# Qualia and Ontology: Language, Semiotics, and Materiality; an Introduction

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ABSTRACT

Qualia—sensory experiences of abstract qualities such as heat, texture, color, sound, stink, hardness, and so on—focus attention on prototypically "material" entities. But how is the ontological category of materiality constituted by conventional qualities, or *qualisigns*? For instance, how does the sound made by knuckles knocking on a table come to be an exemplary experience of, and a conventional sign for, "materiality"? What ontologies might undermine the seeming naturalness of this category, and to what effect? This issue contributes to the growing literature on semiotic approaches to materiality by arguing that attention to *qualia*, as sensorial and somatic experiences mediated by cultural qualisigns of value (Munn 1986), offers a useful analytic approach to the dialectics of matter (substrate, affordance) and nonmatter (idea, concept, category). The articles in this issue describe how modes of being and becoming are represented in and organized by discourses on qualia and demonstrate the crucial role of qualia and qualisigns in "ontological politics" (Mol 1999).

Of the first philosophers the majority thought that the causes in the form of matter were alone the principles of all things. The thinkers in question were after the truth about the things that are. But they supposed the things are to be restricted to the sensibles.

—Aristotle, *Metaphysics*

Contemporary anthropological theory is profoundly concerned with the thing-in-itself. The ontological turn, which began with ethnographies of Amazonian worlds, links to an environmentalist concern to theorize "other kinds of realities beyond us" (Kohn 2014), an *us* that might refer to mod-

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This special issue began as a two-part panel at the AAA, which in addition to all the articles in this issue also included papers by Judith Farquhar, Joseph Hankins, Keith Murphy, Shalini Shankar, and Michael

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ern, Western, or otherwise privileged subjectivities, to the human species, or to sentient life forms generally.[1] Likewise, the literature on materiality, which emerged in part from science and technology studies and from the anthropology of commodities,[2] has lately been concerned with the "affordances" of things-in-the-world: those aspects of stuff and things that lie beyond and below human capacities of representation (see, e.g., Miller 2005). Under the banners of ontology and materiality scholars in the humanities and social sciences have increasingly turned their focus toward nonhuman entities: inanimate stuff and things (Povinelli 1995; Harman 1999; Hull 2012; Manning 2012); other animals and plants, especially dogs (Haraway 2003, 2008; Kohn 2014) but also poultry (Kockelman 2011), pigs (Blanchette 2013) and fungi (Tsing 2015); infrastructures (e.g., Bear 2007; Elyachar 2010, 2012; Parks and Starosielski 2015); architectures (e.g., Fennell 2016), global assemblages (Ong and Collier 2005; Tsing 2005), algorithms (Kockelman 2013; Maurer 2013b), and massively distributed "hyperobjects" such as climate change (Morton 2013) and pollution (Lai 2014; Voyles 2015).

These scholars echo Engels (1940; see also Vygotsky 2012, 96–98) in calling into question the original subject-object of social science: the culture-bound human, set apart from animals and their natural instincts by the tendency to generate and obey the "rules" of kinship systems and language.[3] It bears repeating that the human/animal distinction has always been a way of organizing legal, political, and economic relations in which "humanity" serves as an ostensibly absolute value but systematically excludes people not treated as human (e.g., Spillers 1987, 79) and those whose value is not considered absolute (Ralph 2015). The literatures on ontology and materiality share a welcome interest in finding alternative foundations for ethics and politics (Keane 2013, 2015; Povinelli 2016). We don't have to be willing to attribute volition to nonsen-

Silverstein. Thanks are due to all of them for their contributions to its conceptualization, as well as to the editors of the journal, Richard Parmentier and Linda Kyung-Nan Koh, though they have no responsibility for its shortcomings. Thanks are also due to Victoria Grubbs, editorial research assistant, for her cogent comments and critiques.

1. See Vivieros de Castros (1992, 2014); Descola (1994, 2013a, 2013b); Latour (2013); see also Keane (2013), Kelly (2014), and Povinelli (2014) for reviews and critiques of the foregoing from various perspectives.

2. For STS, thinking in particular of Latour and Woolgar (1979), Law and Hassard (1999); Mol (2003); and Latour (2005). For the anthropology of things, see Mintz (1985); Appadurai (1986); Myers (2001); Miller (1998, 2010).

3. See Lévi-Strauss ([1949] 1969), Ortner's (1974) feminist critique of this argument, and Sahlins's (1977) defense against sociobiology; cf. Chomsky (1956, 1959).

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tient beings, as in the "bridge that wants to sell itself to you" (Kafka 2015) to develop a more nuanced and less "human"-centered account of will, intention, and behavior. To ask, "What is it like to be a bat?" (Nagel 1974) is to accept that qualia are not unmediated reflections of the world as it is. But neither can qualia be attributed to the perceptual mechanisms of the species: seemingly "material" objects (including people's bodies) can appear quite different to "others," even within our own communities (Stasch 2009; Rosa 2016), and such perceptions are formed in and by institutions and cosmologies (Houtman and Meyer 2012; Flores and Rosa 2015).

However, if the literature on ontology has resisted the sanctity of "the human," the literature on materiality has not always resisted the sanctity of "the real," a category of equal political significance (as Galloway [2013] argues). Many of the theorists cited above declaim any simple binary opposition of material and immaterial; however, this opposition continues to inform the uptake of their work (as Keane [2003] points out). Materiality has frequently been posited as a corrective to an alleged idealist bias in the academy: an excessive concern with human modes of perception and apperception and the discourses, texts, and signs that mediate them.[4] Insofar as studies of materiality are organized around non-speaking subjects, some forgo the examination of interactional text in favor of ethnographically thick descriptions of commonsense objects—or, in the case of relatively arcane objects and substances, reported descriptions by authorial others who have access to the equipment needed to encounter forms of matter too large or too small for the built-in perceptual mechanisms of the average scholar in the social sciences. In both cases, of course, the noumenon remains embedded in linguistic categories, multimodal representations, discourse, and text, suggesting the need for a linguistically informed semiotic analysis. If the urgency of climate change, among other things, suggests a need for a detente with positivists (Latour 2004), our empiricism must be "skeptical and ethical" (Rutherford 2012), and our understanding of perception cannot be methodologically individualist (Burge 2010). Epistemological naturalism (Quine 1968) can nevertheless avoid naturalizing and essentializing discourses, which leverage ontological claims of materiality into political claims for inevitability (Irvine and Gal 2000).

4. See, e.g., Coole and Frost (2010); and see Leys (2011); Shankar and Cavanaugh (2012); and Latour (2016) for countercritiques.

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Recognizing this problem, scholars in linguistic anthropology have demonstrated the relevance of language and semiotics, and emergent "interactional text," to the study of the material world.[5] Peircean semiotics, as both metaphysics and epistemology, reconfigures any simple binary distinction between phenomena (sensation, perception) and noumena (the unmediated really-real, referent) as an irreduceably triadic relationship of sign, object, interpretant; qualisign, sinsign, legisign; rheme, dicent, argument; and firstness, secondness, thirdness.[6] Peircean semiotics does not presume systematicity or intentionality, though it can incorporate both; the semiotic process by which signs generate signs has frequently been described with crystalline metaphors; both Irvine and Gal (2000) and Deleuze ([1983] 1986) make use of the metaphor of fractal, crystalline growth to describe emergent meaning in interaction and cinema, respectively.

Peircean semiotics as a model is highly ontologically flexible: signs, objects, and interpretants may be prototypically "material" or "immaterial" (or, for that matter, "real" and "imaginary," "concrete" and "abstract," as Kockelman [2006] demonstrates). Porcelain might be a sign of monarchical power for a royal house (Gal, this issue), and brands a sign of elite status for YouTube comedy video viewers (Reyes, this issue). Interpretants—which assert a relation between a sign and an object—need not be human thoughts or behaviors; as Kohn (2015) and Kockelman (2011) have argued, this model is useful for describing the ways that other species are responsive to forms of *signification* "as in consequentiality, as in effects and effectiveness of semiotic practice as [social] action" (Silverstein 2013, 329). Peircean semiotics is highly scaleable, adaptive to massive system-level phenomena and to small-scale nuances in interaction (see Silverstein 2006; Bloomaert 2015; Carr and Lempert 2016). Time-spaces (chronotopes) shift over semiotic process, as interpretants are converted into new signs, linked together in infinite chains. To take the case of "wastelanding" (Voyles 2015), for example, burnt feet can signify massive long-term widespread uranium pollution for an interpreting environmental scientist or activist and to their audiences. Conversely, uranium pollution can signify systematic geographic racism for the interpreting ethnographer: "Wastelanding reifies—it

5. See, e.g., Keane 1995, 2003, 2006; Silverstein 2004, 2006, 2013; Manning and Meneley 2008; Manning 2012; Gal 2013; Nakassis 2013; Ball 2014; Hankins 2014; Harkness 2014, 2015; Leone and Parmentier 2014, 2016; Roy 2014; Kohn 2015; Chumley 2016.

6. Non-intimates of this theory should refer to Parmentier (1994) for an introduction, but briefly: the sign is the thing that signifies, such as the gum on the sidewalk; the object is that which it calls up or indicates (the person who spits out gum); the interpretant is the thought or response that relates the sign and object (the observer wondering why so many people spit their gum out on the street).

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makes real, material, lived—what might otherwise be only discursive. Like race, which is a social construction made material by the embodied consequences of racism . . . ideas about the value of environments are manifested by the material consequences of environmental destruction." (Voyles 2015, 10). This sentence converts a moment of insight, itself converted into a new sign (field notes perhaps), into yet another sign—the published book—for a new interpretant—the reader—and finally into this description: this is a chain of signification. The process of materialization Voyles describes is itself made up of such chains of signification: discourse is not turned into matter all at once, like straw into gold, but rather discourse and matter dialectically refract through one other over ritual and historical space-times (see Manning [2012] for liquid examples and Moore [2013] for visual ones).

Building on the foundation of semiotic anthropology, the essays collected here demonstrate the productivity of the concepts of "qualia" and "qualisign" (Munn 1986; Parmentier 1994; Chumley and Harkness 2013; Harkness 2015) for what Annemarie Mol called "a semiotic analysis of the way reality is done" (1999). Each essay shows how qualia expressed in qualisigns (descriptive and evaluative terms and other meta-signs) serve as grounds for "naturalized kinds," (Kripke 1972; Putnam 1975; Burge 1979; Reyes 2007; Harkness 2013; Ball 2014) framed by languages, registers, practices, knowledges, and technologies. In each of these cases, qualia and qualisigns invoke ontological categories (real/unreal, material/immaterial, bodily/mental, etc.) with social consequences. Each essay thus provides a semiotic analysis of the ways that qualia figure in "various performance of reality" (Mol 1999), demonstrating the significance of qualia for ontological politics, which Mol outlined in the questions, "What is at stake?"; "Are there options?"; "How to choose?"; and "Who gets to choose?"

In this introduction, I offer a framework for these essays, first, by describing the relationship of ontology to languages of qualia (or named/conventionalized qualisigns); second, by considering how an ethnographic approach grounded in qualia frames the question of materiality; third, by offering an example of how a semiotics of qualia might operate as an ontological politics; and, finally, by tracing the links between the arguments in the collected essays.

## Ontology, Language, and the Work of Theory

In the essay "Carnap's Views on Ontology" (1966), Quine defines the "ontological commitments of a theory" as "What, according to that theory, there is": "what entities there are from the point of view of a given language." Commitment to entities of any sort comes through the variables of quantification (all,

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any, none, some, etc.), not the mere use of names (reference/referring expressions).[7] But of course, "to discern what entities a given theory presupposes is one thing, and . . . to determine what entities there really are, is another" (1966). In the division of academic labor the first task has historically been our job as anthropologists: we describe the entities that people "believe in," or behave toward, translating and transfiguring multiple ontologies, while engaging the ethical paradoxes and politics of radical interpretation.[8] In this frame anthropologists serve as "diplomats" for ontological and metaphysical multiplicity (Kohn 2015) in part by translating "language" (grammatical categories, words, discourses, genres, registers, voices, writing systems, etc.), assuming in and through such acts of translation that other ontologies are not impenetrable barriers (see Quine 1968; Davidson 1973) and should not be Otherizing stigmas (see McWhorter 2014). As language is one of the forms of signification crucial to the formation of somatic and phenomenal experience—not least because in naming such experience as color, taste, and so on, we map some feature of one kind of sensation (the hardness of tables, say) onto another kind of entity (the hardness of sciences).[9] Consequently, insofar as qualia play a key role in ontological discourse, anyone engaged in the anthropological work of describing the entities to which people are committed must be attentive to language, as one of the "technologies of transaction that afford ontological transformation" (Maurer 2013a, 70).

The job of deciding what things there are really, on the other hand, has been assigned by positivists to natural scientists, especially physicists and chemists, and to a lesser degree psychologists and quantitative sociologists.[10] However, social scientists, including anthropologists, have also made commitments to all sorts of entities: not just culture and social facts, but hau, praxis, dividual, chronotope, subjectivity, actant, rhematization, dicentization. Theories commit us to entities that are not in any conventional sense material, not just theoretically but personally and professionally; indeed, just as in the Tlingit economy

7. "The entities to which a discourse commits us are the entities over which our variables of quantification have to range in order that the statements affirmed in that discourse be true." Compare this to Galloway's critique of Badiou's use of set theory (2013).

8. See Povinelli (2001) for an overview; see also Sapir 1949; Whorf 1967; Asad 1986; Lucy 1997; Truillot 2003; Stasch 2012, 2015; Infante 2013.

9. See Chumley and Harkness 2013.

10. And to philosophers, depending on whether you believe in a proper distinction between analytic and synthetic; Quine (1951), "Two Dogmas of Empiricism"; if there is no proper distinction between analytic and synthetic, then there is no basis for a distinction between ontological statements and empirical statements of existence.

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of names (Roth 2009), academics rely on the ownership and restricted presentation of such words. Nevertheless, our ontological commitments are always up for "revision and retention" (Quine 1966), constructed analogically when we set ethnographies of disparate and distant sites against each other to occasion similarities and differences: through the forms of translation and transfiguration that set, for instance, Melanesian categories of gender and person against Western feminist ones (Strathern 1988).

Ontology, whether as first-order truth claims or second-order accounts of the theoretical commitments of other truth claims, operates as a metalanguage, distinguishing existential quantifications from mere propositions. If ethnographies offer propositions regarding ontologies, theory offers ontological claims for the academic community, investing certain signs with the power of denotation (see Russell 1905; Strawson 1950): the referential efficacy emphasized by qualifiers such as "literally" and "in a very real sense." Such denotations are always, in discourse (or interactional text), complexly mediated by referring expressions. In social theory as in social life, the invocation of categories depends on chains of references from "baptismal events," within a linguistic division of labor (Kripke 1972; Putnam 1973). In committing to (or quantifying over) qualia we are not just talking about ontology but also doing it.

## Categories, Properties, and Differentia

Categories, concepts, and qualities materialize: they are manifested in and through substrates such as paper, light, sound waves, particulate matter, fabric—or proprioceptively, within the body—for instance, as it is trained to produce beautiful sounds (Harkness, this issue) and as it is subjected to speed and slowness and threats of violence (Yeh, this issue). Insofar as such materializations are perceived sensorially they are qualia; insofar as they manifest ethnographically they are significations. Just as gold (or for that matter, cloth or shells) only becomes money in certain social relations, formations of atoms and energy signify as objects only in relation to particular interpretants—as porcelain might seem a technological miracle in the late Renaissance and a charming artisanal craft in the late twentieth century (see Gal, this issue).

Material objects appear to subjects as properties and differentia embedded in substrates. Aristotle (1947) describes matter as substrate—a bearer or carrier of signifying properties and differentia (as the molecular structure of playdough carries the socially relevant properties of *squishiness* and *yellowness*), categories of which any particular object is always a by-degrees inadequate instantiation of

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the ideal type. By contrast, for Kripke, objects have social lives, in which they are "rigidly designated" by names or rigid designators (including anaphora) passed on link-to-link through discourse—and though objects might have various properties or qualities or differences with other things, they are always malleable and changeable. Gal's article in this issue provides an example of a particularly long chain in which a sequence of names designate a "thing"—blue and white porcelain—that changes its substrates multiple times, while "retaining" some key properties that are nevertheless transformed as they pass over centuries and through identities dependent on historical, political, and economic circumstances. Porcelain as mundane dishware in Ming dynasty China takes on in Europe the significance of a mystical and mysterious transubstantiation of rough, wet, dirty clay into pristine, hard, white cleanliness. This article, along with Angie Reyes's in this issue on the formation true *conyo* elite consumer as a "natural kind," highlights the reflexive and relative existence of the commodity form as understood by Marx: complex social relations concatenized as apparently material properties inherent to objects.

> Since the relative form of value of a commodity—the linen, for example—expresses the value of that commodity, as being something wholly different from its substance and properties, as being, for instance, coat-like, we see that this expression itself indicates that some social relation lies at the bottom of it. With the equivalent form it is just the contrary. The very essence of this form is that the material commodity itself—the coat—just as it is, expresses value, and is endowed with the form of value by Nature itself. Of course this holds good only so long as the value relation exists, in which the coat stands in the position of equivalent to the linen. Since, however, the properties of a thing are not the result of its relations to other things, but only manifest themselves in such relations, the coat seems to be endowed with its equivalent form, its property of being directly exchangeable, just as much by Nature as it is endowed with the property of being heavy, or the capacity to keep us warm. (Marx 1906, 66)

Such properties have been, in the fields of science and technology studies described as "affordances," inherent material features that are key to their use value: the wool to keep warm, the alcohol to get us drunk (Manning 2012; Harkness 2013). But as Aristotle (1947; and for that matter, Zhuangzi, n.d.) argued a long time ago, things are not just what they are, they are also what they are not. Very good wine (Silverstein 2013) and knockoff brand clothes (Nakassis 2016), among other forms of materiality, are experienced as differen-

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tia, or contrasts, with the other less well-bred (or less stylish) things that might have taken their place (Bourdieu [1979] 1984). Jakobson, following Saussure, called this the "axis of selection" (1960); Inoue (2003), following Derrida and Butler, describes this as the absent "supplements" or proximate forms from which any present sign derives its meaning. It is not necessary to indulge in counterfactual thought experiments to activate other possible worlds (Kripke 1980); our phenomenal experience is drenched in and organized by its alternatives, and it is these alternatives that organize the design of our photographic representations of reality (see Ball, this issue). Nor are categories and differentia specific to human subjectivity: a cat responds differently to a can of cat food, a mouse, a vacuum cleaner, and a rubber band, behaviors that a human might interpret as indexes of cat categories (food, prey, threat, and toy) and cat qualia (succulence, chaseability, danger), distinguished from one another as properties and differentia. We do not need to assume that qualia emerge late in evolutionary history either: a paramecium responds differently to light and dark, behavior that—to the observing scientist—indexes evolved stimulus-response mechanisms (Greenspan 2007).

In this way, perceived or experienced qualia—redness, hotness, smoothness, roughness—link unlike and distant objects across scales, chronotopes, and sensory modalities, such as the pharonic pyramids in Egypt and the pyramid in Las Vegas (Meskell 2005). Qualia such as "softness" are articulated synaesthetically, through qualic transitivity (Harkness 2013, 2014). Socially significant categories, such as "eliteness" (Reyes, this issue), are frequently generated through laminations or intersections of qualia and qualisigns of value (Munn 1986). Likewise, ontological categories—or modes of being and becoming—are generated in and through semiotic forms, from the signature of a particle (Roy, this issue) to the realism of a photograph (Ball, this issue). A case in point is the slippery category of "materiality," which, as theory, assumes the solidity, gravitas, and transparency of the really-real.

## Materiality and Ontology

Materiality as a concept hangs between the physicists' scale-transcending concept of "matter" and the endemically scalar concept of "thing": for the matter that matters depends on the size of the interpretant and its modes of perception, even if aided by telescopes and microscopes (Nagel 1974). Shibboleths of perceptibility are highly scale-dependent, as illustrated by the many episodes of *Star Trek* that involve wandering your giant spaceship into a being

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you didn't notice because it was too big. Starting from the assumption of ontological multiplicity implies that ethnographers and others recognize (1) the possibility that the things you see, smell and touch are not particularly important to "others" and (2) the possibility that the most salient entities for others in the situation are invisible or intangible, unreal or non material to you.

"Tickets, timetables, buildings, lists, rooms": these are all what Quine called "common-sense objects," of the sort that figure in descriptions of props and sets of the ethnographic scene. But as many scholars of the Anthropocene have emphasized, "tables and sheep are, in the last analysis, on the same footing as molecules and electrons" (Quine 1966). Both are apprehended through complex modes of perception, categorization, and discourse—though as Roy shows in this issue the tools involved in the latter case are considerably more elaborate. The ontological turn in anthropology urges attention to the categories of being and becoming invoked in discourses and practices, suggesting that we ought to avoid deciding in advance what is material or real and, to that end, avoid the methodological nominalism sometimes implicit in the use of "materiality" as a theory term. To bridge this gap, it is helpful to show how qualia and qualisigns synaesthetically tranfer from visible/invisible and tangible/intangible entities, while also circulating (Silverstein 2013, 334) across semiotics chains of phenomenological encounters and communicative events. Attention to qualisigns as they appear in ontological discourses about entities, substances, and processes of transformation and change provides one technique for articulating the multiple relationships of ontologically distinct entities as sign process.

Consider Teri Silvio's (2010) theorization of cosplay and related fields of contemporary mediated practice as "animation" rather than performance. To understand these (admittedly elaborate) costumes and masks, she points out, is to recognize that these masks are ways of "animating" a figure that is always elsewhere and multiple: the character (Nozawa 2013) as a composite of *moe* elements (Azuma 2009). To focus on the common sense objects here and not the abstract and spectacular ones would be like mistaking the cards for the Pokemon. From imaginary weapons in the hands of unarmed people (Rosa 2016) and financial instruments (Maurer 2005), ancient Chinese burial sites (Lai 2015), or the Thai ghosts that appear as energy (Cassaniti 2015), tangible forms are only made significant by their relation to intangible ones (and vice versa, across multiple sensory modalities—visible, audible, tasteable, smellable). Attention to qualia allows us to recognize the ways that iconic and indexical signs configure modes of being and becoming.

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## Language and Ontological Politics

Anyway, a rap on the knuckles is surely earned by anyone who, perceiving things to be thus in what is in any case the statistical exception even of sensibles, extrapolates to the entire universe. Our little corner of the observable universe is unique in its constant exposure to birth and decay.

—Aristotle, *Metaphysics*

The cases described above, like those in the essays to follow, are attended by what Quine called the "feeling of paradox" or "antinomy," a genuine conflict in assumptions that might hint at a space of potential "revisions." Qualia and qualisigns of sense experiences are, as Quine put it, "keyed in with language," where language is understood not as a stable system, but a ship of Theseus, always under reconstruction, always up for "retentions and revisions." Sensorial/bodily experience is always already semiotic; for humans, it cannot be extricated from language/culture (and, by extension, history, economy, etc.). The experiences of the body are political as well as technoscientific. To illustrate this claim—and by way of transition to the articles on proprioception—it is helpful to start with the old classic of phenomenal experience, pain, and, more specifically, parturition.

Pain is, within the discourse of medical science and evolutionary psychology, necessarily a negatively valued qualia (see Munn [1986] on positive and negative valuations). Medical gynecology was for decades concerned with eliminating the pain of childbirth, from general anesthesia in our grandmother's generation, who fell asleep pregnant and woke up mothers, to the epidural. The feminist natural childbirth movement lead in the United States by Ina May Gaskin (following study with midwives in Mexico) sought to recuperate feeling and revalue pain by regenerating discourse. In the birth practice at "The Farm" and in the books (1976, 2003) and, later, websites full of birth stories published and circulated beyond that anchoring center, they replaced words such as "contractions" (which feel "tight" and "scary") with soothing, open words like "rushes" (which feel "soft" and "natural"); the hospital with the home, "cold" white sheets and fluorescent lights with "warm" afghans and incandescent bulbs, machine monitors with human hands. This was a project of inculcating qualia: using discourse to alter bodily chemistry—releasing endorphins rather than adrenalin—and open the cervix with a preparation during pregnancy through immersion in narrative texts (the birth stories, mostly written by and from the perspective of the mother), and in childbirth through the assistance of doulas, who (among other things) train the mother to feel the right feels by saying the right words and

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making the right sounds: a deep, open-mouthed, resonant *uuuuugh*, rather than a high, tight, shrill *aaah*. The feminist natural birth movement differs from "husband-coached" Lamaze and Bradley methods in focusing less on externally observeable behavior such as breathing exercises that can be shared with male partners and more on internal proprioception, affirming the absolute centrality of somatic experience in birth (e.g., as a way of internally knowing the position of the baby and responsively moving to assist its progress), while also attempting to alter that experience by changing the mother's response to pain. Gaskin's books emphasize the causal significance of qualia, to the point of arguing that the standard manual cervical check is a much less accurate assessment of readiness to birth than medical obstetricians claim (because the woman's discomfort at the introduction of the gloved hand can itself cause the cervix to constrict, a possibility that obstetric science generally does not consider). This approach to childbirth is feminist insofar as it is devoted to changing the grammatical position of the mother in the act of birth: no longer patient, but agent. Those parts of the natural childbirth movement that seek to democratize access to natural labor beyond the mostly wealthy and white circles where birth preparation serves as pecuniary expenditure take this feminism most seriously as politics.

The natural childbirth movement, for all its limitations, offers a model of an ontological politics built on recognition of painful and pleasureable qualia as points of connection between ontological "levels": discursive, psychological, physicological, biochemical, sociological, institutional. The movement is multinatural, not attached to any material/immaterial divide, and syncretic about forms of causation; it accepts the possibility that making certain sounds in the larynx could "really, literally" operate on the cervix; that reading a book, and renaming a stimulus (contraction ⇛ rush, hospital ⇛ farm) can transform the qualitative experience of pain, change body chemistry, move anatomy; that repositioning the agent in a sentence and the narrator in a story can make new kind of subjects—and thus that "material" and "semiotic" forms can never be easily extricated from one another. That attention to blankets and words might be equally important. This is a pragmatic model for politics, and a model for doing pragmatist anthropology: one that does not necessarily take such modes of causation as a sign of radically "other," nonmodern or non-Western ontologies but assumes such multiplicities as genuine possibilities.

## The Essays

The contributors consider the problem of semiotics and ontology from a variety of ethnographic perspectives, but with a shared emphasis on the following points:

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1. Qualia and qualisigns are conventionalized through multimodal semiotic processes, including words for sensations (red, soft, sharp, dissonant, etc.), onomatopoeia (especially sounds that serve as indexical icons of sensations, such as "aaaah" for refreshment or "eeek" for horror), and synaesthetic forms (the color red stands for hot water; red skin stands for ripe flavor).
2. Conventionalized qualisigns of sensory experience often play a crucial role in ontological discourse, and are frequently used as examples or evidence for cultural/ontological concepts such as materiality, abstraction, reality, primacy, and so on.
3. Ethnographic attention to qualia and qualisigns, focusing on the ways they are conventionalized linguistically and synaesthetically, provides an alternative approach to the study of matter/materials/materiality and to the study of ontologies.

In the first article, Nick Harkness describes the proprioception of qualia in classical singing training—the feeling of the larynx or the pressure of the diagrapham against the throat as the careful elicitation, training, and description of an array of qualisigns that reflexively (through the singer's attunement or attention) produce the qualia of sound for the audience. A related form of conventionalized qualia is evidenced in Rihan Yeh's description of the phonosonic calqing of an ontology of movement for "expediters" of transnational logistics of "Just-in-Time" production in Tijuana. The orchestration of bodies in time and space is indexed in the sounds of speeding up, "chchchchcch," and slowing down, "empuuujala"—qualia of space time and proprioception related to a metaphysics of screaming or not screaming, braking or putting on the gas, which manages both the movements of machine parts through shipping routes and the movement of bodies and cars in relation to bullets on roads.

This institutional account of orchestration links to Arpita Roy's account of laboratory science in the Large Hadron Collider at CERN; her article shows how Higgs boson particles appear in the lab only retrospectively, and only in the analysis of expert physicists with the capacity to properly interpret large amounts of data: not as laymen imagine, a mere extension of the eye to see better what is already there. Roy argues that in the division of semiotic labor this most elaborate of laboratories—the super collider—allows an anointed class of specialists decide our ontologies for us based on the qualia of their data. This account of the role of qualia in the authority of knowledge is extended in relation to social kinds in Angela Reyes's article on the uncertain ontology the

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Phillipine elite. In Reyes's article, Kripke's understanding of natural kinds defined by experts is used to frame an analysis of the "bundling of linguistic and bodily qualia" in the identification of the true *conyo* in parodic youtube videos that demonstrate farcical (but implicitly sociologically accurate) techniques of recognition. Finally, Chris Ball takes up the problem of "qualia of reality" as they manifest in varieties of photographic representation and manipulation, in which versions of reality coalesce around qualisigns of realness, from imagined narratives of immersive journalism to animated replications of lens flare, that each emphasize *photographicness*.

In the ethnographic situations described in each of these articles, *qualia*, or experiences of properties, are interpreted as direct indexes of objects (signifieds). Firstness is always imbricated in secondness and thirdness. What seem like material objects (sinsigns) are always signifiying in virtue of some abstracted and conventionalized quality (qualisign) which cannot be located entirely in the "substrate"; but likewise, the qualisign is always encountered in material form. If rejecting nominalism allows us to welcome such abstract entities—types, categories and properties—into our ontologies, attention to qualia reveals the productive contradictions between those categories or attributes and their materializations.

> Zhuangzi was walking on a mountain, when he saw a great tree with huge branches and luxuriant foliage. A wood-cutter was resting by its side, but he would not touch it, and, when asked the reason, said, that it was of no use for anything. Zhuangzi then said to his disciples, 'This tree, because its wood is good for nothing, will succeed in living out its natural term of years'. . . . As to those who occupy themselves with the qualities of things, and with the teaching and practice of the human relations, it is not so with them. Union brings on separation; success, overthrow; sharp corners, the use of the file . . . where is the possibility of unchangeableness in any of these conditions? Remember this, my disciples. Let your abode be here - in the Dao and its Attributes. (Zhuangzi, n.d.)

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