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Trevor Paglen's The Other Night Sky (2007-) comprises a series of photographs, which at first glance depict geographical landscapes. As if taken from an astronomy publication, the images illustrate astonishing night skies full of stars, comets and probably even galaxies. But the eye could not be more wrong; the images document the trace left by one of nearly two hundred top-secret U.S. satellites currently orbiting the earth. There is no official US acknowledgement of their existence, yet these objects behave as any other satellite orbiting the earth. In order to predict where the objects will appear in the night sky, Paglen undertakes exhaustive research aided by Keplerian laws of planetary motion, informal networks of satellite spotter systems that inform where these satellites will appear, and hours of calculations to decide the best way to capture the motion of the objects. The photographs are taken by guided-exposure cameras and telescopes allowing Paglen to document this "unexplored" region. Paglen states that he was primarily inspired by 17th-century astronomers, such as Johannes Kepler or Galileo Galilei who, through astronomical observation, documented then unseen galaxies. What Paglen wants to see now are the secrets of the contemporary night sky.

Satellites are things placed into orbit through human endeavor. They are essential to our everyday life in the form of communication, TV or weather reports. These objects moreover are primarily used by the military for navigation and surveillance. Getting a satellite into orbit requires sophisticated technological and human capacity: rocket, space shuttles, scientists, factories, laboratories, human labor, computers, etc... These things need to be designed, developed, built, launched, and maintained. In other words: they participate in a huge network of human and non-human collective force. Earth observation, near-space studies and planetary science are powerful tools that shape the way in which we distribute both the space and power around us. Seen in this larger network, satellites also produce natural and social consequences. Such intervention of non-human things is usually side-stepped by the belief that only human power can create consequences and that things-in-themselves merely sit in the world, as if waiting to be accessed by humans.



NEMESIS ROCKET BODY IN ORION... (2009), TREVOR PAGLEN.

What might an object be in our contemporary moment, when the authority of the human subject is put into question not only by ecological consciousness and virtual developments, but also by a theoretical shift to speculating the post-human condition? This group of recent thinkers—some of whom came together under the umbrella term “Speculative Realism” while others stay closer to Bruno Latour’s approach—primarily rethinks the nature/culture divide, which had (and has) a direct effect on the ways in which we understand knowledge production and reality itself. The exploration of this uncertain territory is not only visible in philosophy, but also emerges in a variety of ways in the work of contemporary artists such as Trevor Paglen, Jorge Satorre and João Maria Gusmão & Pedro Paiva, Rubén Grilo, Cristóbal Lehyt, Mariana Castillo Deball or Guillermo Faivovich & Nicolás Goldberg.

For instance, Paglen’s perspective on the satellites and US military strategies that look like stars transcends a nature/culture (and hence, object/subject) split. The Other Night Sky is the outcome of years of investigation, and coincides with the representation of a contemporary sky, which is also a temporary network of human and non-human collective action. Undoubtedly, Paglen’s The Other Night Sky challenges the object/subject divide by unraveling the obscurity of the satellites as objects. He undertakes a compelling study of the unknown, of the mysteriousness or secrecy of non-human objects. This subject-matter, relating to the agency and affect of the non-human, also emerges in powerful ways in the work of Jorge Satorre and João Maria Gusmão & Pedro Paiva. In following empirical or sci-

entific methodology, these artists fully engage in interdisciplinary work in order to explore the human relation to the world and vice versa. In grouping these artistic practices together, this study hones in on questions of epistemology (how may we know the object?), intention or agency (how does the object make itself visible to us?), and interrelation (how do objects interact with humans, with art, etc.) as they emerge in specific works of art.



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Edmund Husserl founded phenomenology against the idea of explaining the world as independent from the human mind. Instead of relying on scientific theories, he introduced phenomenology as a method, which focuses on phenomena via the immediate experience of the knowing subject. Following Husserl, Heidegger sought to separate philosophy from scientific practice. Both philosophers were invested in the study of experience and of how things appear to us in the world. However, in 1927 with the publication of Being and Time, Heidegger radically distanced himself from his mentor Husserl. In this text, Heidegger examined the meaning of being and challenged the understanding of things as merely appearing in our consciousness. He argued that our being is nothing more than being-in-the-world, and as such, we do not analyze our experiences by bracketing the external world. Rather, we interpret our experience by looking at things in our specific context. Heidegger still follows Kantian tradition in the sense that he focuses on the experience of the world as limited to human beings--physical objects, hence, sit in the world without any access to the world.

The importance Heidegger gives to such first-person experience is manifested by the introduction of the term *Dasein*. In German *da sein* which translates as "being there" stands for any kind of existence in the world--be it of a flower, table, animals, etc. However, Heidegger confines this term to the existence of human beings. The Heideggerian version of *Dasein* defines the being of human beings, as distinct from other kinds of beings. Also, *Dasein* literally means "being-there", which allows Heidegger to introduce the notion of being as always being-in-the-world. As he states: "*Dasein*, this structure is something a *prior*; it is not pieced together, but is primordially and constantly a whole"<sup>1</sup>. He takes *Dasein* as the starting point since for him only humans express awareness of their own existence and of the world.

According to Heidegger, things in the world are independent from *Dasein* but are nevertheless ingrained in the visible world before we make an image of them in our mind. Heidegger disapproves of "knowing" as our primary way of interacting with things, favoring instead *doing* and *using* as ways in which we access the world. Subsequently, what things are in the world for human beings and what a thing is in its most basic state, are two of Heidegger's main concerns. In contrast to Husserl's world where the meaning of things is given by the subject, Heidegger believes that things reveal their meaning insofar as we give them meaning. Things are, he argues, more than what we see or experience; in order to access them we have to interpret them as tools. Hence, things exist in a constant drift of absence and presence where it is impossible to perceive things entirely, since the true reality of things hides from our conscious view. Hence, knowledge always oversimplifies things and "knowing" is for Heidegger a matter of human interpretation.

<sup>1</sup>Martin Heidegger, *Being and Time* (New York: Harper Collins Publisher, 2008), 41.

“Ready-to-hand” (*Zuhanden*) and “Present-at-hand” (*Vorhanden*) are two Heideggerian terms that explain the two-fold process when encountering a thing. “Ready-to-hand” refers to how things are given to us with a certain practical significance; the *thingness* withdraws in order to be useful. Explained by Heidegger’s famous hammer example, the hammer becomes transparent or invisible in the hammering. *Present-at-hand* refers to how things are merely perceived in our consciousness, without any reference to their usefulness. *Present-at-hand* is what allows the thing to be looked at as a discrete measurable object. The hammer is not fully a tool until it is *broken*, when we can fully visualize the tool-itself. Heidegger argues that *Dasein*, most of the time, encounters things first in their purposefulness (ready-to-hand), whilst ignoring their thing-being (present-at-hand). So, for instance, we don’t think of the hammer when we are hammering. We take things for granted and we “use” them before we “think” them. To encounter things as present-at-hand is to encounter them from the outside, preventing us to get into any depth of the thing unless the tool malfunctions.

For Heidegger, the world can be understood as a network of relations bound in a certain way. A hammer as a tool works with nails to function as a system of functional meanings.

Undoubtedly, Heidegger gives significant relevance to the being of things shifting attention to their interactions. Unfortunately, for Heidegger the “outside world” (and, by default, all things) is only explained by the human access to it. Hence, the world is subordinated to the human being, and reality only exists in relation to the human mind.

The philosopher Graham Harman is invested in re-thinking the autonomy of objects and is part of a movement called Object-Oriented-Philosophy (OOP). Harman wants to question the authority of the human being at the center of philosophy to allow the insertion of the inanimate into the equation. With the aim of proposing a philosophy of objects themselves, Harman puts the philosophies of Bruno Latour and Martin Heidegger in dialogue. Along these lines, Harman proposes an unconventional reading of the tool-being analysis made by Heidegger. For Harman, the term *tool* does not refer only to human-invented tools such as hammers or screwdrivers, but to any kind of being or thing such as a stone, dog or even a human. Further, he uses the terms objects, beings, tools and things, interchangeably, placing all on the same ontological footing. In short, there is no “outside world.”

Harman distinguishes two characteristics of the tool-being: invisibility and totality. *Invisibility* means that an object is not simply *used* but *is*: “[an object] form(s) a cosmic infrastructure of artificial and natural and perhaps supernatural forces, power by which our last action is besieged.”<sup>2</sup> For instance, nails, wooden boards and plumbing tubes do their work to keep a house “running” silently (invisibly) without being viewed or noticed. *Totality* means that objects do not operate alone but always in relation to other objects--the

smallest nail can, for example, not be disconnected from wooden boards, the plumbing tubes or from the cement. Depending on the point of view of each entity (nail, tube, etc.) a different reality will emerge within the house. For Harman, “to refer to an object as a *tool-being* is not to say that it is brutally exploited as a means to an end, but only that it is torn apart by the universal duel between the silent execution of an object’s reality and the glistening aura of its tangible surface.”<sup>3</sup>

That is, for Harman, the relational *tool-being* is not about the use of tools by human beings or other beings, it is rather about tools themselves and their incapability to be completely present. Therefore, all the things in the world live in constant oscillation between the two modes of being (*Zuhanden* and *Vorhanden*). And “all objects are encountered more often as tacit components of our world than as blatant objects of awareness.”<sup>4</sup> Moreover, Heidegger’s reading of the tool is explained as being of use and its visibility comes from a certain type of praxis by human beings. Harman rejects this standpoint because awareness and theory grant no equity to the reality of the thing-in-itself. Things do not manifest themselves necessarily in a total system of human meanings; rather, things encounter, are aware of, or affect each other regardless of whether there is human interaction or a physical contact among objects.

Further, an object can be perceived and experienced by a variety of perspectives, yet it is always more than the sum of all the perspectives. Therefore, not only theory but also awareness objectifies things, and any relation to other entities can ever exhaust an object’s reality. Instead of assuming that objects are a consequence of knowledge, objects cannot be reduced to what we know of them because knowledge is a consequence of objects. Hence, for Harman, “an object is a box of surprises, never catalogued by the other objects of the world.”<sup>5</sup> That is, an object is simultaneously an isolated vacuum entities and its relation with other entities. Every relation forms a new autonomous object and thus exists in different levels of reality. Objects withdraw from human conscience just as any two objects that interact with each other withdraw from each other. Harman’s definition of withdrawal can be understood in the same Heideggerian manner: that is, we will never see the whole of a being because it hides in an obscure background. Even by exhausting every quality of a thing, for instance, even if we test thoroughly every aspect of a cup of coffee, there are still some aspects that irreducibly withdraw from us. An object, therefore, has an “obscure” quality since it will never be fully present as it is.

Harman’s unconventional reading of Heidegger’s tool-beings pushes things towards a theory of objects themselves, where things are actors within a system rather than only bystanders. Harman goes further and proposes a world of objects, through Object-Oriented-Philosophy, the implications of which are still developing.

<sup>3</sup>Harman, Towards Speculative Realism, 97-98. \ <sup>4</sup>Harman, Towards Speculative Realism, 109. \ <sup>5</sup>Graham Harman, Guerrilla Metaphysics: Phenomenology and the Carpentry of things (Illiinois: Open Court Publishers, 2005), 78.

Bruno Latour proposes a provocative alternative to this tool-problem wherein he calls for a non-modern constitution and a re-establishing of an agency of things. The modern constitution is a mode of categorization that separates science--used to represent things--and political/social sciences--used to represent subjects (Latour, 1992). In his book, We Have Never Been Modern, Latour situates the origin of the modern constitution in the mid-17th century. He locates the beginning in a discussion between Robert Boyle and Thomas Hobbes about experiments and scientific research. Boyle endorsed the experiment through science and facts, whereas Hobbes's endorsement used political sciences to do the same thing. According to Latour, this debate inaugurated the division between the domain of culture and the domain of nature. It is only later, Latour argues, that the modern constitution receives its canonical formulation with Kant's Copernican revolution that places humans at the center of the world, and posits our knowledge of it as restricted. Kant observed the separation between a transcendental subject and objects, of which he wrote: "things-in-themselves become inaccessible while, symmetrically, the transcendental subject becomes infinitely remote from the world"<sup>6</sup>. Since then, according to Latour, the Western world has kept a clear ontological distinction between nature (mononaturalism) and culture (multiculturalism) through the separation of the two following processes: *purification* and *translation*. The work of *purification* refers to the attempt to separate "two entirely distinct ontological zones: that of humans on the one hand, that of nonhumans on the other." Thus, a contradiction takes place: the world has always existed and humans are only there to discover it (scientific sciences, i.e. facts), but at the same time the world is constructed and produced by society (social science, i.e. politics). In order to undo this seeming incommensurability, Latour argues that the world is a common production of societies and nature.<sup>7</sup> He furthermore proposes that there is a fourfold paradox in the modern constitution: "They have not made Nature, they make Society; They make Nature, they have not made Society; They have not made God; God has made everything; God has made nothing, they have made everything."<sup>8</sup> *Purification* prevents natural forces from contamination by human forces and vice-versa when, in fact, it is nothing more than a work of *translation*.

Thus, *translation* is defined as the creation of new types of hybrid entities, or quasi-objects, none of them essentially natural or cultural. For instance, the hole in the ozone layer, particle, global warming, drugs, satellites, or Facebook are all hybrids performing. Latour demands that we consider these hybrid-entities as conceived of networks and translations, since the modern constitution denies any existence of them and obfuscates the work of mediation. Latour calls for a non-modern world where things and humans are a system built simultaneously by a network of politics, science, technology, and nature. He proposes an active collective of society and nature, where objective facts and human perspectives are interlinked through what he calls *stabilization of alliances*<sup>9</sup>. *Stabilization*

<sup>6</sup>Bruno Latour, *We have never been modern* (Cambridge: Harvard University Press, 1993), 56. <sup>7</sup>Latour, *We have never been modern*, 34. <sup>8</sup>Latour, *We have never been modern*, 85-88.

assures the convergence of interests in a given moment, or, in Latour's words, is "a gradient that registers variations in the stability of entities from event to essence."<sup>10</sup> That is, he re-establishes symmetry between humans and things, and maintains a "separability of nature that no one has constructed – transcendence – and the freedom to manoeuvre a society that is of our own making."

Latour's world is constituted by a collective of human and non-human, which come into being through a network of relations called the Actor-Network-Theory (Callon 1991, Latour, 1992). That is, the human and non-human are joined together temporally to carry out collective actions, where both are modified to become hybrids: sometimes objects, sometimes subjects, and sometimes both at the same time. These quasi-object assemblies, which Latour defines as actants, operate at the level of function and not of content. A microbe is an actant, but also a school, woman, phone, cob of corn, stone, fish, doctor, museum, data bank and so on. All actants have the same ontological footing with the same importance, regardless of their temporal life. actants are linked to each other to create other actants by processes of translation, and their strength or weakness is defined by their alliances.

Furthermore, all actants are also what Latour denominates as *black boxes*: entities that succeed in establishing long-lasting assemblies with other entities in which the associations remain invisible (Latour, 1999). A *black box* is a single case where the "process that makes the joint production of actors and artifacts entirely opaque."<sup>11</sup> For instance, to make a phone call with a cell phone, you need the artifact, the software, the satellites, etc. To proceed with the "action of calling" a series of associations are needed. During "the action of calling," there is an integration of a number of parts, individually with their own goals. When the action is finished all the parts disintegrate. Some of those parts are visible (i.e., the phone SIM card,) others are invisible (i.e., the software developers). In this case the cell phone is the *black box* and the constituent of its parts is what allows us to make the action of calling. It is not until it malfunctions that the possibility of opening the *black box* becomes concrete. Literally a *black box's* goal is not to become visible as a *black boxes*, although every stage of a *black box* is reversible, enabling one to trace the successions of all the parts. Like this, we could navigate a *black boxes* in both directions. The opposite direction, that is, the action of *black boxing* is explicit, for instance when applying a scientific method to obtain knowledge of the world. The technique is based on gathering systematically observable data, measurement, experimentation, proposition of a hypothesis, and its later modification to achieve a result. The object of study is examined and translated into a language of words, images or data-like form to describe it. All the information stages and the materials of the research have a traceable representation in order to be accessible. The production of knowledge does not reflect the object of study as it is, but is the creation of a system of reference via mimesis.<sup>12</sup> Yet, this activity of knowledge is eventually erased in all knowledge products and, as such, facts are "closed"

<sup>10</sup>Latour, We have never been modern, 87. <sup>11</sup>Bruno Latour, Pandora's Hope (Cambridge: Harvard University Press, 1999), 183. <sup>12</sup>Latour, Pandora's Hope.

into *black boxes*.

Following this understanding, an *actant* can be a gun, a citizen, a microbe or a factory that only come to be effective by benefit of their interactions with other things. Interconnected by the work of translation, they build networks toward the goal of what Latour defines as *programs of action*. A *program of action* is what inscribes the meaning of the action. *actants* do not connect by inertia, but are linked together through the work of mediation. Latour argues that *mediation* should first be interpreted as an adjective that can be used in different situations: to designate *programs of action*; to designate properties that circulate between humans and non-humans that allow them to act; a malfunctioning mediation; or an obligatory point of contact between entities. Secondly, it should be interpreted as a noun that designates a *modus operandi*. That is, a specific type of movement that traverses over entities that share a destiny to create an actant. This mode of translation creates new kinds of human and non-human entities, new *actants* as well as *black boxes*.

For Latour, the collective of humans and non-humans is what comprises society. In Latour's world there is not such a thing as "outside world" and "the mind". It is rather a *cosmopolitic* world (Isabelle Stengers, 1996) made up of a collective of objects, things, nature, technology, events and people that nourish and make politics. Latour and Stengers, albeit from different approaches, emphasize that the world is neither "out there" nor is it in "the mind." Instead, the world is produced through different practices and associations between *actants* and through the work of translation. They turn down the idea of a universal truth as either objective (rational, true) or subjective (irrational belief), and propose the construction of the world by means of translation. To do so, it is important to re-consider things (non-human) and their relevance to humans. Or, as Janet Bennet proposes in her book *Vibrant Matter*, to consider an active participation of non-human forces in events, where agency emerges as the effect of assemblies of human and non-human forces<sup>13</sup>.

In the text *RealPolitik to Dingpolitik* written for the exhibition *How to Make Things Public* (2005, ZKM, Germany) Latour addresses the modern constitution's avoidance of the agency of things. He points out that, in order to have a real democracy, we have to turn to things as part of the assembly of the world. In other words: "It is clear that each object – each issue – generates a different pattern of emotion and disturbances, of disagreements or agreements. In other words, objects - taken as so many issues – bind all of us in ways that map out a public space profoundly different from what is usually recognized under the label of political."<sup>14</sup> According to Latour, things as well as humans influence how assemblies are made, and within any kind of assembly politics happen. In Latour's own words, "to assemble is one thing; to represent to the eyes and ears of those assembled what is at stake is another. An object-oriented democracy should be concerned as much with the procedure to detect the relevant parties as with the methods to bring into the center of the debate the proof of what it is to be debated."<sup>15</sup> Therefore we should bring

<sup>13</sup>Bennett Jane, *Vibrant Matter: A Political Ecology of Things* (Durham: Duke University Press Books, 2009). <sup>14</sup>Bruno Latour, "RealPolitik to Dingpolitik," in *Making things public: atmosphere*, edited by Bruno Latour and Peter Weibel, ZKM, March 2005 (Cambridge: MIT Press, 2005), page 5.

back the agency of things in the assembly of the world, without speaking of an essence or necessity of things. Latour wants us to think in terms of a political reality made by a complex association of actants.

Latour does not propose bridges between the *Dasein* and the world, since, for him, there is no distinction. He takes unity as a starting point, not in a holistic manner, but as a network of translations and actions as the constituent of the human/non-human world. Moreover, Latour doesn't reduce things to productions or constructions controlled by humans. Through the redistribution of action, things mediate or sustain assemblies and as a result produce consequences in the same way that humans do.

## THINGS AND OBJECTS

From a Harmanian-Latourian perspective, a *thing* (human and non-human) constitutes both a-thing-in-itself and its relations, which allows the act of mediation to be visible in its being. The fundamental distinction between these two philosophers is that for Harman things are not endless relations between human and non-human, as proposed by Latour. For Harman, they are both independent unities as well as its relation. Both philosophers do, however, present the question of a reality existing independent from the human mind. Reality manifests itself either through the work of mediation or by the way in which things interact with each other. These concerns are visible and problematized by different aspects of the work of Trevor Paglen, Jorge Satorre and João Maria Gusmão & Pedro Paiva. Rather than proposing their artistic practices as literal examples of the conceptual framework presented above, I suggest we reflect on how these artists look at the inanimate or non-human as obscure objects of investigation. In doing so, I want to provoke an insightful dialogue with Harmanian or Latourian perspectives and so ponder, through artistic practice, the possible implications of human and non-human interaction in the assembly of the world.