

The World Reviewed:
Reflections on the Ontology of Data

“What does not change / is the will to change”
–Charles Olson and/or Natural Language

It is, by now, a truism that those periods of massive technological change which crop up from time to time in human history are accompanied by an attendant reconfiguration of our perceptual apparatus(es), which in turn requires us to return to one of philosophy’s most basic questions: “How do we view one another?” We can, with only minimal slippage, refashion this question as “How do we understand one another?”; this formulation has the distinct advantage of making clear that, in the question to which we must turn in search of an answer – “How do we look at one another?” – the construction “how [...] we look” involves both our acts of perception and the evaluative criteria that we bring to bear on those perceptions *in order to ascertain what they mean to us* – or, we might say, *in order that they might mean anything to us at all*.

Insofar as the logic of digitalization – that is, the pervasive and thoroughgoing reorganization of human life precipitated by the invention and global networking of digital computers – is roiling the terrain by way of which we locate ourselves and each other more violently than any conceptual cataclysm since the conjoined developments of industrialization and photography produced the logic of mechanical reproducibility, it is clear that our present moment calls for precisely this sort of renewed inquiry into the processes through which we make our judgements about one another and the world.

Undertaking such an investigation, however, leads us to a conclusion that is troubling in the extreme: The modality of vision arising from the computational logic of the data science that increasingly is coming to inform our world poses a threat to our humanity. This threat is both senseless and profound – or rather, profound *precisely because it is senseless*; indeed, it is nothing other than the threat of *failing to differentiate sense from nonsense*, such that we are willing to accept nonsense as a substitute for a sense of one another, or of ourselves.

To see why this is the case, it is necessary to turn our attention to the concept of the aesthetic. About a third of the way through *Forensic Architecture: Violence at the Threshold of Detectability*, Eyal Weizman makes the provocative claim that, in addition to being an epistemological mechanism, the kind of digital forensics that he and his colleagues undertake ought also to be understood as “an *aesthetic* practice because it depends on both the modes and means by which reality is sensed and presented publicly” (94). Weizman makes such an identification, it appears, primarily on the basis of “the ancient Greek meaning of the term, in which to sense is to be aestheticized, just as, inversely, to be unaestheticized is to make oneself numb to perception” (94-95); thus, he argues that

while aesthetics is generally understood as what pertains to human senses and perception, ‘material aesthetics’ instead captures the way in which matter absorbs or *prehends* (rather than apprehends or comprehends) its environment. Such ‘non-sensuous perception’ ... can help form the link between human sensing and material sensors. Matter prehends by absorbing environmental forces into its material organization. Aesthetics, conceived in this way, is the mode and means by which material things relate to each other” (95).

This account of aesthetics is reminiscent of Richard Deming's claim, in *Art of The Ordinary: The Everyday Domain of Art, Film, Philosophy, and Poetry*, that "art teaches us to look at the everyday as if it is always full of meaning, even though – or especially because – that meaning is projected consciously or (as is most often the case with the ordinary) unconsciously onto the world" (16), which finds its counterpart in its author's stated intention to explore "a tradition of thinking about the ordinary as an aesthetic encounter" (12). Deming's argument diverges from Weizman's, however, in at least one critical (albeit subtle) respect: While Weizman seeks to redefine aesthetics as "the mode and means by which material things relate to each other," Deming suggests instead that we might see the aesthetic as "a measure of one's relationship to things and to other people" (22), as "attempts to represent or express the ordinary reveal the foundations of subjectivity in their potential for self-conscious reflection" (16). The essence of this difference ought to be clear: Weizman gives us a view of aesthetics which, unlike Deming's, need not have anything whatsoever to do with the perceptions or productions of an expressive human subject.

Furthermore, Weizman posits his "material aesthetics" as explicitly connected to our increasing ability to process the world through digital technologies, while Deming's aesthetics of the ordinary arise not from any one specific form of mediation but rather from the concept of mediation itself, despite being crucially (and consequently) premised on the objects of its attention being mediated through the singular ways that one negotiates the representation of one's experience of the world to oneself and others. Indeed, Weizman is explicit that "material aesthetics" goes hand-in-hand with

the development of digital technologies capable of registering relations between actors and the world that extend beyond the specular procedure of directing one's gaze (and one's attention along with it) that a photograph memorializes. "While in the nineteenth century, celluloid soaked in gelatin and silver salt particles was the means – through photography – to record its relation to other objects and the environment around it, today, some digital instruments are sensitive enough to help us read the way different surfaces that have not been designated as sensors function as such" (96), he writes. The concept of "material aesthetics," he argues, thus "extends the principles of photography to the rest of the material world, breaking film and photography's monopoly over visual representation." Deming, meanwhile, situates his aesthetics of the ordinary within a general paradigm of language, claiming that

attempting to bring acts of perception into language reveals that these acts are always negotiations, and the slipperiness of these negotiations leaves room for a degree of mystery or ineffability. Language is the way that the attention is directed and yet also is the way that the mystery of unsettled interpretations can be encountered among the people that form [...] a community held together by a shared sense of how and what it interprets and values. The mystery is not resolved, but creates the possibilities for further discussion between people and with oneself [...]his ambiguity — what we might call ambivalence, in the truest sense of the word—is a response to the ordinary itself. (10)

One might thus also differentiate the two aesthetics on the basis of how they read the unconscious meanings embedded in their texts: Weizman's "material aesthetics" reads its "texts" for legible traces of events or actions, while Deming's "aesthetics of the ordinary" instead seeks traces that frame the objects in which they are found as expressions of the unique subjectivity that organized or composed those objects.

Despite these differences, both Weizman and Deming's aesthetics reflect the cultural shift in the ways that we monitor one another described by Philip Agre, which he frames as a turn

from a “surveillance model” toward a “capture model” (101) of observation. “The *surveillance model*, currently dominant in the public discourse of at least the English-speaking world, is built upon visual metaphors and derives from historical experiences of secret police surveillance,” Agre explains, while a “less familiar alternative, the *capture* model, has manifested itself principally in the practices of information technologists. It is built upon linguistic metaphors and takes as its prototype the deliberate reorganization of industrial work activities to allow computers to track them in real time” (101). Before parsing Agre’s definitions, let us first focus on the fact that while Agre refers to these complexes as “cultural models of privacy,” we might instead think of them of *modes of data collection*. As Agre explains, the “capture model” arises in the context of a societal movement “toward ‘ubiquitous computing,’ in which computational machinery is distributed throughout the physical environment” (102), and its name refers (in part) “to a computer system’s (figurative) act of acquiring certain data as input, whether from a human operator or from an electronic or electromechanical device [...] the implication being that the information is not simply used on the spot, but is also passed along to a database” (106). While “surveillance” suggests acts of monitoring, in other words, “capture” is by contrast based on a more passive registration of our interactions with various forms of sensors that we encounter, which then transform those interactions into ontologically-numerical representations of various aspects of how we go about our lives. The quintessential image of the mechanisms of surveillance is the security camera, whereas the mechanisms of capture are *inherently* harder to picture; by situating computers as the percipients of sense-data generated by our interactions with the world around us, the capture model, rather than bringing us into direct contact with the technologies of capture, instead transforms the materials and routines of our everyday lives into

interfaces through we generate data about ourselves, despite whatever measures might be taken to render this fact invisible. We might thus think of the capture model as the *operationalization* of the ordinary.

The fact, however, that systems of capture can thus be said to exist “at the threshold of detectability” – to appropriate Weizman’s turn of phrase – should not be taken to mean that we can say nothing about them; to the contrary, Agre is insistent that such systems’ persistent “use of linguistic metaphors” (108) is of tantamount importance in distinguishing them from systems of surveillance. As Agre explains it, the kinds of systems he is discussing “each employ formal ‘languages’ for representing human activities. Human activity is thus treated as a kind of language itself, for which a good representation scheme provides an accurate grammar. This grammar specifies a set of unitary actions – the ‘words’ or ‘lexical items’ of action, which AI people call ‘primitives’ [...]” If the “capture model” thus interprets our ordinary actions as utterances that both construct and help us to parse the language of “human activity,” then it would appear logical to conclude that the analysis of the data collected thereby constitutes a form of Ordinary Language Philosophy – a conclusion reinforced by Agre’s declaration that the “capture model” is defined in part by its having “driving aims that are not political but philosophical” (107).

On first glance, identifying the analysis of data collected by way of the “capture model” as a form of Ordinary Language Philosophy seems sensible. In “Must We Mean What We Say?”, Stanley Cavell explains the methods and logic of the practice: “When the philosopher asks, ‘What should we say here?’, what is meant is, ‘What would be the normal thing to say here?’, or perhaps, ‘What is the most natural thing to say here?’ And the point of the question is this:

answering it is sometimes the only way to tell – tell others and tell for ourselves – what the situation *is*” (21). As Cavell notes, one turns to this procedure “[w]hen you have more facts than you know what to make of, or when you do not know what new facts would show. When, that is, you need a clear view of what you already know. When you need to do philosophy.” Thus, “when the philosopher who proceeds from ordinary language tells us, ‘You can’t say such-and-such,’ what he means is that you cannot say that *here* and communicate *this* situation to others, or understand it yourself.” Thus, he argues, the kinds of claims made by Ordinary Language Philosophy actually have to do exclusively with clarifying the meanings of our expressive utterances *within* the languages (or “grammars,” in Wittgenstein’s formulation) of expression in which they occur, on the presumption that the speaker both knows *and can only know* (experience in) the terms of the language(s) by means of which it is represented:

What these remarks come to is this: It is not clear what such an activity as my-finding-out-what-I-mean-by-a-word would be. But there obviously is finding-out-what-a-word-means. You do this by consulting a dictionary or a native speaker who happens to know. There is also something we may call finding-out-what-a-word-really-means. This is done when you already know what the dictionary can teach you; when, for some reason or other, you are forced into philosophizing. (39)

If one accepts Agre’s claim that human behavior can be understood as a language – a claim which one would be well-advised to approach with skepticism – then the analogy between the analysis of data collected by the “capture model” and Ordinary Language Philosophy is apparent: Both seek to clarify the relationships obtaining between an utterance (or its constituent elements) and the language in which it takes place, in order to understand what that utterance *must mean* if it can rightly be said to mean anything at all. Central to both is the idea that, as native speakers of our native languages, it is less correct to say that we *know* them than it is to say that they are the (often-unexamined) *grounds* of our knowledge about the world and

ourselves; as such, attending to their grammar instructs us in the grammar of our understanding of, and relations to, the world outside ourselves.

Although the analogy between Ordinary Language Philosophy and the analysis of captured data is always problematic, for reasons soon to be discussed, this fact is most obviously recognized when the data in question is subsequently analyzed by a certain class of the machine learning algorithms, or “machine learners,” discussed by Adrian Mackenzie. As Mackenzie notes, “many machine learners classify things. Machine learners are often simply called ‘classifiers’” (10), but while the operative categories “are often simply an existing set of classifications assumed or derived from institutionalized or accepted knowledges [...m]achine learners also generate new categorical workings or mechanisms of differentiation.” This point clearly comes into conflict with Cavell’s claim, in “The Availability of Wittgenstein’s Later Philosophy,” that “what Wittgenstein means when he says that philosophy really is descriptive is that it is descriptive of ‘our grammar,’ of ‘the criteria we have’ in understanding one another, knowing the world, and possessing ourselves. Grammar is what language games are meant to reveal; it is because of this that they provide new ways of investigating concepts, and of criticizing official philosophy” (56). What is less immediately clear is that this observation militates against identifying machine learning with Ordinary Language Philosophy on two fronts: its incompatibility with “‘the criteria we have’ in understanding one another,” and its inverting the relationship between language games and grammar.

Let us begin with a consideration of the latter point. As Agre explains, the “capture model” produces what he calls “grammars of action” (107) through a relatively standard process. First, the engineer designing a given system makes “a principled selection of what ought to be

represented. In doing this, he describes an ontology of entities and relations and functions and activities, along with a set of procedures for systematically representing the existing organization in these terms. Having prepared this self-representation, the next step is to implement it on a computer. The purpose of this computer will be to *model* the organization” (108). Following this, he explains that “the capture model describes a situation that results when grammars of action are imposed upon human activities, and when the newly reorganized activities are represented by computers in real time” (109); a process which begins when “somebody studies an existing form of activity and identifies its fundamental units in terms of some ontology [... which] might draw on participant’s terms for things and might not” (109-110). Next, “somebody articulates a grammar of the ways in which those units can be strung together to form actual sensible stretches of activity. This process can be complicated, and it often requires revision of the preceding ontological analysis. It is typically guided by an almost aesthetic criterion of obtaining a complete, closed, formally specified picture of the activity” (110). After a grammar is thus articulated, “the resulting grammar is then given a normative force. The people who engage in the articulated activity are somehow induced to organize their activities so that they are ‘parseable’” in terms of the grammar.” In other words, the “capture model” begins with the construction of artificial language, which individuals are then *made* to speak, through either the reorganization of the activity in question around the terms of the language, or an insistence on the part of those listening to them of interpreting their utterances as utterances in this new language, whether their speaker understands them to be or not. On the basis of this explication, it is clear that process Agre is describing is not only incompatible with, but in fact antithetical to, the logic and procedures of Ordinary Language Philosophy.

One can demonstrate this by working backward, as it were, from Agre's explanation of *why* the "capture model" should be understood to have "driving aims that are not political but philosophical" (107); this designation is due, he explains, to the fact that within the conceptual framework, "activity is reconstructed through assimilation to a transcendent ('virtual') order of mathematical formalism." As any reader versed in Wittgenstein's writings will quickly recognize, this stands in direct conflict with the central idea of the *Tractatus Logico-Philosophicus*, which one might summarize in ludicrously reductive fashion as that claim that the propositions that result from "[reconstructing] activity [...] through assimilation to a transcendent ('virtual') order of mathematical formalism" ultimately do not and cannot tell us anything about the world, but only the framework that we have constructed for representing it, and the ways that such proposition take on meaning in the context of this framework. As Wittgenstein puts it, "the propositions of logic demonstrate the logical properties of propositions by combining them so as to form propositions that say nothing" (6.121). Instead, "the propositions of logic describe the scaffolding of the world, or rather they represent it. They have no 'subject matter.' They presuppose that names have meaning and elementary propositions sense; and that is their connexion with the world" (6.124); as such, "logic is not a field in which we express what we wish with the help of signs, but rather one in which the nature of the absolutely necessary signs speaks for itself," and "when we 'prove' a logical proposition [...] without bothering about sense or meaning, we construct the logical proposition out of others using only *rule that deal with signs*" (6.126). This means that "in logic process and result are equivalent" (6.1261), which forces us to conclude, in rapid succession, that "logic is not a body of doctrine, but a mirror image of the world. Logic is transcendental. Mathematics is a logical

method. The propositions of mathematics are equations, and therefore pseudo-propositions. A proposition in mathematics does not express a thought. Indeed in real life a mathematical proposition is never what we want” (6.13-6.211). In short, the *Tractatus* makes a robust case that the use of systems of data capture to mathematically represent and thereby analyze patterns of human activity is nothing more than the juggling of equations that ultimately cannot refer to anything beyond themselves and the closed system of representation that determines their position in the overall structure.

Indeed, we might say that Ordinary Language Philosophy developed out of Wittgenstein’s realization that any mode of modeling the world such that it might be known can only declare or describe its own conditions of meaningfulness. Thus, Cavell is correct to note that there is an identifiable and rule-bound “way that correctness is determined in a *constructed* language [...but the fact t]hat everyday language does not, in fact or in essence, depend on such a structure, and yet that the absence of such a structure in no way impairs its functioning, is what the picture of language drawn in [Wittgenstein’s] later philosophy is all about” (48). This assertion makes clear that the essential claims of Ordinary Language Philosophy arise from the precise fact that ordinary language is *not* constructed by us, so much as we are constructed by it – it is the language in which we encounter our experience, and thus the natural language *of* experience, and as such it stands alone among languages in being able to formulate propositions that tell us about something about the grammar of human experience, rather than about the grammar of one or another necessarily-closed and limited system by which we (re-)represent our experience to ourselves and each other.

It thus that Cavell is able to claim that “the philosopher who proceeds from ordinary language assumes that he and his interlocutors are speaking from within the language, [...but he does not] *assume* that he and his interlocutors are speaking from within a given (their native) language – any more than they speak their native language, in general, *intentionally*” (16) – but this remark throws one of the critical problems with the “capture model” conceptualizing “human activity [...] as a kind of language itself, for which a good representation scheme provides an accurate grammar” into stark relief. By the definition of “ordinary language” evidently operative here, the only entity able to organize and express utterances in the ordinary language of human experience is the human subject, while what is captured and subjected to analysis is in the “capture model” *cannot be* the “natural language” of human activity, but rather a translation of that activity into a formal-mathematical language that the “speaker” does not understand *from the inside*, and may not even be aware exists. The “capture model” thus reverses the foundational assumptions of Ordinary Language Philosophy, which makes its claims on the basis of the idea that we can bring our deep, intuitive sense of the grammar structuring the meanings of our utterances to light by attending to those utterances; here, our utterances are immediately translated into a powerfully *foreign* language with grammar entirely different from that of natural language, breaking the links of the chain that necessitates our meaning what we say. As such, the propositions produced by any such model must, strictly speaking, be understood as *nonsense*, in human terms; as language can ultimately only describe its conditions for meaning, and as natural language is *by definition* the language in which one experiences one’s experiences, one’s natural language is thus the only language in which the meanings of

one's experiences can occur, and it is only by interrogating our natural language that we can determine what our experiences mean to us.

The languages or systems of differences within which algorithms and machine learners produce propositions are therefore necessarily reductions of, and abstractions from, the language of human experience and activity into a language governed by an inhuman grammar that completely determines its operations even as it produces propositions that cannot be reconciled with human cognition. If, as Cavell claims, "Grammar is what language games are meant to reveal," insofar as "what is normative is exactly ordinary use itself" (21), with machine learners the situation is stood on its head, as an algorithmically constructs a grammar, "the resulting grammar is then given a normative force," and the human subject is unwittingly and unwillingly thrust into new language games which enforce his or her adoption of a new, constructed grammar that represents human activity in fundamentally inhuman terms. Furthermore, in light of Cavell's observations that

[s]ince saying something is never *merely* saying something, but is saying something with a certain tune and at a proper cue while executing the appropriate business, the sounded utterance is only a salience of what is going on when we talk (or the unsounded when we think); so a statement of 'what we say' will give us only a feature of what we need to remember. But a native speaker will normally know the rest; learning it was part of learning the language" (32-33),

it is not even clear that we can properly be said to be *speaking*, in the sense of deliberately producing concatenations of linguistic units that we voice with the knowledge that doing so involves expressing or projecting our subjective experience back to or beyond ourselves, when interfacing unwittingly with systems of capture.

Of course, all of the above presumes that it is impossible to model the natural language of human activity and experience. Cavell dismisses the idea out of hand, noting that "[w]hether the later Wittgenstein describes language as being roughly like a calculus with fixed rules working in

that way is not a question that can seriously be discussed” (48). This claim is, in fact, narrowly true, but while a serious discussion of *whether* Wittgenstein thought natural language was susceptible to mathematical formalization and determination by rule may be impossible, a serious discussion of *why* he believes this to be the case is profitable (although a full consideration of the question lies far outside the scope of what we might undertake here).

The most fundamental answer, I believe, can be drawn out from around Wittgenstein’s persistent discussions of “pain” in the second section of the *Philosophical Investigations*. To understand this, it is helpful to consider Cavell’s assertion, in “Knowing and Acknowledging,” that “so far as the appeal to what we ordinarily say is taken to provide an immediate repudiation of skepticism, that appeal is itself repudiated” (238). The argument that Cavell presents for this assertion is enormously convoluted, but centers around an elaboration of the fact that the ordinary use of the phrase “I know” can be both an expression of certainty about *or an* “acknowledgement” (256) of the truth of what follows; thus, the claim “I know he is in pain” is not a rejection of the skeptic’s refusal of certainty, but rather a declaration of the fact that our ability to acknowledge the experience of another in this way radically outstrips the limits of our ability to have knowledge thereof. Thus, Cavell shows, Wittgenstein’s discussions of the phrase “I know that he is in pain,” taken together, suggest that what is crucial about our common natural language as is humans ultimately less that it provides us with a means of expressing our experiences, given that there is nothing in our language that allows us to verify or secure the truth of such expressions, and more that it is the only possible medium in which we can acknowledge one another in such a way that we can understand ourselves to share a common

existence as humans at all, despite never being able to really confirm the existence of a subjectivity other than our own.

In Cavell's account, "the fact that behavior is *expressive* of mind [...] is not something that we know, but a way we *treat* behavior. The skeptic goes on to say ... that behavior is one thing, the experience which "causes" or is "associated with it" something else. That is, he stops treating behavior as expressive of mind, scoops mind out of it" (262). The crucial question thus becomes what it means to say the skeptic "scoops mind out of" behavior, and here it quickly becomes clear that Cavell means it to deny that the behavior in question is being produced by a subjectivity like, but ontologically separate from, our own; in the inability to *actually feel* another's pain, Cavell explains, "I am filled with this feeling – of our separateness, let us say – and I want you to have it too. So I give voice to it. And then my powerlessness presents itself as ignorance – a metaphysical finitude as an intellectual lack" (264-65). Our apparent success in communicating with each other *suggests* that this separateness can be mitigated by language, less by actually bringing us together than by enabling us to call "I hear you" to each other across the spaces between us; that is, to insist on the existence of some measure of a shared grammar between us. What this shared grammar consists in, unsurprisingly, is what we frequently term "the human condition"; that is, our fundamental awareness of our relationship to *time*. The declaration and two questions with which Wittgenstein opens the second part of the *Philosophical Investigations* – "One can imagine an animal angry, fearful, sad, joyful, startled. But hopeful? And why not?" (184e) – are meant to both imply that animal consciousness is unlike ours *and* that this is due to the fact that we have a temporal awareness – specifically, our sense of *futurity*, which carries with it both our awareness of our mortality (the ballast of our

sense of ontological finitude) and the concept of will (insofar as exerting one's will *means* to impel oneself to do something in *this* moment that is not implied by the inertia of the previous; this does not mean that futurity is necessary for will to exist, but it is necessary for the will to be conceptualized).

If inquiring into the grammar of our natural language is nothing other than inquiring into the ontology of our subjectivity, then we might say – risking the charge of tautology so often brought to bear on inquiries into ordinary language – that our natural language cannot be programmed because it *consists in what is neither instinctual nor programmable*, which is another way of saying “that which is only meaningful in the context of our humanity,” so long as a distinction between humans, animals, and computers can be maintained; that is, so long as we understand our subjectivity to be defined by its location in the narrow space that we tell ourselves we carve out between instinct and automation.¹

Cavell thus understands the experience of film as a paradigmatic example of the struggle with skepticism, and the ways that ordinary language allows us to acknowledge the other in the face of such doubt. Deming offers an elegant précis of Cavell's difficult account of film, which finds its fullest elaboration in *The World Viewed*: “Cavell asserts, provocatively, that ‘film is a moving image of skepticism,’ explaining that with cinema, ‘not only is there a reasonable possibility, it is a fact that here our normal senses are satisfied of reality while reality does not exist—even, alarmingly, *because* it does not exist, because viewing it is all it takes” (38). What

¹ As Cavell points out, “whether robots exhibit (creaturely) behavior (forms of *life*) is as much a problem – is perhaps the same problem – as whether they ‘have’ ‘consciousness’” (265), and I do not mean to suggest that is theoretically impossible for us to either discover that we exist in a determinist universe and our experience of our subjectivity is illusory, or (and most likely also *consequently*) for our programming abilities as a species to reach a point where the total edifice of human subjectivity can be programmed. My point is simply that, were either or both of these possibilities to actually occur, the boundary between humans and machine learners would be effaced only at the cost of a staggering amount of our self-understanding as humans.

this means, he explains is that “[w]ith film, we are invisible to the world we see on the screen, and, in turn, we come to experience a specific type of isolation because the world we see projected cannot acknowledge us in return. Nothing the audience can do can obtrude directly into that world on-screen. That we can recognize the people and events and objects makes that distance, that estrangement, all the more palpable” (38). Film may thus *be* a “moving image of skepticism,” but the experience of film is of surmounting that skepticism on the basis of the sympathetic identification made possible by the fact that the language of cinema is (an) ordinary language.

We are now finally equipped to describe the deep danger posed by the misuse of data science: it is the danger of trading in the world viewed – our world – for what we might instead call *the world reviewed*, for the perceptual situation of data capture is functionally a precise inversion of that described by Cavell as obtaining when one watches a film. Rather than being confronted with skepticism by both being faced with an undeniable experience of mistaking an image of a human subject for a human subject (at least with respect to our affective response thereto) and being forced to feel the pain of our separateness through the fact that our acknowledgement of the figures on-screen is not reciprocal, when one’s data is captured one rather becomes an utterance (in the ordinary language of the computer) that mocks the computer with the suggestion of a mind behind it – but which, because it one is incapable of acknowledging the computer’s subjectivity as like unto but separate from our own, the computer is likewise unable to acknowledge as a mind. Thus, predictive algorithms deny our futurity, refusing to account for the possibility that we bring our agency to bear on our past experience in order to produce a future that is meaningfully different from the past (and instead re-inscribing

the past as a program with the power to determine our future; furthermore, they are premised on the idea that we are *not* human subjects insofar as human subjects have an internality that cannot be known; instead, our selves are made coextensive with our behavior, while the categories of meaning and acknowledgement in which that self is situated are based on values other than those arising from the (subjectively-)integrated whole of our experience. It is the danger that, in agreeing to play language games that data analysis invites us to, we are agreeing to substitute the computer's understanding of who we are for our own self-understanding, even though doing so means giving up our native tongue in favor of utterances that we can only identify as nonsense. This abandonment of our own organic criteria of (self-)understanding in favor of those imposed from without carries with it the danger of denaturing our language such that we are no longer able to acknowledge each other or the commonalities between our experiences at all.

What, then, is to be done? The “aesthetics of the ordinary” theorized by Deming is itself a practice for cultivating selves able to recognize and resist the threats posed by the misunderstanding of language fundamental to much of contemporary data science, although it does not appear to explicitly recognize itself as such²; film itself, in Cavell's understanding (which, we might add, would seem to require the absence of any elements within the film that cannot be reconciled with our ordinary language – an issue arising especially in the case of *noticeable CGI*), would be another. I would like to propose in conclusion, however, the recognition of a new cinematic genre (in homage to the “comedies of remarriage” identified

² It is worth noting that Agre, with his remarks that “no matter how thoroughly the capture process is controlled, it is impossible, short perhaps of total mechanization of a given form of activity, to remove the elements of interpretation, strategy, and institutional dynamics [...] capture is never purely technical but always *sociotechnical* in nature. If a capture system “works,” then what is working is a larger sociopolitical structure, not just a technical system” (112), proves himself to be a more subtle reader of Wittgenstein than his enthusiasm for systems of capture would otherwise seem to suggest.

Cavell) that we might think of as “trials of acknowledgement.” These films, like Cavell’s comedies of remarriage, pair the medial agon of skepticism that the cinema performs with formal or narrative interrogations of the boundaries of the human that are more or less explicitly provoked by the ways that the flattening-into-quantifiable units of our being that data science threatens us with. In order to illustrate this genre, I will touch briefly on two films that superficially could not be more different: the vampire mockumentary *What We Do In The Shadows* (2014), and the wrenching depiction of aging and loss that is Michael Haneke’s *Amour*.

What We Do In The Shadows takes the form of a series of strange language games that ask “What would we say if X mundane thing happened but instead of human beings we were vampires?” This situation is more or less explicit throughout the film; in the first moments, the protagonist, Viago, wakes his sleeping housemate to inform him of an upcoming “flat meeting.” Their entire exchange takes place in the following three sentences: First, Viago asks “How was your night?” “I transformed into a dog and had sex,” his roommate replies. “Cool! We’re gonna have a little flat meeting in the kitchen in about fifteen minutes,” Viago answers without missing a beat. During the meeting, Viago complains to his other roommate about his failure to do the dishes, to which he receives the correct-but-maddening reply that “Vampires don’t do dishes.” The film’s plot, insofar as it can be said to have one, is concerned with a constellation of human beings who have either been turned into vampires, want to be turned into vampires, that the vampires want to turn into vampires, or that want to socialize with vampires without becoming one of them. The lattermost category is represented by Stu, a vegetarian and friend of a newly-turned vampire who the other vampires find so pleasant that they attempt to socialize with him while respecting the fundamental gaps between his natural language and theirs by declining

to bite him, and by attempting to protect him from other supernatural figures (it is worth pointing out that zombies, vampires, and werewolves – the three kinds of creatures highlighted by the film – can all properly be referred to as “post-human,” a point that the film drives home by having one such figure uncomfortably ask Stu if he’s “pre-deceased.”) An extended sequence in which the vampire protagonists whose lives ended in bygone eras are introduced to the wonders of digital technology shows that the film’s thinking of the post-human is cognizant of the broader discourse of post-humanism in the technological rather than vampiric sense. The conclusion of this sequence, which involves the vampires asking to be shown a video of a sunrise, and then reacting in a way that is obviously meant to be analogous to human reactions to online pornography, elicits both laughter and recognition – for, indeed, it does not take too much imagination to conceive of a subject of the computer age who finds the sight of the sun more titillating than the daily mundane that explicit sexuality is threatening to become in the age of high-speed internet, and thus the vampire is perhaps a *particularly* apt figure for the kind of post-human subjects we can easily become, without care.

Insofar as the film primarily shows that these post-human figures are still largely legible/recognizable within the deeply human conceptual framework of a certain kind of documentary filmmaking, and insofar as Stu is not, ultimately, killed by the vampires, one might reasonably conclude that the film takes a softer line of the compatibility of human and post-human natural languages than this paper has heretofore suggested is warranted; to the extent that this is true, we may attribute it to the film’s being a comedy. It is thus all the more remarkable that the film’s ending can be read more as a warning than a comfort, but it is unclear how one is to interpret the fact that the film’s *dénouement* consists of with Stu being “killed by”

a pack of werewolves (and then re-emerging as a member of the pack) *other than as an assertion that participation in inhuman language games will inevitably result in the death of the human as it transforms into something fundamentally other*. This point is driven home by the concluding sequence that plays over the films credits, in which the Alpha of the Werewolf pack jokingly explains that the members of his pack have to laugh at all his jokes, then demands to know what they're laughing at when then they respond with laughter. After one of the other wolves fails this language game, he turns to Stu, who gives the correct reply (as indicated by the entire pack repeating it in unison after he does): "Oh, I was just laughing with the group." Here one finds a performance in miniature of the ways that the post-human language game of data capture leaves no room for a unique, individual human subjectivity as we know it, but instead enforces a self-perception through externally-imposed categories that "scoops the mind" right out of us.

Amour, meanwhile, can be understood as an account of Georges' coming to understand that the grammar of love is acknowledgement of the other's separateness through an escalating drama that consists of Georges and his wife Anne, whose deterioration following two strokes the film documents in unflinching detail, playing a series of language games that fail ever more drastically as Anne approaches her death, the most foundational limit of the human. The pivotal sequence of these games comes following Anne's second stroke, when she tells Georges that she wants to die and he refuses to let her go. Following this, she gradually deteriorates to the point at which all that he is able to do is to scream "pain" again and again, in what can only be an overt reference to Wittgenstein; although Anne's nurse tells Georges that the this is not an expression of pain but simply the hollow facsimile of meaningful human behavior, she makes clear that Georges' refusal to let Anne die is skepticism itself, the refusal to acknowledge her pain as real

tantamount to the refusal to acknowledge the human subject experiencing it. This comes to a head when Anne attempts to refuse the water Georges is trying to give her; as he tells her that she can't force him to let her die of thirst, their exchange becomes increasingly physical, for in the absence of acknowledgement their common language has been evacuated. Georges pries Anne's mouth open and attempts to force her to drink; Anne spits the water back out in his face; he slaps her. It is at this moment that he realizes that he has not been speaking with his wife for some time, but rather flattening her into a quantity; "One (1) Life Partner."

Shortly after this scene, Georges tells Anne a story about being left alone to suffer as a boy because nobody would acknowledge his diphtheria; at the conclusion of the story, he grabs a pillow and suffocates her, restoring the condition of acknowledgement necessary for the reinscription of their subjectivities as all too human while reinscribing this scene into the tradition of humanist negotiations of skepticism by way of an unmissable allusion to Othello (for what is jealousy, if not the doubt that the other is as they appear?). Formally, the film recapitulates this interrogation of natural language and subjectivity; it takes place almost entirely inside of Georges and Anne's apartment, which the camera roams in long tracking shots that give join its spaces in the spiritual unity of a natural language, even as time and again the doors and windows in the apartment open and close as if they were metaphors for the poorly-latched portal between ourselves and the world that language is. Finally, the film practically begins with a literal representation of the reversion of the conditions of filmic specularity as theorized by Cavell that I've proposed is characteristic of data science; indeed, the only lengthy sequence that does not take place *in* the apartment takes place at a performance of one of Anne's students that is represented from the viewpoint of the performer, such that what is projected on the screen

showing *Amour* is an image of an audience looking back from the far side of the screen at where the screen should be, *clearly* gazing through the screen into what ought to be our space, but no less clearly failing to acknowledge our presence; the “world viewed” become “the world viewing” in exactly the way it must in order to reconfigure the lifeworld of our natural language into the alien quantifications of the world reviewed.

Of course, there is nothing more or less *true* about the post-human language games of data science than there is about the language games that echo the grammar of our humanity back to us; they are simply less *human*. In some respects, of course, so too are we; the definition of the human, and of human language, is not fixed; this is what holds it open to the human experience of subjectivity, skepticism, and acknowledgement. But we *must* hold *specific ways* that certain kinds of algorithms claim the ability to rightly predict (and thus rightfully determine) our futures on the basis of data gleaned from the “natural language of our behavior” to be nonsense in any language that we are willing to speak, for otherwise we are acknowledging the sense of the claim that we *are* quantifiable – which we may, in fact be, but which we *cannot* acknowledge as meaningful while being anything like what we are. As Cavell declares,

insures
and

We learn and teach words in certain contexts, and then we are expected, and expect others, to be able to project them into further contexts. Nothing insures that this projection will take place (in particular, not the grasping of universals nor the grasping of books of rules), just as nothing that we will make, and understand, the same projections. That on the whole we do is a matter of our sharing routes of interest and feeling, modes of response, senses of humor and significance of fulfillment, of what is outrageous, of what is similar to what else, what a rebuke, what forgiveness, of when an utterance is an assertion, when an appeal, when an explanation – all the whirl of organism Wittgenstein calls ‘forms of life.’ Human speech and activity, sanity and community, rest upon nothing more, and nothing less, than this. It is a vision as simple as it is difficult, and as difficult as it is (and because it is) terrifying. (52)

Clearly, Cavell understands that an answer to the question of what it means to say we are human will only be acceptable to humans if it is generated in our natural language – the only language we

can understand, the language we may make and remake but may never hand over the responsibility for making mean what it means without giving ourselves up in the process. We might, then, read Wittgenstein's body of work as a repeated demonstration that there is one language game to which there can be no correct answer, relevant to these possibly post-human days: What do we say when there is no speaking self to speak itself?; that is, how can we say that we are human when all of the languages with words for "human" have been lost?; that is to say, what could it possibly mean to say one means anything at all when there is nobody left to speak with?

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