hears[19] along with the assumption that ethnographers can and should use interview data to learn about participants' thoughts and feelings as well as of some aspects of the extra-discursive world in which these individuals move and operate.[20]

Such an analysis is useful to the extent that it helps indicate which types of formality are most salient in distinguishing between any two communicative situations or meetings. In the present scenario, this distinction has to do specifically with how "a main focus of attention—a dominant mutual engagement that encompasses all persons present—is differentiated from side involvements" (Irvine, 1979, p. 779). Situational focus, as Irvine calls this dimension of formality, can be best examined by the categories of social conduct that Goffman (1967, p. 53) proposed as "substance" and "ceremony." In this formulation, communication practices such as question-and-answer sequences in a journalistic interview are *substantive situational foci* to the extent that the participants who perform them (and their publics) believe that the practices are significant in their own right, i.e., regardless of the manner in which they are conducted. By contrast, practices such as the changing of the guard in Buckingham palace are *ceremonial situational foci* in that they are felt to have only a secondary significance, having their primary importance as ritual means of communication by which individuals pay homage to socially-sanctioned sacred objects (p. 54). Given that PKW participants consider the activities of software production that take place within their development meetings as significant in their own right, such activities can be best defined as substantive situational foci. This does not mean that the group's meetings have no ceremonial features, just that these features are locally and situationally believed to be secondary to the technical procedures of software development.

In contrast with PKW development meetings, CFB hack nights have neither substantive nor ceremonial situational foci, as greater emphasis is placed on social engagements in face-to-face interactions. Consequently, these communicative situations are decentralized, "with many small groups whose conversations are not meant to concern the gathering as a whole" (Irvine, 1979, p. 779). Further review of my ethnographic data corresponds with the suggestion that CFB hack nights more closely resemble a "cocktail party" or a "mixer" than a "workshop." The participants in CFB project teams gather not so much to perform task-oriented programming activities as to socialize and network with their peers, public sector visitors, and other interested parties who arrive at the meeting space. This difference in situational focus is strongly correlated with a difference in the type of formality that Irvine calls positionality. Whereas the identities of PKW participants are defined by their locations within the meeting space as members of specific project teams, the identities of CFB participants depend more on the particular histories of their individual interactions. This difference in positionality, in turn, is closely related to another observable difference between PKW and CFB. While the former group consists of a relatively small set of initiatives that persist in time and space, the latter is characterized by a rapid creation of new initiatives of which only some proceed beyond the initial stages of product development—a condition whose result is a multiplicity of unfinished projects that the organizing team came to call "deserted puppies." This difference, in turn, led me to see that while PKW participants use the term "project" as a technical framework for product development, CFB participants consider it more as a means for the organization of communication events. That is, CFB participants give meaning and form to their social encounters within the hack nights by talking about their actual or potential participation in or initiation of software projects, and in so doing they give credence to the situation of a hack night as the proper place in which such ideas and initiatives take shape. In short, while the situation of a development meeting is formally defined by the technical performance of programming tasks, the situation of a hack night is informally defined by the conversational activity of speculating about such programming tasks within a decentralized network of communication events.

Step 2: rational interpretation of situational ends

Irvine's formality framework provides ethnographers with a precise set of descriptive concepts for the comparative analysis of meetings whose observational products can be easily examined in relation to the perspectives of the participants under study. However, it lacks explanatory means by which to account for any systematic difference that the analyst may find when constructing such comparisons. The second analytic step in the proposed procedure addresses this issue by positing the formality features thus observed as tokens of an imaginary actor's practical reason.

This way of inference involves a distinction between empiricist and idealist notions of rational interpretation. For the empiricist, rationality is a measurable quality that can be examined indirectly through notions that refer to the psychology and mental faculties of actual human beings. In contrast, the idealist conception of rationality presumes the imaginary standpoint of a purely rational and informed actor, and, from this etic standpoint, seeks to infer the best possible way to realize a desired end. This is the kind of rational interpretation used within economics and evolutionary theory. Its strength derives precisely from the fact that the individuals under study do not need to have the capacity for rational thinking at all. For example, to explain how a plant "economizes" its exposure to sunlight is not to say that the plant is a rational thinker. Similarly, to analyze the best course of action by which a social actor will achieve a desired end does not require us to look into that actor's head. The key analytic move in this step is therefore the creation of an ideal type of practical-rational action that provides a parsimonious explanation for the formality features observed, and could thus serve as an idealist basis of certainty in the assessment of emic accounts of participant goals.

A final consideration that pertains to the logic of rational interpretation regards the assumption that individuals will choose to participate in a collective action only if they expect to gain some utility from it. This posits individual choice as

the final horizon of causal interpretation. To put this in Elster's words (1985, pp. 15–16):

> Collective [outcomes] take place when a group [...] is capable of acting jointly to further its interests as a group. On general grounds, a satisfactory explanation of collective [goals] must provide micro-foundations for the behavior, that is explain it in terms of the [shared goals] of the individuals participating in it. [Hence,] the most parsimonious explanation would invoke nothing but rational and selfish motivation among the participants.

Let us then start with the proposition that any developer *D* will choose to produce software without monetary compensation and at the expense of leisure time hours and brainpower only if two conditions are met. First, this software production activity allows *D* to gain some other kind of utility or benefit. Second, the difference between this benefit and the costs of production remains positive for *D*.

If this is true, then PKW participants must operate on the assumption that software production within the development meetings is worthwhile for them while their counterparts in CFB must operate on the opposite assumption that software production within the hack nights is not as worthwhile. Assuming that formality is a function of practical reason, one could see that the maintenance of high degrees of situational focus and positionality helps PKW optimize its production processes in accordance with participants' common interest to see these processes through. From here, one could also say that CFB hack nights are not conceived as formal events because participants do not share this basic interest.

Assuming that CFB participants do not want to program in the hack nights as much as their counterparts in PKW do, one still needs to explain why these individuals bother to attend the meetings at all, and, once attending them, why they choose to behave the way they do. The most plausible practical-rational explanation one could find in response to these questions is the benefit of socializing. Insofar as programmers find themselves in social situations that provide participants with concrete opportunities to gain immediate rewards, for example, job opportunities or acquaintanceships with like-minded persons, they are likely to leave aside programming tasks so as to pursue these other ends. In such cases, participants are also expected to engage in attempts to optimize the organizational means by which those other rewards may be gained. Within the hack nights, such optimization can be achieved through the maintenance of low degrees of situational focus and positionality.

The reason that CFB hack nights are less formal than PKW development meetings is therefore not only negative (i.e., CFB developers are less interested in programming) but also positive (i.e., these individuals are more interested in socializing). This set of inferences can be formulated as follows:

1) For any developer in PKW, the difference between the utility gained from software production and the disutility of giving up scarce production resources is positive.
2) For any developer in CFB:
   a) the difference between the utility gained from software production and the disutility of giving up scarce production resources is negative and
   b) the difference between the utility gained from socializing and the disutility of giving up scarce leisure time is positive.

We hereby arrive at the ideal types of participants' practical-rational actions in the two situations. It is now left to address the question of labor preference. Assuming that a voluntary commitment to work under the substantive standards of one's profession costs much more than a situational commitment to the courtesies and ceremonial rules of human interaction, *D*'s preference to work rather than socialize is not taken for granted. Specifically, one could ask: under what condition/s will *D* conceive the utility of software development as higher than the utility of socializing?

Regardless of any culturally specific vocabulary of motives, or of any kind of rhetorical or ideological persuasion, an answer to this question must involve the practical needs that could be satisfied by means of software development (as a technical, social or political project). One can therefore speak of two interrelated relations of causality. First, *D*'s motivation to program derives from the utility *D* expects to gain from this activity. Second, given that voluntary software production is a costly endeavor, this utility must be determined by some acute (real or imaginary) desire of *D*.

The idealist basis of certainty that derives from this logical-deductive analysis can be restated as the following set of propositions:

1) PKW development meetings have higher degrees of situational focus and positionality in comparison to CFB hack nights because these formality features help them optimize the production process.
2) PKW participants want to optimize their production process due to the benefits they expect to gain from it.
3) Given that working in one's leisure hours is not trivial, these benefits must satisfy relatively acute desires.
4) In contrast with PKW participants, the individuals who attend CFB hack nights are less motivated to program; rather, these individuals maintain low degrees of situational focus and positionality because they are more interested in socializing.
5) One reason for this difference in labor preference is that CFB software projects are less relevant to participants' concrete desires.

By definition, this epistemological foundation does not and should not involve any reference to the substance or content of participants' motivations or goals. For example, knowing that PKW participants must be motivated to work and that this is not trivial does not imply any knowledge about the reasons that actual participants might give to their actions. This axiomatic set of propositions thus serves to place logical constraints on the plausibility of participants' pragmatic explanations or accounts.

Step 3: critical analysis of emic accounts via idealist validation

The final ends of CFB hack nights

To demonstrate this, let us start with the following statement that appears in CFB Meetup website: "Code for Boston is a Code for America Brigade—a volunteer civic innovation organization created by Boston-area developers, designers, and

activists with an interest in solving civic and social problems through the use of technology."[21] From this official statement one could infer that the hack nights are about the production of civic software. Indeed, this interpretation is corroborated by the following statement that appeared in the group's official website: "Civic is by far the more important word in civic technology, and the projects on which we work aren't helpful if they're not solving a real need and working towards finding solutions to community problems."[22] Within CFB, this interpretation is explicitly shared by volunteers in the different project teams who talk about the production of such civic software and the values that justify engagement in this work (see also Stepasiuk, 2014).

To be sure, this official presentation of the group's collective goal was made in earnest. However, we know for certain that this statement cannot reflect the actual situational ends of the hack nights. That is not only because we see that PKW produces more or better software than CFB but also because we see that the hack nights are organized to scale the utility of socializing, and that, therefore, this utility must be preferred by the participants in the events.

In the same fashion, one could falsify a less visible goal that reflects the class interest of participants in the mother organization Code for America (CFA) to promote the employment of software developers in government departments. Specifically, CFA attempts to achieve this collective goal in two ways. First, it runs several different fellowship programs that target excellent graduates of computer science departments across the country. These individuals are selected with the explicit intent to establish a new area of professional expertise known among CFA executives as "civic tech." Secondly, CFA cultivates its local brigades of volunteers as potential workforces that could integrate into the field of civic tech once it is institutionalized. To put it in the words of Tim, one CFA executive:

(4) Interview with a CFA executive (12/24/2015)

1. Nim: I had this impression you know that sometimes it seems that it's not so much about actually creating a technology that someone will use?

2. Tim: [...] To me, code for america has two big programs. The fellowship and the brigade. The fellowship, is where you're actually going into cities and building something that the city can actually use and maintain. [...] The brigade program, I see as a farm team. [...] So, you have people who are learning, they're developing skills, they're understanding the problems (and) how to do civic tech. By building these smaller projects [...] they're just tinkering. [...] I don't think that governments are going to adopt it, but it's a really great way to hone your skills. [...] And eventually, when someone spent enough time at the farm team, whenever there's an opportunity, they get picked up and then become professional civic technologists. We've seen this happen in di ci, where [the founder] of code for di ci is now working for the city of di ci as their chief of innovation.

In this emic expression, the situational end of CFB hack nights is not so much to produce civic software as it is to train potential workers. However, given the logical-deductive analysis conducted above, we can tell with certainty that this collective goal is not the primary situational end of the hack nights. Indeed, the shared interest of a professional class (i.e., the class now known in America as "digerati") appears to be incongruent with the collective goal of the people who come to socialize in the hack nights. While CFA leadership considers these individuals as members of their professional class, these other participants often see themselves as members of a civic and urban collective that orients to the mundane interests of public servants (regardless of their awareness of that ascription).

A more plausible account about the meetings' final cause is heard in the following excerpt by the group's brigade captain:

(5) Interview with CFB brigade captain (12/14/2015)

1. Nim: I saw a person who was very frustrated [...] and he expected to do more work in a more kind of rapid way [...] so there is a tension there and I just wonder what are the ways that you are trying to mitigate it.

2. Jim: So two things. One is we give our product teams a lot of freedom to run their team as they see fit. So, if a team wants to be super crunchy and high delivery, they can. Ah like the team that (built) Finda? They would be pushing stuff in like two three o'clock in the morning. Ahm, and that's the way they wanted to run their team. Other teams running a bit differently.

3. [...] We can't have this like super high intensity sort of like delivery mode? [...] Like we are often approached by city partners who want us to work on like real infrastructure? Like real technology? And I always tell them no. We can't. I can't commit volunteer labor to that. It won't- you know a volunteer will get sick, or will get busy at work or will go on vacation. And they should. They should. Code for Boston should always be after work, and after home [...] This is the third thing on your list. So if I said, you know, hey let's actually work on a permanent system for the city we wouldn't be able to deliver, our people would be sad, our partner would be disappointed, and I would look like an idiot personally.

Within CFB hack nights, participants whose voluntary projects are guided by the external agendas and motivations of public administrators and government officials choose (and are indirectly encouraged by their brigade captain) to socialize without making substantive obligations to develop their initiatives. As a consequence, the majority of CFB projects are technically dysfunctional.[23] At the same time, it is clear that CFB most successful projects emerged through the motivations and personal initiative of individual participants, who may have performed work during the hack nights but were not guided or driven by any local production process; nor were they influenced by customer demand.[24] In short, these individuals worked and succeeded despite the social orientation of CFB hack nights, not because of it. We can thus hypothesize (in accordance with proposition 6) that CFB does not achieve either of the aforementioned collective goals due to the imposition of external interests upon the volunteering programmers who attend the hack nights. However, as Jim hints in the above excerpt (L3), there might be a third collective goal that emerged "organically" in the hack nights and reflects the situational preference of rational actors to network or socialize. To the extent that this is the final end of the hack nights, it appears that participants do manage to realize it.

The final ends of PKW development meetings

In the case of PKW development meetings, one could find a continuation between the official mission statement that appears in the group's website (i.e., to promote government transparency and accountability through software production) and the unofficial discourse and activities of participants in the group's meetings who display an understanding that the primary goal of the meetings is to promote the production of eKnights rather than to socialize with their peers. Indeed, many participants told me in almost identical terms that "the people who come here are expected to sit and work." One person, who wrote a B.A. thesis about their participation in an eKnight, explains:

(6) Unpublished B.A. Thesis (2016)[25]

The official purpose for attending the meetings is derived from their name – development meetings. That is, attending in order to write the code and improve it. All those who attend the meetings are clear on what everyone ought to be doing in them – sitting in front of their computers and writing code.

To the extent that participants are expected to "sit and work" in accordance with PKW mission statement, work productivity is achieved by the maintenance of strong situational focus on programming and impersonal positional identities of participants as members of specific eKnights. These types and degrees of formality are instrumental in discouraging social interactions among members of the different project teams. This discouragement is clearly heard in the following excerpt where Danny dismisses the idea that the development meetings have an intrinsic social value:

(7) Interview with a PKW core graphic designer (1/12/2016)

1.Nim:	And what about this interfacing of political and social activity, I don't know, maybe each of you-
2.Dan:	To treat the workshop as a social activity is to inflate reality. To say that this is really social activity? Pfff! Okay?
3.	Also, to come to the workshop in order to look for social life is something that if someone does, I feel a little sorry for him. Because that's not the reason for coming there.
4.	[...] It's great if people come and hope to get to know interesting people on the way, and end up with friends. I have quite a few people today from the workshop that I treat as friends.
5.	But the purpose is not social. In the end, we gather for a reason and on the way we volunteer. So, it should be done in a good atmosphere, and it should be done in a sociable atmosphere. And it happens to occur at the time of the day when we deserve beer. But that's not the purpose.

In this commentary, Danny distinguishes between political and social activities. For him the term "political" refers to the civic purpose of PKW, while the term "social" is more about the creation of interpersonal relationships among strangers (as in the American word "socializing"). Based on this distinction, he claims that the collective end of the development meetings is political rather than social (L1). While volunteers who arrive at the meeting space come to advance the political or civic ends of PKW (L5), they may forge interpersonal bonds of friendship as humans tend to do regardless of the circumstances (L4). However, participants share an understanding that one does not join an eKnight in order to cultivate their social life or seek the pleasures of companionship (L3). To put this in the words of another participant who served in the role of a community coordinator: "There are people there who are very sociable [...] but when they come to the workshop they just want to sit and program."

Given that choosing to "sit and program" rather than doing something else in one's leisure time is not trivial, we cannot accept the official goal of PKW as the primary situational end. In accordance with propositions 2 and 3, one should expect to find that participants are motivated by some acute desire. Indeed, an examination of the data reveals that participants' vocabulary of motives is not dominated by a desire to advance the provision of collective goods. Instead, I find that Israeli software developers volunteer in PKW eKnights for a variety of self-interests that include, but are not limited to, the solution of problems that bother them personally, the satisfaction of an "itching" curiosity about various technical and social issues, the reclamation of civic agency in what they sometimes perceive as an apolitical social environment, the acquisition of new technical skills, and the creation of professional alliances that could help them promote their careers in the high-tech industry.

That which unites the participants in the typical eKnight is therefore not a common utility; rather, it is the common interest of rational actors to gain their different utilities—whatever these may be—at minimal production costs. This common interest may provide a partial explanation for the relative industriousness of participants in this group. And, insofar as such industriousness requires a semi-industrial order of production, it is no wonder that the development meetings are formal occasions. In these meetings, participants maintain group boundaries between their different eKnights, and tend to work rather than talk—not so much because of the prioritization of action over speech in Israeli society, but rather due to their common interest in bringing their initiatives into completion and thereby gain their individual utilities. While this collective action corresponds with the civic mission of the organization at large, it is not driven by it. That much is apparent from the following two excerpts:

(8) Conference presentation by one of PKW founders (6/10/2012)[26]

I think that in social entrepreneurship it is important not to develop things for them, but for you. First and foremost.

(9) Interview with an eKnight founder (1/6/2016)

1.Nim:	Okay, now, again, we can speak of commitments of people to projects?
2.Ron:	In terms of commitment, [...] once you give someone a salary- it was also like that here, like when I had money to pay to someone, like salary, so I could ask- We had a list of tasks and [...] and I gave him an order of priorities and all that stuff.[27]
3.	When it's not like that then people do what they feel like doing. I basically I give them- I say what I want, but people- people do what they want. If something does not attract them, then there is no reason for them to do it.

In excerpt 8, an eKnight founder who was invited to give a talk about social entrepreneurship at the business school of the Hebrew University in Jerusalem explains that the best way to motivate volunteering programmers is to encourage them to "build" software that helps solving their actual issues of concern (in this case, civic issues). In excerpt 9, another eKnight founder generalizes this idea of self-interest in relation to paid work in the high-tech industry. In his view, even if programmers do volunteer in projects that respond to their actual issues of concern, they will be motivated to select technical tasks that interest or "attract" them in some way regardless of the relative importance of such tasks to the developers who founded and guide the projects. We thus find that the production of collective goods in PKW development meetings is founded on and depends upon the ability of participants to select tasks in accordance with their selfish interests.

Discussion

The overall aim of this article has been to introduce a final-causal mode of rational interpretation into qualitative thinking in communication and the EOC tradition in particular. To achieve this aim, I have integrated the Hymsian category of Ends into Irvine's formality framework. I have proposed to consider such Ends in the first analytic instance in hermeneutic terms of practical reason. As I have tried to show, the interpretation of formality features as symptomatic of a priori practical reason could help establish idealist conditions of certainty by which to examine the validity of participants' accounts. Such an examination could provide an alternative method for causal interpretation in communication studies, one that fits better with the qualitative research design.

Contribution to the EOC research program

The main contribution of this study to EOC concerns our uncritical tendency to (a) generalize culture from socially situated encounters to entire social or national groups and (b) use these cultural generalizations to explain any difference between distinct tokens of the same formal-causal types. An example of this bias was my initial assumption that CFB hack nights and PKW development meetings must differ primarily because Israeli Jews tend to prioritize "doing" over "telling," whereas Anglo Americans use "communication" as a ritual means for the creation and maintenance of interpersonal relationships. While such claims may be compelling, and could even be discovered as true at a local level, they are neither warranted by EOC's formal-causal mode of theorization nor do they reflect EOC's commitment to the native point of view. The empirical skepticism that led me to develop the approach to rational interpretation proposed here, and the results of the application of this approach, sufficiently indicate how such explanations of cultural difference could be detrimental to our understanding of meetings across social and geographic settings.[28] Rational interpretation, then, is shown to generate comparative knowledge of a higher quality. This comparative knowledge, as Carbaugh (2005, p. xxvii) warns, is not about groups of people but of prominent, salient social forms.

It is important to keep in mind that the conceiving of and the desire to develop this approach emerged from a reality familiar to every ethnographer. In the field, one is likely to ask final-causal "why" questions (in Aristotle's sense) with regard to communication and organizational features one sees from the standpoint of an expert observer. Given that qualitative/interpretive communication research does not provide us with any rigorous means to examine such questions, I have attempted to formalize a thought process in which many of us engage at some degree of awareness. As philosophers have long shown, any "why" question is open to infinite regress and thus requires an epistemological foundation or axiom that the analyst takes for granted.[29] Starting with the Weberian principle of practical rationality, I have shown how such an idealist basis of certainty can be established to address the following questions:

1) Why do PKW and CFB participants meet at all?
2) Why do such meetings vary in types and degrees of formality?
3) Why are PKW development meetings more formal than CFB hack nights?

In providing myself and perhaps other ethnographers with a tool by which to address such final-causal "why" questions, I do not intend to present a critique of EOC or of any other approach. Nor do I intend to start a debate on epistemology per se (although explicit discussions on the subject are much required). The engagement of this article with epistemology derives entirely from the need to describe and justify the proposed procedure. In the end, my recommendation for ethnographers of meetings is rather simple: pay attention to the meetings' formality features, try to explain how these features might function from the heuristic standpoint of an imaginary practical-rational actor, and then use the result as a means to assess the reasons participants give you in the field. If this method is not helpful in doing what it is designed to do, being right on issues epistemological matters less.

Compatibility with quantitative organizational research

Advancing the application of rational interpretation within communication is desirable, among other things, due to its compatibility with the materialist approaches of quantitative/post-positivistic communication research. Whereas the materialist tests the validity of refutable ideas against what participants actually do, say, feel and think, the idealist tests the validity of such empirical realities against irrefutable, logically unquestionable bases of certainty (e.g., a best possible way to realize a given end under a specific system of constraints). These oppositional procedures are complementary to the extent that the results of the second can be critically examined by the first. For example, in this article, I have argued that the formality features of a meeting are designed to optimize the accomplishment of specific human ends by logical necessity—i.e., regardless of what participants might think or say. If I am right, the results of this study could be replicated, at least in part, in some experimental setting. For example, one could think of ways to manipulate the desirability of a given end so as to see if the expected features of formality will occur. Critical insights from such research should be, in turn, integrated into the assumptive bases of qualitative rational interpretation. Such knowledge is of particular value as it will also advance EOC's primary mission to account for cultural variability in language use (Leeds-Hurwitz, 1990).

Despite its illustrative nature, the application of rational interpretation in the present analysis produced the hypothesis that high degrees of situational focus and impersonal positionality may result from a mutual interest in efficiency optimization as mediated through the self-interested motivations of at least some participants in a given situation or meeting. Indeed, this hypothesis seems to hold true in entirely different situations such as watching a movie in the cinema. Here, we see that the mutual interest of participants to optimize the consumption of a good that they paid for is achieved through the institutional constitution (and protection) of a situational focus, and the maintenance of impersonal distance between the individuals and groups present.

Future exploratory research

While such theoretical statements can contribute to the comparative study of meetings as elements of a given communication system, it seems that the potential of rational interpretation within EOC is much more profound. Taking the heuristic of practical rationality as a functional type of final causation may allow us to examine complex relationships among multiple units and components of a cultural discourse. For example, one could hypothesize that high degrees of formality that result from a mutual interest of efficiency optimization will be reflected and expressed by values of personhood and social relations that emanate from the activity thus formalized, and so on. These arguments are hoped to become the subject of future publications. Such future research will also help clarify the limits and pitfalls of my proposed approach.

Notes

1. By raison d'être I mean, specifically, final cause in Aristotle's sense. I use the first term as a placeholder until the second term is defined in p. 17.
2. As is well known, the emic/etic opposition was first proposed by philologist Kenneth Pike (1967), and has been popularized and expanded within anthropology and ethnographic research ever since. Here, I follow Jorion (1983, p. 44) in using the term *emic* to denote a native's point of view, and the term *etic* to denote analytical concepts, categories and principle posited intentionally and explicitly by the researcher (i.e., one's analytical point of view). For further discussion see, e.g., Headland et al. (1990). For a more direct discussion on these issues within EOC, see Hahn et al. (2011).
3. EOC is a programmatic approach to social interaction that emerged from the linguistic anthropological work of Dell Hymes and his colleagues (e.g., Hymes, 1967, 1972, 1974; Bauman & Sherzer, 1974). In the early iterations of this research program, Hymes sought to construct a cross-cultural taxonomy of social units and components with the general aim of providing a cultural–rhetorical alternative to the then-predominant theory of generative grammar (Chomsky, 1965). Within communication, Hymes's program was developed in at least three trajectories. First, Gerry Philipsen (1987, 1992, 1997, 2002) proposed a "speech code" approach to "cultural communication" that synthesizes between Bernstein's (1972) sociolinguistic notion of language as speech code and Carey's (1975) notion of communication as ritual. Secondly, Carbaugh (1988, 1996, 2005, 2007) followed Gadamer's (1975, 1976) hermeneutic philosophy and Geertz's (1973, 1983) symbolic anthropology in proposing a "cultural discourse" approach to the interpretation of symbols for communication practices. Finally, Wendy Leeds-Hurwitz and her colleagues adopted psychiatrist Alfred Scheflen's (1968) Social Communication Theory as a means to examine the interplay between cultural competence and communicative performance in speech events (Leeds-Hurwitz, 1990; Leeds-Hurwitz et al. 1995). For more recent reviews of EOC, see Carbaugh & Boromisza-Habashi (2015); Winchatz (2018); Witteborn et al. (2013). A more complete bibliography of EOC is in the making and is partly accessible at: https://nimshav.github.io/EthnoComm-Repository/
4. The presentation of data excerpts in this article is based on the following conventions. The serial number of each excerpt appears at the top left corner. Additional catalogue information is provided next to this number, e.g., Interview (1/10/2016). Each subsequent line of text is marked by a number. Pseudonyms of interview participants appear next to this number. The separation of data content to distinct lines is meant to reflect transitions between (a) turns at talk; and (b) thematic units of analytical interest. If a line-by-line analysis is in order, then one could expect to see a micro-segmentation of participants' actions and thoughts. In cases where data are presented for more illustrative purposes, thematic units appear as larger chunks of text.
5. This line of logic is specifically refuted and clarified in EOC by Carbaugh (2005, p. xxvii) as the claims are about qualities of practice, not populations of people.
6. It is important to note that there is another approach to the study of meetings within EOC that was first proposed by Schwartzman (1989) and later adapted by Sprain & Boromisza-Habashi (2012). This approach to meetings is in fact an adaptation of Hymes's (1972) SPEAKING framework for the description of communicative events. In this formulation, a meeting is a subtype of an event rather than of a situation (the letter S in Hymes's original framework). The approach advanced here considers this formulation as limiting as it is inadequate to describe CFB and PKW meetings of voluntary software production. Irvine's formality framework seems more fitting for the study of situational order in these and other types of meetings and is therefore at the center of this discussion.
7. While this position is widely accepted among EOC scholars, some argue that the application of etic molds like "speech event" or "formality" might erase local categories known by similar or related emic terms (e.g., one of the article's referees raised this issue). While it is true that ethnographers should be sensitive to native conceptions that might challenge or compete with their (empirically tested) etic notions, disposing of etic or "nominal" categories altogether is neither a practical nor a conceptual possibility. The practical limitation is that no comparison between cultural forms will be possible in the absence of etic categories that are treated as universals. Conceptually, one cannot speak of emic categories in the absence of their structural, etic counterparts. Going in the direction of deconstructing the emic/etic opposition is dangerous because it nullifies our ability to use analytical meta-discourse in defining a unit of analysis and developing a theory—any kind of theory—about it.
8. During the 1960s, Gary Becker (1930–2014) and his associates began to demonstrate that practical rationality was fit to explain "not only what is happening on the market and through monetary exchanges, but any kind of social behavior: learning, wedding, love, crime etc" (Caillé, 2013, p. 44). This intellectual movement that came to be known as "economic imperialism" has had a significant impact on the disciplines of sociology, political science, anthropology, and law. While the scope and impact of economic imperialism in LSI is harder to assess, some examples for its effects are the pervasive usage of the terms "costs," "benefits," "benefactors" and "beneficiaries" within the area of interactional sociolinguistics (e.g., Couper-Kuhlen, 2014); the explicit attempt to use self-interest as a foundation for "politeness theory" within the area of socio-pragmatics (Brown & Levinson, 1978/1987; Clark & Schunk, 1980); and the application of Bentham's "felicific calculus" and the idea that a rational cost-benefit calculation may account for the emergence of "interactional preferences" within the area of Conversation Analysis (Clayman, 2002, p. 249; Clayman & Heritage, 2014).

9. The largest and most celebrated teams were two groups whose members instituted PKW as a voluntary association in 2011. The first eKnight called Open Knesset develops a civic website that tracks and analyzes the bills and votes of the Israeli Parliament. The second eKnight called Open Budget (and later Budget Key) monitors the parliamentary processes by which the Israeli state budget is distributed. The eKnight whose members work online is the Open Urban Building Scheme that makes public and private building plans accessible to internet users. The three other eKnights are AnyWay (tracks and analyzes patterns of car accidents), The State Square (tracks activities of Israeli parliament members on Facebook), and Open Train (calculates patterns of delay in Israeli train transportation).
10. The key detail of this online platform is that it functions as a software production arena that provides programmers with a space called "repository" where eKnight source code can be maintained along with a variety of tools and online services for technical and social collaboration. It is crucial to understand that GitHub's existence represented a primary condition of possibility for PKW system of product development. Each of the group's eKnights had a source code repository on this platform, and this allowed core team members and occasional code donors to participate in the production process from any geographic location where they had internet access, which in turn meant that participants did not need to attend the development meetings or even meet each other in person in order to collaborate. Conversely, the participants who did attend the meetings also needed to connect to their online repositories on GitHub in order to collaborate. In fact, I found that interacting with a project team through GitHub was not only a possibility but also a preferred mode of engagement. At the early stages of my fieldwork, GitHub struck me as a counterintuitive communication platform for volunteers to meet each other and establish working relationships. But, over time, I began to recognize its sensibility through a noticeable contrast between the ways team members received visitors who had already contributed and those who had not. It was this trend that shed initial light on the economic rationale that lay behind virtually all participant behavior in this volunteer setting. Taken as a contemporary field site for virtual anthropology, a project repository on GitHub functions not only as a place where participants can interact and work together, but also as a usable historical archive of such joint labor. Any ethnographer who seeks to study such projects thus has full access to every line of code that each participant has ever uploaded to the system, as well as to the online discussions that revolved around the acceptance of any such code contribution. While much of this history is technical, a person unfamiliar with computer code can still discern the social character of the working relations that he or she observes. And while the technical discussions on GitHub provide only a glimpse into the more complex natural histories of the different project teams, this glimpse carries significant value to ethnographers studying these types of projects and communities of practice.
11. PKW hackathons occur on an irregular basis and are designed to generate enthusiasm around the production of civic websites while attracting new volunteers to the eKnights.
12. To my knowledge at the time of this writing, hackita program ran only twice. The first round was in 2014, and the second in 2015 (at the time of my fieldwork). The second round of hackita took place at PKW hub in Jerusalem, and was whimsically named hackita02 after this city's phone prefix. The two participants who ran the program performed a strict screening process with the aim of creating a group of high-quality students. The group, which eventually consisted of 23 people, met every Wednesday between 10:00 and 18:00.
13. Two of these occasions were meetings between hackita's students and PKW project founders mentioned above. The first meeting was a 40-min talk that a leading participant in one eKnight gave to hackita02 students within the context of a classroom lecture. The second meeting was a 1-hr panel conversation between two eKnight founders, three other interested parties who ran experimental projects in PKW, the group's community coordinator, hackita's program initiator, and all of the hackita02 students. The other three events I recorded were formal programming lectures by hackita's initiator. These events have small relevance to the present study and are therefore excluded from the primary corpus.
14. This 3-hr event consisted of short talks by PKW CEO, one member of the group's Board of Directors, and two regular team members in one of the group's eKnights.
15. It is a commonplace assumption among ethnographers that people are quite willing to talk about themselves in social situations when given the opportunity, especially where others treat them as figures of authority whose opinions and actions are of utmost importance. Unfortunately, this assumption did not hold true in PKW development meetings whose participants operated under a condition of time scarcity. While no one said so explicitly, the message communicated to me was that my expectation that volunteers will sit and talk with me about their projects at a time when they could actually develop these initiatives was unreasonable. As my research progressed, it became clear that this indirect message involved certain normative assumptions about proper conduct in the group's arenas of software production.
16. Questions about the communication practices of project team members were guided by Hymes's (1972) SPEAKING model.
17. The average duration of these interviews is 50 mins. While all the interviews were logged, I transcribed only relevant excerpts for the comparative analysis presented in my dissertation and in this derivative paper.
18. This form of initiation is derived from the definition of the 2015 NDCH as an effort to support other government agencies and social organizations. Altogether, I recorded more than 8 hrs of people sitting and working in front of their computer screens while engaging in occasional conversations.
19. In this sense, the proposed method can be considered as a counterpart to Winchatz's (2010) discursive approach to participant observation [see also Milburn et al. (2001)].
20. While EOC is justifiably oriented to the analysis of native interpretations, ethnographers can only learn about the physical, spatial and temporal settings of a research site from local participants. Part of finding one's feet is asking locals for directions that can be as mundane as the location of a nearby restroom. If the ethnographer spends enough time in the field, he or she will be able to compare between participants' accounts and between such accounts and his or her observations. Interview data that refers to the extra-discursive world should be validated against one's experiences and observations whenever possible.
21. https://www.meetup.com/Code-for-Boston/ (retrieved on September 2021).
22. A blog post in CFB official website. This post was retrieved at the time of my fieldwork and is no longer available.
23. Indeed, at the time of my fieldwork there were multiple and shifting projects that did not produce any observable software on GitHub or elsewhere. Other project teams and individual participants did have GitHub repositories but did not attend the hack nights on a regular basis (if at all). Such repositories occasionally appeared and disappeared and were therefore hard to track. Partial evidence for these observations is available in the groups' GitHub domains.
24. Notable example is the MBTA ninja that employs a crowdsourcing technology to provide users of the Boston subway with means to report on real-time delays in local train transportation. This project represented the best achievement of CFB in the 2015 CFA Summit where it won the Inaugural Code for America 2015 Technology Award. Another functional product was the Finda website that serves as a way for LGBTQ persons who live in the Greater Boston area to locate service providers and support groups on a map. In contrast with PKW eKnights whose

production, or at the very least maintenance, has never ceased, these two projects underwent a rapid phase of development by their founding teams and were then deserted.

25. This thesis was written by one core eKnight member I interviewed and who generously shared it with me.
26. This presentation took place at a convention entitled Innovation and Social Entrepreneurship in a Technological Era in June 2012 at the Hebrew University of Jerusalem. The presentation was uploaded to the YouTube platform and can be viewed at: https://www.youtube.com/watch?v=5ibi2mu9bH4 (retrieved in September 2021). The presentation was downloaded and transcribed in full for purposes of my ongoing exploration of this group.
27. This particular project was awarded by a sum of money that could have been used for this purpose. Such a possibility to hire a programmer is rather unusual and, to the best of my knowledge, occurred only twice in PKW.
28. For a parallel discussion of similar issues see Irvine (2006), and especially Milburn (2004, 2009, 2015).
29. For a particularly lucid demonstration of this condition, see interview with physicist Richard Feynman (1983) at: https://www.youtube.com/watch?v=Q1lL-hXO27Q (retrieved in September 2021).

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