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Powers of Ten

Powers of Ten is a nine-minute documentary that addresses the concept of scale during the observer's journey on the size of things in the universe. In the film, commissioned from the couple Charles and Ray Eames by IBM in 1977, the camera, which captures the images, is the mechanism that sets a dizzying view of the scenes into motion and shows the relative size of things, always shifting the vertical distances that change due to the effect of adding another zero to the initial altitude of 1 meter: 10 meters, 100 meters, 1000 meters, 10,000 meters... At each zero added, the camera moves away at intervals of ten seconds, always on a vertical axis related to the surface of the Earth, taking us exponentially away from the human scale presented in the first frame of the movie.

In offering the fantastic adventure of a radically accelerated flight out of the Milky Way and afterwards in the opposite direction towards the interior of the microscopy of the body, *Powers of Ten* has its beginning in the context of a daily activity, in late October, in a park in Chicago, USA. Colorful and musical, with the pictorial qualities of still lives and landscapes, the image of a lively picnic of an anonymous couple is the reference point of the journey. It is the apparently stable time from which the perspective is mobilized and to which the observer finally returns.

The Eames made a series of films in which they investigated the discursive languages of visual arts applied to science, articulating design tools and techno-scientific information. The accessibility of information, its translation into an artistic and intelligent visuality, of trivial coincidence and practical optimism is present in *Powers of Ten*, as well as in dozens other films on scientific concepts, among them *Atlas* (1976), *Copernicus* (1973), *The House of Science* (1964) and *Do-nothing Machine* (1957).

Powers of Ten is an adaptation of the book *Cosmic View: The Universe in 40 Jumps*, published in 1957 by the Dutch educator Kees Boek. In the book addressing children, the author proposes a study on the perception of scale, a "graphic journey through the universe" composed out of 40 images that show both the infinity of galaxies and the nuclei of atoms in a double movement: first the escape from the Earth and then the invasion of the body. In "Cosmic View," there is also an initial reference point that seems familiar. The photography of a girl, viewed from above, leaning back in a chair is the image that starts the journey. With the scientific advice of Philip and Phylis Morrison, *Cosmic View* was adapted and animated by the Eames, turning into *Powers of Ten*, twenty years later.

* This essay is accompanied by the film, *Global Safari* – see the Abstract or go direct to: <http://blip.tv/file/3698794/>
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Figure 1: *Cosmic View*
(Source: Boeke, 1957).

As in a homemade video, this intimate and prosaic moment in the life of a couple in a public park is captured by the camera observing the protagonists: a hand that grasps a small red fruit, the man who opens a pot, the woman who unwraps a sandwich. However, someone participating in the picnic, a relative, a guest or a friend is not operating the camera. And this becomes clear from the beginning on, since the movements of the camera suggest a significant distance between who is filmed (observed) and who films (observer). But this distance is not revealed through a rigid framing or a rigorously objectivity of a scientific view that investigates every gesture of an organism in its habitat. The distance between the participants of that fleeting moment of happiness and the external observer that records the event mechanically is a distance created by someone who does not participate, but who shares the importance and triviality of that moment.

Figure 2: *Making of Powers of Ten*
(Source: www.powersof10.com)

Nevertheless, *Powers of Ten* is not a film about the possibilities of monitoring the universe through a panoptic gaze. It is not a film about the captured images by this ubiquitous mechanism, but a statement about our capacity to imagine the unknown, to represent it with available tools, and about the desire to see the imaginary of lives (a picnic in the park) that explains the reason for the enigmatic things we create and our relationship to them in the world.

The choice of the picnic, besides functioning as reference point of the vertical journey, represents the possibility of an ephemeral production of an intimate space in a public site. A fugitive domesticity that establishes a territory on a rug in the grass, a place of pleasure, reading, thinking and living, exposed to the collective view: a place of sharing and interaction, not of restriction or control. This is the scenario designed by Charles and Ray Eames to stage a scientific reflection on space and time, on the measurable and immeasurable, on human relativity, on observation and perception. Science permeates everyday life and expands the picnic.

Figure 3: *Powers of Ten*
(Source: www.powersof10.com)

Google Earth

In a kind of ‘powers of twenty’, in twenty-year intervals – Boek’s book is published in 1957; the Eames and the Morrisons’ film is released in 1977; and 1997 is the time of Google Earth. Mark Aubin, a software engineer for Google¹, said that Google Earth was inspired by the Eames’ film, after he had seen it in a company meeting. In fact, Google Earth recreates and increases the opportunity of the Earth’s exploratory journey, focusing on recorded information of worldly geography. The program makes the velocity of scale displacement radically manipulable, as it was performed in the Eames’ film in jumps of 10 meters multiplied successively by 10. In addition to the vertical axis of Boek’s book and the Eames’ film, the possibility of displacement in Google Earth permits other angles, enabling flights over the surface of the available images. The personal navigation, manipulation of speed and visualization of information one is able to perform when entering the world of Google Earth is always an impressive adventure.

In addition, Google Earth offers itself as a studying tool and disseminator of geographic knowledge. Its possibilities and applications are open for education and research, as well as for business and communitarian usage. As it is a free software available on the Internet², it is capable of operating as a device for studying and production of information not only in the academic fields but also infiltrated in domestic environments, offices, small businesses and especially in everyday urban life through portable

¹ Google is a derivative of the word googol, created in 1938 to designate 10^{100} .

² <http://earth.google.com>

media such as laptops, GPS and cell phones. In fact, we can see that visual aids – tools that expand our capacity of vision – such as Google Maps enable new forms of cartographic use and cause the development of locative media appropriate for occasional practices and amateur geographers: 6 billion cartographers!

Even after the advent of commercial satellite and aerial photography, the ability to make maps remained largely in the hands of specialists. Now, suddenly, the power of mapmaking is within the grasp of a 12-year-old. Over the past two years, map providers like Google, Microsoft and Yahoo have created tools that let anyone with an Internet connection express his or her own geographic obsessions in a layer on top of ever-more-detailed road maps and satellite images. A host of collaborative and informative projects have appeared—not to mention tens of thousands of personal maps – that organize texts, links, data, and even sounds onto every available blank space of the digital globe. It has become a sprawling, networked atlas – a “geoweb”, which is expanding so quickly that it is impossible to pin down its outer edges.³

However, parallel to the creative potential of data manipulation and the participatory potential of new information and new spatiality, Google Earth works within the tenuous limits of globalized space, technological, commercial or corporate development and military strategies. This is because the military demands, with interests in protecting and scanning the territory, stimulate the techno-scientific development through massive investment in “systems of surveillance”. The resulting devices, when available for civil commercial use, suffer major restrictions regarding their “ability to see.” The political implications of technological concentration and restriction of information which exist are therefore quite obvious but are not publicly released.

The Google Earth world, instead of being an uniform and non-hierarchical set of images of the Earth, is presented as a collection of different images not through what they present, but through the reasons and interests represented by each small plot of land that is scanned. In that sense, Google Earth forms, centuries after encyclopedist and naturalist obsession, a powerful atlas of political, economic and technological dynamics in today’s world. Its accuracy resides in the range or in the lack of definition of the available images. The vertical eye of planes and satellites that make up the Google Earth platform produces an irregular mosaic of the world. Not because the world is naturally different, but exactly because it is unequal in opportunities and divergent in interests.

Therefore, there are places presented by a more limited view than others and there are images with lower definition. Or without any definition. Inaccurate spots and colored splodges in some places contrast with sharp images of frozen everyday situations in others. This mosaic of photographic fragments is formed by connected images produced by many different sources and companies worldwide, on many different dates and through more or less obsolete mechanisms. The cartographic result doesn’t only show but also reinforces the growing gap between the world’s center and periphery. Or rather, between the centers and peripheries, since even the most remote suburbs, forgotten and without any global political-economic interest, have their own periphery, their pixelated splodges that orbit diffusely around them. This apparent contradiction between the vertical eye lens – that shows us a bright blue Earth in the opening of the program – and the loss of transparency as we gradually move down and away from the centers of power, reveals the epistemological conditions or the cultural ecosystem that are managed by today’s technologies. The scientific challenge and the corporate interests, historically aligned their methods and goals to a highly localized concentration of information and knowledge at a few geographic coordinates. Those are strategic places in which the vertical gaze gently flows from abstract immensity to the micro-intimacy, observing every detail, monitoring every act, recording each moving pixel.

³ Ratliff, 2007, p. 156

Shall we get into Google Earth to get a stationary journey? If we look at the city of Lagos (6 26'27N / 3 29'12E) from a height of 9 km, we notice that we are not able to see it through the borrowed lenses of satellites with the same sharpness of New York (40 ° 42'52N / 74 00'25W) from the same height. Or, if Tel Aviv is observed (32 ° 01'20N / 34 47'07E), spacially at these coordinates, we can clearly see the border between two additional images that bisects the city into unequal territories.

The ascending and descending speed of journeys undertaken in Google Earth, as well as the locations to stop, depend on the training we have in this territory and also on the projection of power in each piece of land, reflected in the resolution of the image: this last feature alone is able to prove a statement about the capacity and the interest of observation of the world through satellites. This critical analysis brings us to the territories of myopic clouds found in the Google Earth journeys. Google Earth turns into a map of power and visible interest; it works not only as a teaching tool but also as a reflection on a dark vehicle of surveillance, renewing the hope of a panoptic, monitoring, absolute eye.

Myopia Space

Google Earth starts with the presentation of the globe, in a radical distance, typical of the cartographic eye, suggesting the manipulation of the object-world by the subject-observer. We are outside the Earth and, privileged through exclusion, we are able to touch the totality with our eyes. The nearer we approach the Earth's surface in an accelerated downward flight, the more geographical particularities and architectural identities are revealed and – unexpectedly – areas where one does not have a minimum visibility to recognize the land morphology are also revealed. Through the route of different places, we can notice that the myopia of the satellites is presented, little by little. Such flying cloudiness, or such impositions of proximity to the territory, bring us to reflections on the implications of Google Earth as a device of vision. In Google Earth, we perceive that there are natural clouds, which prevent the vision while crossing territories and there are artificial clouds, which freeze the landscape like compulsory glasses.

Figure 4: Artificial cloud, natural cloud (Mato Grosso, Brazil)
10°00'41.64"S / 55°00'05.86"W Eye alt 2.99 km
(Source: Google Earth)

Google Earth is a viewing device that operates in the strata of the tension between two sets of eyes: the vertical and horizontal view. The vertical vision locates the observer outside the subject in question, at a privileged point of view, very far from the objects that determine the human scale of the landscape, in the place orbited by satellites. For the satellite, the challenge is to see more and better from a major distance. It is a battle against myopia, investigating engineering lenses that can correct this lack of natural accuracy. But we inhabit the extreme opposite position of the orbit of satellites, and the distance of the satellite coincides with our approach to land. The remoteness for the satellite is our everyday proximity.

With GPS and the accessibility of vision of commercial satellites in the Internet, the public territory gets a complementary dimension to the ground vision that is not an exclusivity of military strategies. However, the virtual territory is only relatively public, since it is always accessible and modifiable according to a source-control. The eyes of the satellites are commanded by the economic and political points of view. We should be careful to not be deceived by what Giselle Beiguelman called “some aesthetic redundancy”⁴ – the literary utopia of a map in a 1:1 scale, in reference to the story “The rigor of science” by Jorge Luis Borges – but now with a GPS in the pocket.

The territory of Google Earth can be understood as a redundant public space, showing areas of collaboration based on the substrate of the software, which provides images of the Earth, as well as emerging flows of power and control. The charming illusion of transparency and ubiquity of this new public space provides a virtual field of maneuver for the critical viewing of vigilant political practice. Where does the view of the satellite fail and why does it fail?

No eye is neutral, much less the watchful eye of the satellites with its politically adjustable myopias. We call *Myopia Space* the geometric range between the height limit of the reach of a satellite in the exact point where the image is presented with resolution and our own vision. The *Myopia Space* is variable for each place. As corollary, the *Myopia Index* measures the cloudiness of the public character of the territory in Google Earth. The world is accessible but filtered by specific places.

With a GPS and a computer, you can generate an instant map of any route instantly. The successive positions of the body, responsible for tracing the route, link the mapped area to the eye of the GPS. A connection between the body and the global space, mediated by an apparatus of communication. The virtual place is, in the “paradoxical era” – term proposed by Paul Virilio⁵ to describe the relational experience of the physical and the virtual world – controlled by brain machines that organize, process, provide and disable information.

There are many procedures for disabling information. The GeoEye is currently the commercial satellite capable of generating images with the highest spatial resolution, of 41 cm. It is supported, firstly, by the National Geospatial Intelligence of the United States and, secondly, by Google. But Google, due to a restriction imposed by the government, will only receive images up to 50 cm of spatial resolution.

Witness to the indisposition of information, Antoni Muntadas⁶ presented in 2008 the project “Aqua Quo Vadis?” conceived to be discovered through the vertical eye of Google Earth. Invisible from the horizontal view of the city, the project consisted in the painting of the Latin phrase *Aqua Quo Vadis?* (‘water, where are you going?’) on the roof of the Pavilion of ExpoZaragoza Siglo XXI, Spain. Muntadas’s work questions the public space beyond the physical territory of experience, giving new layers of activity to the emblem that accompanies all his work – “attention: perception requires involvement”. Public art and virtual art at the same time, Muntadas’s intervention acts at ambiguous possibility: it is invisible in the city, where it is located, to be presented in the virtual territory through a satellite. The “public” dimension, instead of being the space where the show takes place or a group of people who watch it, is an expanded category. Expanded because, traditionally, the notion of public space is strongly linked to presence and to a physical and concrete experience. *With Aqua Quo Vadis?* Muntadas interferes directly in the materiality of the architectural space of the show (reportedly of public interest), but also brings into action immaterial circuits and communication media that amplify its aesthetic and political effects in the diffuse public sphere of the Internet.

⁴ André Lemos interviewed by Gisele Beiguelmann to magazine *Trópico*. April, 19th, 2008.
<http://pphp.uol.com.br/tropico/html/textos/2970.1.shl>

⁵ Virilio, 2002.

⁶ Antoni Muntadas was born in Barcelona, Spain, in 1942.

Aqua Quo Vadis? offers an exercise of connection between the landscape, mapping and the current possibilities of “publicity”. A huge painting paradoxically invisible to human scale, a single sticker printed onto the global surface. However, in the end, the two territories – city and Google – are inverted: the work is invisible on Google Earth and is perceived only in the city, even though dependent on an aerial view.

Figure 5: *Aqua Quo Vadis?*, Antoni Muntadas, 2008
(Source: courtesy of the artist)

We can think that the updating of satellite images, as well as their resolution, is a political phenomenon rather than a technological or bureaucratic one. On these occasions, appear the attempts to block images that reveal unwanted landscapes. One of the few interventions conceived to be ephemeral, Muntadas' proposal was expected to remain a year in its physical location, with the possibility to be prolonged for two years. The Vice President of Google, Vinton Gray Cerf, visited the Expo2008 on May 30, 2008 and, as it was published, said that *Aqua Quo Vadis?* would be in Google Earth soon. Not yet.

Global Safari (Powered by Google)

According to Milton Santos⁷, there are three kinds of globalization, and not only one: globalization as a fable, globalization as perversity and another possible globalization. While the fable deals with the manufacturing of an imaginary for an extended economic exploration and deregulated activity, the perversity is exactly the set of consequences or localized sequels of those abstract and financial dynamics. The other possible globalization is the one that engenders silently spaces for emancipatory practices that use mass culture and available technology to link new areas of autonomy and coexistence. However, rather than separated historical processes, what characterizes the condition of the global, as we understand it today, is the spatial and temporal juxtaposition of these three forms of globalization. Which means that we can see fable, perversity and opportunities everywhere in the world, at the same time. In the northern hemisphere and southern hemisphere, in the rich cities and in the poor cities, in highly urbanized areas and in the remotest areas. And if the global has become an essential adjective today, finally replacing the notions of international and universal, which were previously used to denote a perspective of global progress, there are many informational tools, enhanced mainly by economic globalization, that can show many perspectives, many instantly viewable global narratives. The Internet, icon of the global fable and at the same time the engine of the production of hyper-local narratives, is perhaps the redundant global public space *par excellence*: place of trading, sharing, meetings, *dérives* and safaris.

The convergence between the global possibilities of the Internet and locally produced geographic information in a free platform like Google Earth, not only enables us to see fables, perversity and opportunities at each geographic coordinate but also invites us to visit and to explore distant and

⁷ Santos 2001.

unimaginable places. In that sense, Google Earth makes the navigation promised by mechanisms-metaphors – Internet Explorer and Safari⁸ – visible and “real”. It builds virtually the possibility of becoming global operators and participants of remote safaris. But not anymore explorers in search of attachable territories or exploitable natural resources, no more armed settlers in search of exotic species to be killed and collected.

If the promises of people’s mobility and of the suspension of the borders seem to reinforce the thesis of a perverse globalization through a growing territorial segregation, despite the gradual rise of the industry of tourism, it is possible to travel around the world without leaving home. It is possible to create a shareable world map, with places of personal interest, unforgettable destinations, unexpected discoveries, etc. Cartographers and explorers, tourists and guides are mixed up in Google Earth. After all, where does the mapping begin and where does the adventure end? Where does the safari end and when will we create the next route?

If *Powers of Ten* was a visual fable about scientific optimism and the consequences of changes in scale, Google Earth is an immersive demo on the spreading of technology and the exponential dismantling of the notion of scale in the era of googols. And if 10^{24} meters, equivalent to a million light-years, was enough, according to the Eames’ film, to move us vertically onto the limits of the galaxy into the unknown, what will be the possibilities of exploration of a world turbinized at 10^{100} ? What are the limits of a global safari powered by Google?

Testing these limits, we experienced Google Earth and drew a script for a cinema-safari made exclusively by the movement of our navigation. Rather than fixing coordinates and sites, we focused on the movement, on the dynamism of the device in order to create a narrative through the *Myopia Index* in several cities such as Chicago, Belo Horizonte, Dubai, Mexico City, Istanbul, Beijing, Paris, Moscow, London and Tokyo. Round the World in 12 minutes!

The route departs from the exact location of the Eames’ picnic in Chicago: a park on the banks of the lake that three decades ago was nothing more than grass and is now an accumulation of landscape design, infrastructure of all types and generic architectures. From there, we make an expedition moving horizontally, parallel to the surface of the globe, and through the dive of a hybrid vertical eye – our natural eye superimposed on the mechanic eye of the satellite – in a vertical distance of 10 to 10 meters. Powers of ten: powered by Google.

During the expedition, we noticed that Tokyo is one of the cities of a lower *Myopia Index*, where people can be perceived performing daily activities, and we were surprised at a perfect sunshine forming perfect shadows of those people. As during a walk, we are able to see the frozen records of the frailty of human acts in public spaces in Tokyo. We meet couples, parents and children, sportsmen, travelers, cyclists, solitary Japanese and a group having a picnic.

We can also understand the film *Global Safari (Powered by Google)* as a kinetic mapping that, like the pre-modern-maps, includes in its intertextuality obscure zones, unknown and ignored areas, transposed to the present myopic space of Google Earth. This kind of mapping refers to the notion of “performative mapping” proposed by Denis Cosgrove and Luciana Martins to designate and introduce the relational thinking in place of the stable or universal. “By this term, we refer to the ways in which *genius loci*, the capacity of particular places to communicate intense and unique meaning across space and time, is actively made and remade.”⁹ Amplifying the ability of communication of a specific place beyond the

⁸ Also known by the abbreviation IE, or MSIE WinIE, Internet Explorer is an Internet browser of license owner produced by Microsoft since 1995. It is the most used browser today. Safari Internet browser is a license owner produced by Apple Inc.

⁹ Cosgrove and Martins, 2001, p. 170.

conventional maps means adding present but invisible information to the territory. A nomadic narrative, which structures the notion of place not spacially but intertextuality through a route devoid of innocence but full of surprises.

Play Tour >

Chicago, 41°51'54.63"N 87°36'47.82"W

10 m

100 m

1.000 m

10.000 m

100.000 m

1.000.000 m

10.000.000 m

Belo Horizonte, 19°56'40.89"S 43°55'20.23"W

100.000 m

10.000 m

1.000 m

100 m

10 m

Dubai, 25°05'05.62"N 55°08'53.36"E

10 m

100 m

1.000 m

10.000 m

100.000 m

Mexico City, 19°25'11.63"N 99°05'16.95"E

10 m

100 m

1.000 m

10.000 m

100.000 m

Istanbul, 41°00'29.19"N 28°58'51.09"E

10 m

100 m

1.000 m

10.000 m

100.000 m

Beijing, 39°54'43.85"N 116°23'26.98"E

10 m

100 m

1.000 m

10.000 m

100.000 m

Paris, 48°52'25.38"N 2°17'42.82"E

10 m

100 m

1.000 m

10.000 m

100.000 m

Moscow, 55°44'49.71"N 37°37'21.97"E

100.000 m

10.000 m
 1.000 m
 100 m
 10 m
 London, 51°30'15.94"N 0°07'05.18"E
 10 m
 100 m
 1.000 m
 10.000 m
 100.000 m
 1.000.000 m
 10.000.000 m
 Tokyo, 35°41'27.65"N 139°41'34.93E
 1.000 m
 100 m
 10 m

Portraits (Eye alt = 10m)

The hunting model is perhaps the most common evidence of photographic safaris that substituted guns by cameras. But like canon-armed businessmen “shooting” elephants, photographers hunt, too. A paradigm of this way of working is Henri Cartier-Bresson, whose phrase “the decisive moment” has become the universal description for the split second when all the elements come together to make the great picture. Cartier-Bresson recalls his first Leica, “It became the extension of my eye, and I have never been separated from it since then. I prowl the streets every day, attentious and ready to attack, determined to ‘trap’ life—to preserve life in the act. Above all, I desire to seize the whole essence in the confines of one single photograph, of some situation that was in the process of unrolling itself before my eyes.”¹⁰

In the hunting model or photographic safari, through the camera, the eye freezes an event and captures it into the transportable immobility in form of the chemical record. An unrepeatable moment becomes multipliable by spreading the technical image. The daily situations that discretely flood the everyday life are concentrated in the photographs of Henri Cartier-Bresson. Magical and unique moments, which suggest the inspiring omnipresence of the photographer, adhere to the events. The images of Cartier-Bresson must hurry. They are as fleeting as our memory is. They are accelerated as the live prey in a hunt, which has to be accurately observed, with no margin for doubt. The exact distance, the area of the target, the aiming and the movements of the subtle attack. Constant vigil. The photographer is a vigilante of events, ghostly and with precision inhabiting the time and place where the gesture is born.

Everything that happens is subject to this voracious capture and to this freezing that fights for eternity. However, the freezing includes contradictions. Quoting Roland Barthes, the photography is ontologically nondescript: “Whatever we see in it and whatever way it is, a photograph is always invisible: it is not itself what we see.”¹¹ We see *through* the photograph, and in that imaginary space of the technical image lays its power of fable.

¹⁰ Garner, 1976. *The New Art Examiner*, October 1976. <http://www.gretchengarner.com>

¹¹ Barthes, 1989, p. 20.

Figure 6: 'Mexico'. Henri Cartier-Bresson, 1964
(Source: Cartier-Bresson and Clair, 1982).

In fact, photography and cinema, since their emergence in the nineteenth century, inaugurated what Virilio calls the “dialectical logic era”, in which we experience the existence of a temporality that separates the object and the sign; the technical image is the mechanism that unfolds the reality in another instance. Thus, the act of catching modifies what was caught. Lucia Santaella¹² classifies the photography as sensorial machine because it interacts with men in the context of feeling and sensitivity, revealing the invisible of the universe – as in the case of microscopes, telescopes and chronophotographies – and, finally, multiplying the landscape. As a sensorial machine, prosthesis to reveal new perceptions, photography expands the first solar scriptures of the nineteenth century towards the possibilities of fiction.

What is the meaning of making a photographic safari without a camera in the streets chasing the capture of the decisive moment? Without walking in the city and without the resources to manage the depth of field? Instead of depth of field, we choose to navigate on the surface of what Virilio calls the “depth of time”. Browsing the fable zone of the image. Shooting portraits in a safari through Google Earth, assuming the software as a photographic device and accepting the experience of static expedition – this could be understood in the context of the practices that Nicolas Bourriaud called post-production – the proposition of new protocols for use of things and systems.¹³

In Google Earth, the images are stationary and have suffered a prior procedure of capturing and freezing by the satellite. Meanwhile, in the middle of predictable geography of places, and recognizable architectural icons of postcards, we are surprised by ordinary life exactly at those coordinates where the *Myopia Index* is minimal. The satellites and aircrafts, with their notorious lenses, also capture ephemeral moments. People! Individuals performing trivial acts, solitary or in groups, transiting in the city, quietly interrupted by the theft of the image of their anonymous passage.

We have passed the horizontal and vertical space of Google Earth and have visited many cities in the world where, at an equivalent height, nothing is seen but blurred colored spots. We lingered longer in Tokyo, where the *Myopia Index* is one of the lowest; we rehearsed the role of hunter-photographers.

¹² Santaella, 1997.

¹³ Bourriaud, 2007.

Through the accessible lenses of satellites and aircrafts, we performed re-freezings – a freezing for the second time – of people who were already permanently stationed in their private moments on that sunny day. A second freezing, a second catch, an ownership – as it happens with any photograph – an ownership that implies knowledge and power, as Susan Sontag¹⁴ wrote. A dual catch of images of those people: first, by the distant photographic apparatus and, second, by our personal navigation choosing stories in their cognition of possibility.

In this process, we rescue the concept of geographical space as hybrid, as Milton Santos said: “[...] a result of the inseparability of systems of objects and systems of actions”¹⁵ and, in this hybrid conception, we focus on the systems of actions, delayed and obscured by the myopia of geographical impressions of Google Earth. The series of portraits reveal anonymous intimacies made public through the artificial device of vision, opening the technical aerial images, supposedly impartial and impersonal, to their contradictory, aesthetic and critical possibilities and recovering territories as places of subjective and peculiar practices.

Figure 7: Portrait #1 (Tokyo, Jan 2007)
35°41'27.65"N 139°41'34.93E
(Source: Google Earth)

Figure 8: Portrait #2 (Tokyo, Jan 2007)
35°55'24.41"N 139°38'29.40E
(Source: Google Earth)

¹⁴ Sontag, 1977.

¹⁵ Santos, 2002, p. 100.

Figure 9: Portrait #3 (Tokyo, Jan 2007)
35°55'15.37"N 139°38'28.14E
(Source: Google Earth)

Figure 10: Portrait #4 (Tokyo, Jan 2007)
35°55'14.80"N 139°38'25.49E
(Source: Google Earth)

Figure 11: Portrait #5 (Tokyo, Jan 2007)
35°55'14.58"N 139°38'26.25E
(Source: Google Earth)

Figure 12: Portrait #6 (Tokyo, Jan 2007)
35°55'14.89"N 139°38'26.57E
(Source: Google Earth)

Figure 13: Portrait #7 (Tokyo, Jan 2007)
35°55'06.23"N 139°38'22.69E
(Source: Google Earth)

Figure 14: Portrait #8 (Tokyo, Jan 2007)
35°55'03.98"N 139°38'20.21E
(Source: Google Earth)

Figure 15: Portrait #9 (Tokyo, Jan 2007)
35°55'05.40"N 139°38'25.36E
(Source: Google Earth)

Figure 16: Portrait #10 (Tokyo, Jan 2007)
35°55'08.77"N 139°38'32.79E
(Source: Google Earth)

Figure 17: Portrait #11 (Tokyo, Jan 2007)
35°55'08.29"N 139°38'34.47E
(Source: Google Earth)

Figure 18: Portrait #12 (Tokyo, Jan 2007)
35°54'56.24"N 139°38'30.34E
(Source: Google Earth)

Figure 19: Portrait #13 (Tokyo, Jan 2007)
35°54'55.50"N 139°38'30.59E
(Source: Google Earth)

Figure 20: Portrait #14 (Tokyo, Jan 2007)
35°54'29.31"N 139°38'32.53E
(Source: Google Earth)

Figure 21: Portrait #15 (Tokyo, Jan 2007)
35°51'32.36"N 139°36'58.54E
(Source: Google Earth)

Figure 22: Portrait #16 (Tokyo, Jan 2007)
35°40'27.06"N 139°41'58.72E
(Source: Google Earth)

Figure 23: Portrait #17 (Tokyo, Jan 2007)
35°39'47.78"N 139°41'53.26E
(Source: Google Earth)

Figure 24: Portrait #18 (Tokyo, Jan 2007)
35°39'47.99"N 139°41'57.00E
(Source: Google Earth)

Figure 25: Portrait #19 (Tokyo, Jan 2007)
35°41'14.48"N 139°45'19.80E
(Source: Google Earth)

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