

Better know a VLO: Realist approaches to very large organizations

The Very Large Organization (VLO) may be thought of as manifesting not only at large scales spatially and temporally, but also at very small scales. At both of these extremes, such organizations hold compelling implications for how we contend with complex, highly entangled sets of relations between entities. Extreme scales, both large and small, exceed our ability to have physical hands-on knowledge of phenomena. Instead the means by which we operate on these scales are necessarily mediated. The ways we figure, translate and operate on large organizations are inextricably entwined with questions of objectivity, representation and scale. This paper will examine current approaches to such problems and question how these may be influenced, expanded and challenged through emerging realist philosophical thought and aesthetic approaches.

The translations and layers of abstraction that color our understanding of very large organizations result in a series of rather subjective revisions, deletions and additions. Particularly suspect approaches would be those that claim a rationalist or deterministic understanding of networks and systems, which in fact embody chaotic and emergent phenomena at all scales of inquiry. Looking to philosophers such as Alfred North Whitehead and Gilles Deleuze, we can trace an argument for the legitimacy of aesthetic responses including affecting and being affected as one very distinct way of knowing. In addressing scalar extremes, I will attempt to sketch out a realist philosophy that seeks to engage objects and phenomena on the contradictory, illusory and slippery terms by which they present themselves. Aesthetic approaches have long been regarded as irrational, frivolous and not up to the task of dealing with large-scale, complex organizations. This paper will contend that aesthetics may indeed be a wholly appropriate means of response, one particularly suited to the disciplines of art, architecture, writing and philosophy in their engagement with such systems. The work of Steven Shaviro puts forth an idea of “critical aestheticism”. [1] This critical aestheticism is interested in realist approaches while also acknowledging the intangible and elusive plane of operation that encompasses the emotional and sensual response. This offers a novel stance by which we might engage new orders of magnitude. In addition to older philosophical work on the subject, the emerging realist philosophies of speculative realism and object-oriented ontology offer

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a potent set of conceptual tools to contend with a world that, as we focus in (or zoom out) to lesser or greater orders of magnitude, is revealing itself to be increasingly contradictory – at once somehow more real and yet increasingly harder to grasp.

This paper will call into question persistent biases which privilege static attempts to introduce clarity where fuzziness reigns. We will examine emerging developments across disciplines that reveal the existence of multiple entangled realities exerting influence on one another in beautiful and unpredictable ways. We will finish by examining aesthetic approaches and narrative tools from film and fiction that may offer an unsettling yet powerful approach to contend with very large organizations. These futures both large and small are messier yet more magical, terrifying and beautiful than we might have imagined.

But a realist for whom the world is filled with objective tendencies and capacities waiting to be actualized by skillful interventions, tendencies and capacities that provide a myriad of opportunities and risks, is in a much better position to take advantage of these insights. This, among other things, is what makes realism a better strategy to confront the political, economical, ecological, and technological problems of our time. [2]

- Manuel Delanda

SCALAR TRANSLATIONS

At very small scales (the genetic, the nano-scale, the microbiological...) and at very large scales (information networks, shipping channels, distribution networks, ecologies, food webs, climate patterns...), our understanding is necessarily mediated by descriptions and images. There has always existed a certain amount of skepticism toward the mediated experience. In his essay on *Visibility*, Calvino questioned this divide; “We are bombarded today by such a quantity of images that we can no longer distinguish direct experience from what we have seen for a few seconds on television.” [3] This is a well-established quandary today, and levels of media saturation have accelerated to an unimaginable degree since 1986 when Calvino penned this sentiment. From the realms of entertainment and design to the workplace, our daily lives are inundated with representations and visualizations that shape our comprehension of these complex entities. While components of very large entities may be visible to the naked eye, we still require assistance to perceive the bigger picture through mediated satellite imagery, aerial photography and various cartographic applications. Google Maps has recently begun offering time lapse imagery spanning several decades, giving us a fascinating glimpse at geological and topographical shifts that one could never see or intuit in another way. This imagery, compiled through the Landsat program since the 1970’s, offers a stunning overview of change from a vantage point that we have never had access to before. [4] The GIF (Graphics Interchange Format), a bitmap sequence of images, is a fairly light (in terms of data) way to package and animate a series of images, and has become an increasingly popular means of visual communication on social media platforms like Tumblr as well as numerous other websites. It is more expressive than a single image with its evocation of movement and time, yet with its low frame count lacks the continuity of the typical 24 or 30 frames



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per second of a video clip. It seems the ideal medium for compiling Landsat imagery to display radical geographic shifts. In many ways the ease with which we can access this data belies the complex and entangled dynamics that lead to these changes. From vast increases in urban densities to rapidly deforested biomes, these global changes, when viewed in a small GIF on a screen, seem very matter-of-fact. And of course in a certain sense they are. Yet these vast, complex shifts involving humans, animals, materials and information are reduced to mere pixels, quickly digestible from a comfortably distant vantage point. These large scale events have occurred and they are now neatly packaged for us in a GIF. How bad could it have been? They may elicit in us feelings of amusement, horror or curiosity, but when viewed on our screens it is hard to envision the specificities that accompanied these drastic changes. The vantage points of any number of agents actually involved in these scenarios, when compiled together, would provide an exhausting and multifaceted account of this reality, but when viewed from above in a GIF somehow those details seem insignificant. In a blog post for the New York Times, W.M. Ferguson questions the limited range of this medium: “as irresistible as I find GIF loopiness, I can’t help wondering if it’s contributing to some future death of narrative. I mean, surely not every human emotion can be rendered in a few dozen repeated, low-resolution images.” [5] Yet what is gained in this very precise distillation, the quality we find in the most successful or viral GIFs, is an affective moment, condensed and transcribed yet retaining its essential aesthetic potency. Its capacity to evoke is compressed and extended through wide dissemination. In grappling with complex urban population shifts or global climate change, the GIF flattens these changes into mere visual effects. Can the experience of GIFs in general, be aligned primarily with emotional and affective experiences not reliant on complicated narratives, but rather on a more primal sort of recognition? Aesthetic intuitions can be understood as solely separate from formalized concepts. Shaviro explains that, “rational ideas are precisely thoughts that no content can fill; and aesthetic ideas are intuitions that admit of no concept. Once we leave the realm of the understanding, we discover a fundamental asymmetry between concepts and intuitions, such that each of them exceeds the powers of the other...Aesthetic ideas are no more moral than they are conceptual. Beauty is felt, rather than comprehended or

Figure 1: Google LandSat Imagery

willed. Intuition is decoupled from thought.” [6] This decoupling of the moral is significant, as analysis of very large organizational scales would seem to warrant an investigation into political realities and critical stances relating to these constituents. The political is of course an important agent in many large organizations and networks but is understood here as only one of many systems and therefore does not warrant specific privilege and furthermore does not supersede more emotional, intuitive experiences at multiple scales.

Now let’s shift to the small scale for a moment. At this scale similar issues abound, but rather than a loss of resolution or detail we encounter an increase in resolution. Yet the things we see at this nano-scale are mediated by technology and human intervention. That is, things at this scale are not simply magnified, in that we train a very strong lens on them until they appear. Rather, these entities are manufactured and translated through technological means. The way we see entities at this level necessarily involves mediation through electrons and other means. At this scale, “it is frequently not possible to make things without depicting them visually – and, quite often, it is not possible to represent them without the procedure of making.” [7] In this way, there is a strange relationship between seeing and making that further impacts the way we understand these entities. Daniel Black explains, “the actual investigation and manipulation of matter at the nano-scale requires a more literal appropriation of the nano-scale for human sensation, and this is dependent upon the use of machines designed to imbue that which is unavailable to perception with aesthetic qualities. Nanotechnology research is fundamentally an aesthetic endeavour in that it depends upon the production of new sensory experiences.” [8] Fields that engage nano-technology rely on the production of these sensory experiences to facilitate insights and conjectures into behaviors at this scale, and conversely these techniques prompt and guide them in their continuing investigations. Both the nano and macro examples examined here involve the isolation of phenomena and do not engage conditions at the edges or boundaries of these investigations. Particles by definition have no scalar boundaries. They can be assessed at variety

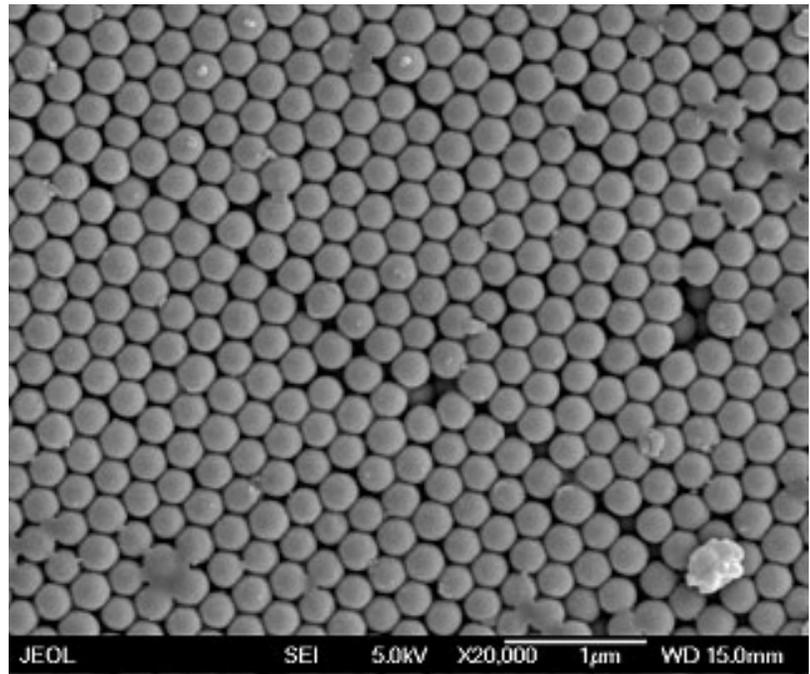


Figure 2: Nanoscale Material

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of scales depending on the nature of the investigation. Particle scientists define a particle as a “small discrete quantity of matter that has an interface with the surrounding environment... There is no rule governing how large or small an object must be to be considered a particle. Some define particles as ranging from one nanometer to one millimeter. Some place no size restriction at all - a heavenly body such as a planet or a star might be considered to be a very large particle.” [9] At both scalar extremes, we rely on technology to mediate what we see and facilitate ways for us to comprehend entities at these scales. Does the way we engage these entities with distinct methodologies predicated by a given scale allow us sufficient space to speculate on co-existent phenomena at all scales?

COMPLICITIES OF SCALE

The concept of complicity in relation to scale warrants investigation. Do large organizations possess a certain immovability or fixed quality that precludes contemplation of their smaller constituent parts? Does the default scale at which we assess these entities tend to condemn speculative approaches that seek to include possible ripples and cascading effects as insufficient or frivolous in the face of the very large? It calls to mind the elaborate banking system which as everyone has heard ad infinitum is *too big to fail*. Are large organizations *too big* to query locally? There exists a fairly consistent bias towards approaching objects at this scale through the lens of analysis. Diagrams, visualizations and data are deployed which attempt to quantify and tame a messy set of relationships and discrete entities interacting at multiple levels. This requires careful distinction in deciding what to analyze and at what level. These modes of depicting the Very Large Organization strip away numerous other realities present within the entity including specificity of material, atmosphere, sound, scent, appearance and tactility. These nuances are equally lacking in both extremely large and small scale representations. As Black describes this representational tension at the molecular scale, “within the broader neo-Platonist opposition between perfect idea and flawed sensation to which information discourse is indebted, the molecule becomes a miraculous entity able to mediate between the realms of form and matter. It reactivates the idea of the Platonic solid as the perfect, beautiful, but infinitesimally small geometric building block.” [10] Does this not apply to objects in the VLO as well? The molecule as small piece of matter which can be manipulated has a counterpart in the VLO, whether it is represented as node, intersection, plot point or nexus. Does the frightening and sublime immensity of the VLO become more manageable when condensed to a diagram or seen as pixels on a satellite image? Changes and interventions appear fairly equitable across the flattened terrain and are rendered clean, contained, manageable and neatly connected. While these organizations demand efficiency to serve their intended functions, they tend towards glossy impenetrability at this scale. How do we contend with their reality in its messier, darker corners? At a fine level of detail, we cannot know the myriad specifics of interactions and complexities enacted in relation to a VLO. These relationships span beyond the human and encompass details, reactions and effects that are nested both between and within at multiple scales. How can we simultaneously consider their large scale homogeneity while also considering the local, messy and heterogeneous built scale?

Why is a certain scale seen as more amenable to understanding these dynamics? The very large should not necessarily preclude a nuanced investigation of the numerous small scale interactions embedded within. We can never know *everything*, but that should not warrant ambivalence to specific local effects. A realism that seeks to embrace the discrete set of relationships in their localized specificity as they are intersecting with agents across time and space could operate through aesthetic practices and effects. This *aesthetic criticality* [11] is interested in alternative ways of knowing and operating on organizations, specifically by focusing on what has been unseen or unrecognized.

LOCAL REALITIES

How can we define operational strategies that enable us to contend with the messy reality of these entities? As we think about how to operate or design at these scales, or even approach some level of understanding beyond the generalized and abstract, points of entry become important. Do the multiple embedded constituents that comprise the very large warrant examination? Large scalar analysis often seems to be loaded with *a priori* judgments which may leave one vulnerable to any number of blind spots. We have a number of representational tools available to assist analysis, yet the goals of analysis are anything but clear. In the book *Prismatic Ecologies*, Jerome Cohen introduces a novel approach to the large-scale through an analysis of color. He takes as a departure point the exact problem of objectivity in confronting these scales: “No observer can even conceptualize this shifting mesh of power lines, generators, engineers, distribution nodes, consumers, conveyors, geographic expanses, appliances, managers, weather and electrical flow in its entirety: there is no divine or objective on a web within of such deep relations.” [12] Objects are densely entangled in a complicated mesh of networks. VLOs and every other manner of organization and entity, both large and small, are similarly entangled in a series of relationships, exchanges and translations. At this point, it may be useful to take a look at just a few examples of strange, beautiful and compelling realities found in nature that are specific and highly complex, yet evade representation by conventional means.

Recent developments in neuroscience, animal behavior and biophysics have revealed a great deal about non-human systems of perception and the ways in which other species interact with the world. Ants, for example, are now understood to be incredibly complex social creatures that utilize a variety of strategies to sense, communicate and navigate within an environment. “Ants use a variety of cues to navigate, such as sun position, polarized light patterns, visual panoramas, gradient of odors, wind direction, slope, ground texture, step-counting and more. Indeed, the list of cues ants can utilize for navigation is probably greater than for humans. Counter-intuitively, years of bottom-up research have revealed that ants do not integrate all this information into a unified representation of the world.” [13] Rather than relying on one overarching strategy for navigation, ants use distinct modules for disparate tasks. Ants process a variety of information and default to secondary modes of operation in response to local conditions. In addition to their diverse navigational toolkit, ants participate in a myriad of interactions with other species, some beneficial and some detrimental, like the interaction between the parasitic fungus *Ophiocordyceps* and Carpenter ants in the genus *Camponotus*. This fungus takes control of an ant’s motor functions, modifying the ant’s behavior in a way that

is precisely to the benefit of the fungus, helping to replicate and spread fungal spores. [14] This mind control tactic is species-specific, in that this particular fungus has evolved to infect a particular type of ant. A number of other similar host-parasite interactions exist, where in each case a species of fungus specializes on a particular insect species. This type of intervention is fascinating in terms of the subtle entanglement between fungus, ant and environment, and the way that these relationships are upended and manipulated to such productive ends on the part of the fungus, in an exquisite interdependence. It is worth noting that this reality on the ground is taking place in a location featured in the above mentioned Google Landsat GIFs. This small scale, localized interaction would obviously never register at that scale. And this interaction is but one of an untold number occurring, each incredibly specific and real, that sum together into an ecosystem, another example of a VLO operating with amazing intricacy, precision and mutability. Attempts to visualize ecosystems and their dynamics face similar problems of flattening and resolution as described above. We may need to enlarge our operational stances to begin to register these disparate entities and entanglements and their affective possibilities.

AFFECTIVE CAPACITIES

Complex organizations are the sum of a vastly entangled set of relational exchanges that present challenges not only in representation but also in orientation. The presence of contradictory positions is an underemphasized feature of organizational systems at all scales. Realist philosophies seek to expose the seemingly endless contradictions that present themselves, as numerous instances abound to suggest that the true nature of interdependence and causality is much more fantastic, nuanced and messy than any simple representation will allow. In his book *Realist Magic*, Timothy Morton lays out a very compelling argument for how causality is, in fact, aesthetics. He explains “that causality is the way objects talk to one another, apprehend one another, comprehend one another: causality is the aesthetic dimension.” [15] This view holds that aesthetics are implicated in everything we see, feel and influence at all scales. Such an incredible specificity is contradictory and hard to pin down. It does not follow one set of rules, orders or derive from a set meaning. Morton further argues that, “large complex systems require causality theories that are non-deterministic just like very small quantum scale ones.” [16] These non-deterministic realities make it all the more challenging to reconcile our static and limited representational approaches with the messy, probabilistic realities of causality at all scales. These contradictory conceptual realities preclude a singular approach. Therefore an aesthetic approach which is interested in the nuanced ways of affecting and being affected by these organizations is one of many possible ways forward. The aesthetic tradition of architecture and its intersection with the phenomenological realm suggests that some potential may lie in examining and amplifying affective capacities in local, smaller scale interactions.

Aesthetic stances have an equally valid claim to approaching the problem of Very Large Organizations. Through its subtle and complex focus on a variety of subjects, amplified through light, color and sound, film remains an intensely evocative medium, able to affect in a nuanced yet open way. In the 2013 film *Upstream Color*, Director Shane Carruth depicts a beautifully entwined narrative

that has moments of coherence while also dissolving into ambiguity. It becomes hard to pinpoint or locate one clear narrative, or a fixed subjective position. A review by Richard Brody teases out the philosophical slant of the movie and notes, "Carruth is perhaps the first filmmaker whose drama is based in the first-hand experience of relativity." [17] The film has a fantastical narrative in which human and animal share an entwined consciousness, and experiences in one realm have subtle implications for the other. The point of view, soundtrack and overall structure of the film are both aesthetically stunning and conceptually enigmatic. The film portrays a shifting terrain, with multiple realities slipping into one another and displacing notions of causality and connectivity between sequences. The allusion to relativity is apt, as the film's narrative and temporal consistency is continually upended, revealing a contradictory and illusory aura. Carruth chooses to depict realities in the film at multiple scales. A parasite is filmed at a very small scale, where we witness its beginning cell division. Later we see it in multiple forms, both exterior and interior to the human body, at several points squirming sub-dermally through a character's skin. Eventually the viewer begins to intuit an outward effect of this initial relationship, when multiple

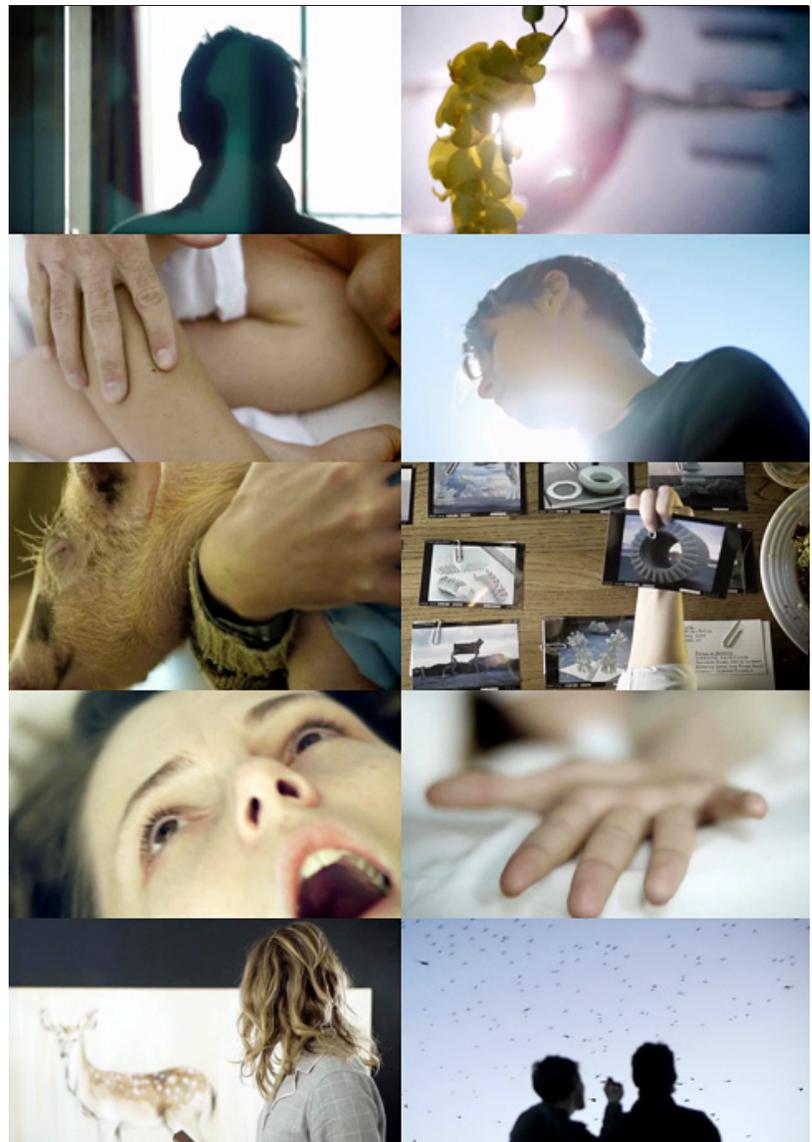


Figure 3: Stills from Shane Carruth's Film, Upstream Color

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subjects and systems overlap and blend into one another. Color, light and sound are instrumental in the conveyance of these impressions, and the portrayal is unsettling, confusing, perplexing and incredibly beautiful. When our depictions fail to cleanly resolve the narrative, we are left to piece things together or speculate on the gaps. In this way, the film provides a useful alternative model for approaching complex organizations. Once we remove our default structures and conventions, we are left to engage with a reality that is messy, tangled and unresolved. A central challenge in contending with VLOs is the problem of relating to these realities in more expansive ways, apart from the constrained narratives of efficiency, order and legitimacy that they have established by virtue of their very largeness.

Objects and organizations at all scales possess an infinite multitude of potential aesthetic encounters, and speculation is but one means by which we might engage with such confounding entities. Aesthetics should not be judged solely on criteria that privilege reason over all other conditions. Shaviro, in expanding on his reading of Whitehead, states: “affect precedes cognition and has a much wider scope than cognition. Understanding and morality alike must therefore be subordinated to aesthetics. It is only after the subject has constructed or synthesized itself out of its feelings, out of its encounters with the world, that it can then go on to understand that world – or to change it.” [18] This stance places feelings, and by association the aesthetic, as fundamental to contemplating any sort of action. The aesthetic, in its particular alignment with the evocation of *affect*, can be understood as a powerful tool in engaging with local realities. These constituent local interactions could have far reaching radiating effects, which could in fact be more expansive and impactful than a solution derived by hierarchical analysis at the large scale.

By looking closely, without prejudice at the numerous realities in their local specific expressions we can generate more speculative assemblies. This implies a novel intervention and approach into these organizations. It is the illusion of flatness and the seemingly incontrovertible legibility of the very large and small scale that presents the greatest fallacy. In fact, the affective sincerity that arises from disorientation may be closer to reality in its contradictory, illusory essence. Instead of demanding clarity, we should contend with these scales from a position of *awe*. [19] This paper has argued for the need to reexamine our views of objects and their relations to one another within networks. Aesthetic practice, if it is to usefully operate within, on and around the Very Large Organization, should embrace the weird, uncanny reality all around us. Indeterminacy, inter-objectivity, entanglements and their innumerable specificities matter. A sense of unease, the feeling that we do not quite understand how it all comes together, is a necessary launching point if we are to intervene in a compelling sensorial or aesthetic way. There remains something incredibly valuable about the contradictory aesthetic response.

ENDNOTES

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FIGURES

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