The politics of public construction in a globalized world

*Imagining urban space in Ecuador*

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Chapter 2
The techno-fantastic transformation of space: Yachay, the first Ecuadorean city of knowledge

Introduction

Yachay is a word that in the Kichwa language means “knowledge”; it is also the name of the first city of knowledge in Ecuador, a monumental project conceived by the national government as the first technological hub of South America, a mega-center of research, innovation and technology. Located in the province of Imbabura, to the north of Quito, and promoted through a widespread governmental communicational campaign, the Yachay project raised great expectations among the Ecuadorean population, since the government listed the project as emblematic and as one of the main symbols of the citizen revolution. The fact that this project was designed and implemented by the authorities from scratch makes it a case worth studying. Understanding how Yachay came into being, as an idea and a material reality, helps to clarify the logic followed by the Ecuadorean authorities when planning cities and mega-structures. My analysis in this chapter is based on an examination of the visual materials used to promote the Yachay project, architectural proposals, political discourses, accounts of authorities and professionals (directors, urbanists, architects and academics) involved in the project, secondary sources and fieldwork materials.

The argument running through the chapter is that the “urban imagination” and “imagined worlds”, which in this case are partially fantastical (in the sense of illusionary), play a central, if not the most important role when planning mega-structures in Ecuador. I understand the urban imagination, following Edward Soja, as “the mental or cognitive mappings of urban reality and the interpretive grids through which we think about, experience, evaluate, and decide to act in the places, spaces, and communities in which we live” (2000, p. 324). Arjun Appadurai’s conceptualization of the imagination in his well-known article “Disjuncture and Difference in the Global Cultural Economy” (1990)

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is also helpful. He understands the imagination as a social practice, “a form of negotiation between sites of agency (individuals) and globally defined fields of possibility”, and argues that “the imagination is now central to all forms of agency, is itself a social fact, and is the key component of the new global order” (Appadurai, 1990, p. 31). Imagined worlds, from this perspective, are understood as “the multiple worlds which are constituted by the historically situated imaginations of persons and groups spread around the globe” and can be mobilized and affected by global cultural flows in five constellations: ethnoscapes, mediascapes, technoscapes, finanscapes and ideoscapes (Appadurai, 1990, p. 33). In this chapter, I explain how these imagined worlds, mainly as part of mediascapes, technoscapes and ideoscapes, appear in the planning of Yachay.

In the first section of the chapter, I analyze the initial conceptualization and promotion of Yachay as a city of knowledge, focusing on the political discourse in order to understand the political and technical arguments sustaining its design. I use Appadurai’s notions of mediascape, ideoscape and technoscape to explain how the promotion and publicity related to the project was focused on an overvaluation of technological development, conceived as the main tactic to achieve Ecuador’s insertion in the global economy. In the second section, I use the concept of the Zone proposed by Jonathan Bach (2011) and the manifestos of the Congrès Internationaux d’Architecture Moderne (CIAM) to describe how the first designs of the Yachay project were based on modernist ideals and how the distribution of space into zones, privileging an export-oriented industrialization, followed (and follows) the logic of global capitalist development. Through the lens of the Foucauldian notions of utopia, power and knowledge, moreover, I show how Yachay carries with it a desire for the control and regulation of space and populations. In the third section, I briefly discuss the project’s realization and its current status, in order to make clear how the ideals projected onto it during its conceptualization could not be fully implemented, demonstrating its basis in fantasy. I finish the chapter by arguing that Yachay may be seen as a heterotopia.

Yachay Imagined

At first sight, the combination of a Kichwa name meaning knowledge with a city designed to promote technological innovation provocatively suggests the incorporation of local and ancestral wisdom into a futuristic perspective. Indeed, this proposal for incorporation can be traced back to 2008, when the new Constitution of Ecuador established that “Persons have the right to enjoy the benefits and applications of scientific progress and ancestral
wisdom” (Article 25). It also specified the creation of a national system of science, technology, innovation and ancestral wisdom. This system, the Constitution stipulates, is placed in the framework of respect for the environment, nature, life, cultures and sovereignty, and shall have as its final purpose the following:

1. To generate, adapt, and disseminate scientific and technological knowledge.
2. To restore, strengthen and upgrade ancestral wisdom.
3. To develop technologies and innovations that promote national production, raise efficiency and productivity, improve the quality of life and contribution to the achievement of the good way of living. (Article 385)

Article 388 also states that “The State shall allocate the resources needed for scientific research, technological development, innovation, scientific training, restoration and development of ancestral wisdom, and the dissemination of knowledge […]”.

Another strategy used by the authorities was to categorize Yachay as an “emblematic project” in terms of the Acuerdo Presidencial (Presidential Agreement) of 2012 and the transitional provision (number fifteen) established in the Ley Orgánica de Educación Superior (Organic Law on Higher Education) in 2010, which determines: “For a period of five years from the date of the promulgation of this law, no new higher education institution will be established. Exceptions to this are the National University of Education “UNAE” […]; The Regional Amazonian University in Tena, Napo Province; the University of Arts in Guayaquil and a university for experimental technology research […]”. It is important to point out that this transitional provision specifies the creation of a university for experimental technology research, which is not the same as the construction of a city of knowledge. So how did it turn into that?

Figure 0.1 Central Park I - Songdo International Business District in Incheon, South Korea. Photo by Steve. Retrieved from Google Earth, May 2015.
The Yachay Project was first conceived in 2011, when representatives of SENPLADES (National Secretariat for Planning and Development) traveled to South Korea and visited Songdo and the Incheon Free Economic Zone – IFEZ (Figure 0.1). One of the representatives came back from Korea very impressed and proposed to construct something similar in Ecuador (Participants 15 & 16, personal communication, February 9-18, 2015). In the beginning, the idea was to construct only a university (on the basis that the right to do this had been established in the Constitution), but later the decision was taken to construct a whole new city and industrial-technological hub. One of the main managers of the Yachay Public Enterprise (Yachay-EP, created in March 2013 to manage the project’s implementation), explains the logic behind this shift very clearly:

The logic showed us that when you have a university, everything starts to grow around the campus [...] at the same time, the idea of the transformation of the productive matrix was taking shape, so that increased the necessity not only of an academic space but also of the possible articulation with a technological park. But then…there comes the necessity of a space of production, an industrial park. So you know that there will be students, a university city, there will be a technological park, and an industrial park. So then comes the necessity to say “Okay. Let’s construct a city like in Korea. Let’s construct a city like the one that was made in France”… do you understand? (Participant 14, personal communication, March 3, 2015, author’s translation from Spanish)

More than indicating a strict “necessity”, here this word is used to describe the seemingly unavoidable way the imagination of the project evolved in the minds of those in charge of its development.

In the political discourse of the time, the creation of a university and a city of knowledge attached to it were justified using three main arguments. The first of these was that, as the production of new knowledge in the world is increasing, so Ecuador must enter into this production, otherwise it will always remain dependent on other countries that are producers of knowledge. According to René Ramírez, who at the time was the

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13 Most likely, he is referring to Paris-Saclay, a research and business cluster constructed to the south of Paris.
National Secretary of Higher Education, Science, Technology and Innovation, and one of the main “mentors” of Yachay: “Nowadays every five years the amount of new knowledge is doubled. This implies that we, the countries that are not generating knowledge, become doubly ignorant every five years and dependent on those that produce the knowledge” (El Ciudadano, 2014, author’s translation from Spanish). According to Ramírez, the new cognitive capitalism produces a dilemma for Ecuador, presenting it with two options: to stay isolated from the rest of the world or to bridge the gap by investing in development trends, innovation and science. At the inauguration of Yachay-Tech University in March 2014, Ramirez compared the new university with the first Ecuadorian oil boom:

If one Monday in July 1972 the first oil barrel was filled to be exported and the oil boom was born, symbolically and in an analogous way I could say that today, the 31st of March 2014, the first Yachay generation is starting, and with it we expect to generate a new boom, a boom of knowledge. This is the real factor of change of the productive matrix. This bet to break with history implies a shift from the economy of finite resources to the economy of infinite resources, the economy of ideas, science, creation, innovation and intelligence. (El Ciudadano, 2014, author’s translation from Spanish)

In this perspective, Yachay is the bridge that will cover the gap isolating Ecuador from other countries that are seen as being far ahead in terms of “intelligence”. After oil, now knowledge is to be a resource to be extracted and exported abroad. Yachay makes knowledge central to the transformation and economic development of the country, which is why the first step in the city’s construction was the erection of Yachay-Tech, a university devoted to technological innovation.

The second argument (which in a way derives from the first) stressed the necessity of what the authorities called the transformation of the productive matrix, which entailed changing the productive structure to generate a dynamic economy oriented towards knowledge and innovation, as well as a sustainable, diversified and inclusive economy that would make it possible to achieve the ideal of Buen Vivir14 (Vice Presidencia del Ecuador, 2013). In other words, what the Ecuadorian government wanted to achieve with

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14 In the introduction to this study, on pages 7-8, I explain the concept of Buen Vivir in more detail.
the transformation of the productive matrix was a switch from the production and exportation of raw materials and natural resources (such as oil, bananas, roses, etc.) to the exportation of knowledge and technology. In this process, Yachay would constitute a milestone. It is in light of this argument that the authorities coined the term innopolis (Ramírez in El Ciudadano, 2014) to refer to Yachay, merging the words “innovation” and “polis”.

The third argument was related to the idea of sovereignty. President Correa presented Yachay as a means to achieve a second independency, the beginning of a “new Ecuador”. For the president, the generation of knowledge is fundamental to breaking with the country’s dependency on other governments. According to him, with Yachay, “we are not inaugurating beautiful buildings […], we are making a new fatherland, an Ecuador projecting itself into the future as a sovereign country that has decided to base its development on human talent and knowledge, the only inexhaustible source of wealth” (Correa in Presidencia de la República, 2014, p. x, author’s translation from Spanish). Ramírez reinforces this idea by arguing that Yachay University “is an invitation to construct a collaborative system to create innovative knowledge, as a way to overcome a cognitive dependency […] In this context, Yachay is to construct a homeland” (in El Ciudadano, 2014, author’s translation from Spanish). For Correa,

[the purpose of the government is to] embrace the culture of excellency and to do simple and complex things in the best way. Yachay is part of the complex things and we will not give up until we become a prosperous and happy society where love, poetry, science and technology are combined to achieve the collective dream, the dream we are offering to the whole world: Buen Vivir. Today Yachay (...) is another fulfilled promise of the citizen revolution. (Presidencia de la República, 2014, p. x, author’s translation from Spanish)

What most typifies these pronouncements are the numerous benefits associated with a single project, as well as how national aspirations are closely intertwined with its construction. Science, technology and innovation, in the political discourse, are connected with the possibility of overcoming poverty and the achievement of Buen Vivir. Yachay is presented as the cornerstone of a happy new society, as the main step towards
the inclusion of Ecuador in the global economy, while reinforcing, at the same time, the country’s sovereignty.

To realize this ambitious imagination of everything Yachay would do for Ecuador, the authorities hired a group of Korean advisors to design a Master Plan for the future city (which I will analyze afterwards) and started, in 2012, a national campaign promoting the project.

Figure 0.2 Yachay, la ciudad del conocimiento [Yachay the city of knowledge] (2012). Screenshot from YouTube video retrieved from https://www.youtube.com/watch?v=IcpS6Yn4Fpg.

The campaign centered on Yachay as a symbol of the transformation of the Ecuadorian productive matrix and the beginning of a new technological era. Videos promoting Yachay were presented on the weekly national TV broadcast of President Correa and through the YouTube channels of various ministries. To attract possible investors and students, and to gain the acceptance of the population, the videos, advertisements and brochures showed images of Ecuador as a country that, thanks to Yachay, was glowing like a star in the middle of the world, spreading light to the obscured surroundings areas (Figure 0.2). From the images deployed in the campaign, the imagined future of Yachay emerges as one of clean laboratories, computers and people wearing safety glasses and special suits in a sterile environment manipulating technological devices such as computer microprocessors and microscopes (Figures Figure 0.3, Figure 0.4 and Figure 0.5).
The way this future is imagined can be connected to the scapes proposed by Appadurai. When talking about the current global economy, Appadurai (1990) notes that its complexity has to do with disjunctures between economy, culture and politics. The five dimensions of global cultural flows he distinguishes (ethnoscapes, mediascapes, technoscapes, financescapes and ideoscapes), which do not always accord with each other, provide the elements of the imagined worlds configured by the imaginations of persons and groups spread around the globe. What can be observed in the initial presentation of the Yachay project are elements of techno-, media- and ideoscapes that are taken up unquestioned.

The technoscape is defined by Appadurai as “the global configuration, also ever fluid, of technology and the fact that technology, both high and low, both mechanical and informational, now moves at high speeds across various kinds of previously impervious boundaries” (1990, p. 34). In the case of Yachay, the national authorities firmly believed
that the insertion of Yachay into the global technological dimension would automatically mean inclusion in the global economy, without considering that a country’s insertion into a global economy, as Appadurai (1990) argues, also implies complex political, finance and human relations. The vision of technology and globalization reflected in the discourses and images used to promote Yachay therefore appears as a product of the imagination, desire and even fantasy of the authorities.

![Figure 0.5 Yachay, la ciudad del conocimiento (2012). Screenshot from YouTube video retrieved from https://www.youtube.com/watch?v=IcpS6Yn4Fpg.](image)

Driving this vision of Yachay is the naturalized connection between knowledge, technology and Buen Vivir, which ascribes magical powers to technological knowledge. What the discourse of the authorities expresses is an urgent need not to be left behind, while technological knowledge is treated as a resource capable of being exported in large (even infinite) quantities, generating profits higher than oil exportation could. Given that Ecuador is a country where only 10% of the population aged 24 and over has a university degree (INEC, 2014) and that the main economic activities are agriculture, hunting, forestry and fishing (28%), with only 17% consisting of commerce (INEC, 2015), the idea that a single technological university and hub focused on technological development would change the economic reality of the entire country is implausible, fanciful even. Moreover, the estimated costs of constructing the city are difficult to sustain: According to one of the managers of Yachay-EP, the projected cost for the whole project (including private investment) is USD 21 billion, of which the State will only contribute USD 1.1 billion for five years (2013-2017) as a “big push” (Participant 14, personal communication, March 3, 2015). Just as a reference, the annual cost of the whole public
system of higher education per year is estimated to be around USD 750 million (A. Espinosa, personal communication, March 2, 2015), and the external debt of the country is about USD 32 billion (CIA, 2016).

The aggrandized technoscape conjured by the authorities is combined with an active use of mediascapes. Appadurai understands mediascapes as “the distribution of the electronic capabilities to produce and disseminate information (newspapers, magazines, television stations, and film-production studios), [...] and to the images of the world created by these media” (1990, p. 35). In the case of Yachay, the images reproduced by the media were created by the government, conveying its interests and imagined future. The problem of the deployment of images and narratives through mediascapes is that

[t]he lines between the realistic and the fictional landscapes they [audiences] see are blurred, so that the farther away these audiences are from the direct experiences of metropolitan life, the more likely they are to construct imagined worlds that are chimerical, aesthetic, even fantastic objects, particularly if assessed by the criteria of some other perspective, some other imagined world. (Appadurai, 1990, p. 35)

Mediascapes offer their audiences elements “out of which scripts can be formed of imagined lives, their own as well as those of others living in other places” (Appadurai, 1990, p. 35). The problem with Yachay is that the mediascape created by the government presented an imagined Yachay far removed from the real situation of the project. As an ex-director of Yachay-EP said about Yachay’s construction: “the media aspect is more advanced than the structures and the contents” (Participant 15, personal communication, February 9, 2015). In the third section, where I show how, during the realization of the project, the fantastic ideas of the authorities were put into question and consequently modified, this disjunction between the “landscapes” shown in the mediascape and the actual landscape of Ecuador is confirmed.

Like mediascapes, ideoscapes are also composed by images, but the difference is that these images are political and related to ideologies of states and counterideologies oriented to capture state power. Appadurai notes that “these ideoscapes [related to ideologies of states and counterideologies] are composed of elements of the Enlightenment worldview, which consists of a chain of ideas, terms, and images, including freedom, welfare, rights, sovereignly, representation, and the master term
democracy” (1990, p. 36, emphases in text). In the case of Yachay, the modern Enlightenment worldview also plays a role in imposing the connection between technology, knowledge and Buen Vivir. In the next section, I will elaborate on this ideological aspect of the project by looking at the Master Plan for and the first designs of the city.

Zonification, modernity and control

The Master Plan of Yachay, which cost USD 10 million, was developed by members of the Korean Incheon Free Economic Zone (IFEZ), which comprises Incheon International Airport, Incheon Port, Songdo, Yeongjong, and Cheongna International City (Icheon Free Economic Zone, 2015). Why the Ecuadorian government decided to hire the IFEZ members and to follow the Korean model, apart from the enthusiasm expressed by the SENPLADES representatives when visiting Songdo, is not clear. However, the experience of South Korea has been held up as a case of productive transformation that can provide a model for the design of a local strategy (SENPLADES, 2013). According to SENPLADES, Korea could be a good example for Ecuador because “in only five decades Korea deliberately transformed its low-developed economy into an economy that is now the leader in technology production” (2013, p. 22, author’s translation from Spanish)

According to the 2013 Master Plan (of which different versions exist), the total area reserved for the Yachay project is 45,000 hectares (Yachay-IFEZ, 2013), with the City of Knowledge occupying 4,439 hectares. The objectives of the development plan, to be achieved in 23 years (2012-2035), are: a) to develop the territorial space for the construction of a society oriented towards scientific and technological innovation, the reform of higher education, knowledge and information; b) to give this space the function of being the base for Ecuador’s economic development (Yachay-IFEZ, 2013, p. 27). These objectives accord with the meanings assigned to Yachay in political discourse and government publicity as an urban space with the power to transform the whole of Ecuadorian society, both socially and economically, through the development of science and technology. The Master Plan also establishes the requirements for the new city’s location, which are proximity to an international airport, proximity to a port, and good access and climate conditions (Yachay-EP, 2015). These requirements are followed by a division of the space into four “zones”: Zone 1: Sector of knowledge (the Yachay-Tech University, which is the center of the project); Zone 2: Sector of industrial technology;
Zone 3: Tourism sector; and Zone 4: Sector for agriculture and biotechnology (Camino & Cordero, 2014, author’s translation from Spanish).

The objectives, requirements and division of the space proposed in the Master Plan for Yachay can be linked to the phenomenon of the “Zone” proposed by Jonathan Bach (2011). As previously explained in the Introduction of this study, export-oriented zones have multiplied and become central to the contemporary export-oriented industrialization stage of global capitalist development (Sum, 2001 in Bach, 2011). In this context, the concept of the Zone “signifies a shift in the socio-spatial formation of late modernity as export zones turn from a pragmatic space for the production of exports into a place, imagined and lived” (Bach, 2011, p. 99). In other words, the Zone refers to a new form of urban imagination that recombines scales, functions and identities (Bach, 2011), an economic space with a discursive power about urban futures based on a modernist fantasy (Bach, 2011, p. 109). With the configuration of Zones, certain types of knowledge and populations are privileged, cultivated and cared for, while others are reduced to a lower status. The Zones thus become a way to regulate the (bio)political as well as the economic (Bach, 2011, p. 104). Over time, exceeding its primary objective of economic development, a Zone becomes what Bach calls an Ex-city, blurring the categories between a city and an economic zone (Bach, 2011, p. 106). When constructing a Zone, authorities, investors, technicians and other actors can thus create a whole new urban-economic environment according to their subjectivity interests and utopic ideals.

Analyzing the first models of Yachay, it is impossible not to see them also as a utopian realization of modernist ideals. Foucault (1986) defines utopias as unreal spaces that present society in a perfected form, sites that have a general relation of direct or inverted analogy with the real space of society. Utopias, he writes, “afford consolation, although they have no real locality there is nevertheless a fantastic, untroubled region in which they are able to unfold; they open up cities with vast avenues, superbly planted gardens, countries where life is easy, even though the road to them is chimerical” (Foucault, 1994 /1966, p. xviii). In accordance with this definition, Yachay certainly offered the political authorities and urban planners an unreal space to pour their fantasies into; the planned constructions, to which a consoling or even curative function is ascribed in the government’s promotion materials, show how closely related these fantasies are to modernist ideals.

15 In the introduction to this study, on pages 25-27, I discuss Bach’s analysis in more detail.
The modernist approach to urban planning dates back to early 20th-century efforts to combine architectural design with the modernization of society through technological advances. Some important architects who developed modernist architecture and ideas for urban utopias were Le Corbusier (in Europe), Frank Lloyd Wright and Hugh Ferriss (in the United States). The ideal of a modernist city was proposed in the manifestos of the Congrès Internationaux d’Architecture Moderne (CIAM, from 1928 until the mid-1960s), on the premise that modern architecture and planning were the means to create new forms of collective association, personal habit and daily life (Holston, 1989). One of the CIAM principles was, for example, the definition of city planning in terms of the following functions: housing, work, recreation, traffic and administrative and civic activities. It was felt that these functions should be organized as mutually exclusive sectors within the city, as in the case of Yachay, where, as noted, the division into zones is clearly demarcated. Another paramount principle of CIAM was the use of geometric order to devise a scheme of broad avenues to connect isolated areas of the city. Planning prescriptions were based on a model of the machine, because in CIAM’s analysis the solution to the crisis of the machine (the urban crisis of capitalism, causing overpopulation in the cities) was to be found in the machine itself, which was perceived as a potential source of liberation. Well-known designs by modernist architects such as Le Corbusier’s model of the Radiant City included symmetric forms and used highways as the main points of connection between the different zones of the city (Figure 0.7).
In the first models of Yachay made by the Korean team, large buildings and apartment blocks, connected by enormous highways, formed the basis of the city (Figures 2.6 and 2.8). As urban planners involved in the design of the project mention, the pride of the Korean model were the highways (Participant 12, personal communication, February 12, 2015), based on Le Corbusier’s ideas (Participant 8, personal communication, February 11, 2015). The Koreans also proposed to construct all the buildings at once, even if this meant removing a mountain located in the middle of the terrain compiled of millions of cubic meters of soil.

![Figure 0.7 Radiant City – Le Corbusier, 1924. Retrieved from http://teakaiblog.blogspot.nl/2013/10/urban-design-le-corbusiers-radiant-city.html.](image)

![Figure 0.8 Planned buildings for Yachay. Screenshot from YouTube video retrieved from https://www.youtube.com/watch?v=NrJ7jxCrOGM.](image)
Other similarities between the 20th-century modernist utopias and the Yachay project can be observed when analyzing the work of the artist and architect Hugh Ferriss. The “city of tomorrow” he imagined in 1920 features towering buildings rising as the main icons of the dreamed future (Figure 0.9). For Ferriss, the imagined city is divided into three main districts: a Business zone, an Art zone and a Science zone. This division is echoed in the first version of Yachay project proposed by the Koreans.

![Figure 0.9 Hugh Ferriss, design of the Metropolis of Tomorrow (1986 [1929], p. 113)](image)

Beyond the architectural form, the urban modernist utopia perceived the machine in a positive light, as a means to liberate society from the drudgery of manual labor, giving men and women a new measure of humanity. According to the architects of the CIAM, the machine would destroy national and class boundaries, and would equalize society so the cities would have to be planned in harmony with the machine’s development and use. To do so, the new city would be treated as a machine and the plans were designed to construct buildings and spaces as means to create new social practices and instruments of social progress, which would in turn forge new forms of collective associations and personal habits, while precluding those considered undesirable. Architecture was perceived as the conductor and condenser of a new way of life (Holston, 1989, p. 52). The CIAM doctrine views the relationship between architecture and society as transitive: change the architecture and society will be forced to follow the program of social change that the architecture embodies. It is this idea that was conceived as utopian and was revolutionary in its time. Architecture was considered an instrument not only for social change, but also of good government, rational order and the renovation of life through art.
(Holston, 1989, p. 60). Public administration became the center of power, responsible for the order and obedience of citizens.

The relation between architecture and citizen control characteristic of both the modernist utopia and the Zone described by Bach is also a constitutive part of Yachay. The government’s intention to construct a local version of Songdo in order to increase Ecuador’s global competitiveness is wrapped up in a longing for control, discipline and order, as is shown in the following dialogue with one of the managers of Yachay-EP who was involved in the project since the beginning:

Manager: When I see a street vendor in Yachay, I take him out! But to tell him: ‘come, we are going to teach you, we are going to give you a uniform’. My dream is that all the street vendors are tagged, so I can know where they are and what they do.

Interviewer: So they can be controlled…

Manager: That is the ideal. (...) And that is easy; it is not something from another world…

Interviewer (ironically): So you could put a chip on them to track them!

Manager (without noticing the irony): Yes! You put a card on them and it is done! You know where he is, you know that if you gave him a space he should stay there, and you know what he eats, for health issues, healthiness… (...) it is a chain of health, economy, urbanism…it is a chain of everything…

( Participant 14, personal communication, March 3, 2015, author’s translation from Spanish)

Here, the aspiration is clearly to regulate every activity in the city, including the activities of the workers. The aspiration to control urban space is also reflected in the regulation of the construction of Yachay City by codes suggesting extreme spatial control.
Figure 0.10 shows an example of the code for public spaces and the level of detail at which this code tries to control the space. The data sheet collects information such as the location of the public space (general and specific), its conceptual design (including criteria), the image of the space and the type of vegetation (with a detailed description). In addition to this example, there are also data sheets for depictions of construction materials and technical specifications for urban furniture, urban vegetation and trees (including recommendations for maintenance, the color of the flowers and the density of the foliage). This clearly shows the desire to control everything as though Yachay were an industrial machine.

This regulatory spirit is also embodied in the way in which the main content of the project, which is education, was originated. Testimonies and statements of people familiar with the project confirm that the authorities in charge of Yachay wanted to follow the Korean model, but were also eager to take control of the higher educational system in Ecuador (Participant 8, personal communication, February 11, 2015; Participant 16, personal communication, February 18, 2015; A. Espinosa, personal communication, March 2, 2015). During the process of creating Yachay, therefore, the educational authorities and the Ecuadorian universities were excluded from the discussion. According to Alfonso Espinosa, former rector of the Politécnica Nacional University, categorized as one of the best public universities of Ecuador, the directors of Ecuadorian public universities did not participate at all in the project and found out about it only in 2013.
when they were invited to a meeting where the Korean advisors presented the project (A. Espinosa, personal communication, March 2, 2015). At this meeting, two points struck them: first, the project was already a fact and was about to be implemented, and second, the presentation of the project was concentrated on the physical design of the university and city, making clear that the authorities did not have any ideas about the scientific and technological dimensions (A. Espinosa, personal communication, March 2, 2015). Other informants (Participant 12 & Participant 16) confirm this exclusion of the universities from the first phase of the project. The consequence is the design of a technology focused university isolated from other academic centers, which does not respond to local demands for research from different regions in Ecuador. The idea of technology proposed by the authorities in charge of the Yachay project is highly dependent on external parameters; their main references are the Korean model and Silicon Valley, while there is no connection at all to the history of science and technology in Ecuador (A. Espinosa, personal communication, March 2, 2015; A. Barrera, personal communication, February 27, 2015). This approach goes against studies demonstrating that technological development and innovation depend on multiple factors that go beyond infrastructure, such as professional development, administrative and technical support, and participation and cooperation with stakeholders (Dennison, 2014).

As Andrés Ortiz (2013) makes clear in his conference paper “The Illusion of Technology as Ideological Interpellator”, underlying the relation between knowledge and technology established by the government in the Yachay project is a modern idea of technology that connects it with the Enlightenment, considered by Adorno and Horkheimer as an advanced form of thought aimed at liberating human beings from fear and installing them as masters. As Ortiz outlines, the modern subject objectifies all things, mainly through technology, and seeks to explain everything through science. The aim, as becomes clear in Heidegger’s work, is to control nature and dominate other entities (Ortiz, 2013). Within this perspective, science and technology are not neutral. For Marcuse, for example, technology is ideology and is used to promote authoritarianism as well as to limit liberty. For him, the ability and knowledge of “experts” are used for the creation of an autocratic power, and the technological leader becomes a social leader (Ortiz, 2013). On the basis of Marcuse's ideas, Ortiz criticizes Yachay, calling it a “utopic and hyper-technologized” project (2013, p. 4). In his view, this political project of President Correa was invested in developing complex-bureaucratic machinery and controlling the public sphere from an early stage, even though it was supposed to achieve a “citizen revolution”
(2013, p. 3). This control of public space was consolidated by, among others, taking away the autonomy of the universities. According to Ortiz, on the basis of the 2009 Higher Education Law, the government created a Higher Education Council under total control of the executive branch and “the curriculum, research lines, and even opinions of the scholars in the universities of Ecuador were expected, from that point on, to be linked to the discourse of the ‘Citizen Revolution’” (2013, p. 4).

From this perspective, Yachay emerges as a way to reinforce techno-bureaucracy and the utilization of science and technology as an ideology. It does this mainly through the following: discrediting other, already existing Ecuadorian universities; receiving much more government investment than other universities; legitimating itself through a neocolonial glorification of western technology; expressing enthusiasm for the idea of following the example of hyper-capitalistic experiments such as Silicon Valley and others; and by exerting authoritarian control over scientific thought and production through an elite bureaucracy (Ortiz, 2013). Thus, a totally new utopic project is created in Ecuador, consolidating new forms of institutional control over society. Ortiz concludes that “in the Ecuadorian case, science is a mythological relation, that aims to legitimate an authoritarian system of domination, and technology becomes a promise related to a future society. Paradoxically, under official esthetic and ethical discourses, project Yachay could be defined as a poetic utopia” (2013; p. 10). This analysis of Yachay is similar to those of Arturo Villavicencio (2016a, 2016b), who criticizes the grandiose objectives of the project, and Carlos de la Torre (2013), who defines Correa’s government as technocratic and populist. According to De la Torre, “[technocracy] replaces democratic discussion by an expert administration and transforms debates into the imposition of models that are legitimized with the idea that they are scientific and therefore the truth” (2013, p. 42, author’s translation from Spanish).

I would like to complement these reflections on Yachay by looking at the project through the lens of Foucault’s theory of power and knowledge as inextricably linked. For Foucault, “there is no power relation without the correlative constitution of a field of knowledge, nor any knowledge that does not presuppose and constitute at the same time power relations” (1979, p. 27). Scientific knowledge occupies a specific position in this regard. According to Foucault, the association between power and science has been established since medieval times and a theoretical, unitary, formal and scientific
discourse\textsuperscript{16} (mainly originating in western countries) has been imposed, establishing a hierarchy of knowledges with scientific knowledge at the top (1976, p. 82). Within this hierarchy, local and historical knowledges that are not adjusted to the scientific discourse are disqualified and diminished (Foucault, 1976, p. 82).

What can be seen in Yachay is precisely a continuity of this supremacy of scientific knowledge through the connection between Knowledge-Technology-Buen Vivir forged by the government. The imagination of Yachay is clearly based on a particular constellation of knowledge/power, as it presents an attempt to privilege certain knowledges (scientific, technological knowledge with an international orientation) at the expense of others (local knowledge). Yachay perpetuates a hierarchy where scientific knowledge is considered the only valuable means to achieve the government's goals. For example, the starting point and core of the Yachay innopolis was the construction of Yachay-Tech University (University of Experimental Technology Research) as a specific place separated from the rest of the country where a group of experts would be in charge of higher education, following a rationalistic model. The imbalance between the enormous amount of attention and publicity devoted to technology and innovation as capable of transforming the productive matrix, and the scant attention devoted to the indigenous knowledge underlying Buen Vivir, makes evident that a hierarchy of knowledges exists, in which some are disqualified and others affirmed. Notably, the curriculum of the university, too, privileges technological development and the so-called “hard sciences”, neglecting other areas of knowledge, including ancestral knowledge. In 2015, the academics working at Yachay comprised thirty-nine professors (nine Ecuadorians and the rest foreign academics, mainly from Spain), with expertise in disciplines such as Mathematics, Chemistry, Biology and Physics (74%) (Annex 2). This reinforces the idea, enshrined within the scientific discourse described by Foucault, of the supremacy of a particular (western) form of knowledge, which the university also presents as essential for achieving Buen Vivir (no longer defined in terms of a harmonious relation to nature modeled on indigenous ideas, but in terms of participation in the international knowledge economy). The idea central to the constitutional arguments used to justify the creation of Yachay of combining the dissemination of scientific and

\textsuperscript{16} As Gordon notes, according to Foucault it is through discourse, defined as a practice that establishes certain relations between heterogeneous elements, that power is exercised (1980, p. 245).
technological knowledge with the restoration, reinforcement and updating of ancestral wisdom is thus completely left behind.

To summarize what I have argued so far: the imagined Yachay is primarily based on a political discourse arguing that Ecuador must participate in the global production of knowledge in order not to be left behind by other countries. With Yachay, the government expected to transform the productive matrix of Ecuador by generating a dynamic economy oriented towards knowledge and innovation instead of one dependent on the production and export of raw materials. In the eyes of the government, Yachay is pivotal for the construction of what it envisioned as a new and sovereign Ecuador capable of achieving Buen Vivir. This imagination of Yachay and its multiple perceived benefits were promoted with a campaign that presented Yachay as heralding a new era in which the technoscape is dominant, mediascapes are used to produce and disseminate the authorities’ imagined future, and ideoscapes naturalize the connection between technology, knowledge and Buen Vivir. To implement the envisioned ideal city, the original Master Plan of Yachay followed models of export-oriented zones, characteristic of global capitalistic development. Architecturally, the design of the buildings was based on modernist ideals. As such, the plan embodies a knowledge-power relationship that seeks to take control of the structures and the inhabitants, and a regulatory spirit in which scientific knowledge is perceived as the principal means to achieve Buen Vivir, ignoring the association of that idea with indigenous knowledge.

What I have shown in the previous pages is condensed in the ambitious “vision” declared by the Yachay-Tech University, which aims: a) to become a leading global research epicenter and the best science and technology university in Latin America; b) to create world-class human talent through innovative teaching and research; c) to produce citizens who will contribute to Ecuador's technology, economy, entrepreneurship, culture and future in accordance with the National Plan for Buen Vivir; and d) to provide public services that will enrich Ecuador’s diverse ethnic communities and society as a whole (Yachay-Tech, 2015). Five years after its inauguration, these objectives are still far from being realized. In the next and final section of this chapter, examining Yachay’s material realization up to the present (early 2018), I will explore the contrast between Yachay’s imagination and its materialization, as well as argue that it functions as what Foucault (1986) calls a heterotopia.
Yachay Realized

The first buildings inaugurated were those of Yachay-Tech University, which opened its doors to 400 students in March 2014. The ideal linear progression proposed by the authorities from the construction of a city of technology and innovation similar to Songdo to a change in the productive matrix that would entail the insertion of Ecuador into the global market as a major player has, however, not taken place, because of several factors.

One factor undermining the fantasies of the authorities about Yachay was the clash between the modernist version of the project proposed by the government and the Korean consultants, and the approach proposed by local architects and urbanists. During the design phase, disputes emerged, resulting in two competing proposals, the first one developed by the Korean advisors (who had the support of the national authorities) and the second one by a local Ecuadorian team composed of architects and urbanists. Three main discrepancies emerged from these proposals. The first concerned the pace of building the city, with the Koreans suggesting that the whole city be built at once, while the local team proposed a progressive urbanization in stages. With this last option, the government would also have the opportunity of stopping the construction in case of a lack of funds without interrupting the harmony of the design (Participant 8, personal
communication, February 11, 2015; Participant 12, personal communication, February 12, 2015). The second discrepancy concerned the scale of the construction works. Where the Koreans proposed large buildings and highways, the local team proposed buildings with an average number of five to seven stories (in their proposal, there was only one zone with twelve-story buildings) and blocks of no more than 120 square meters. The idea behind this was to construct a walkable city where the inhabitants could go from one side of the city to the other in no more than 30 minutes (Participant 8, personal communication, February 11, 2015; Participant 12, personal communication, February 12, 2015). The issue of the scale of construction was not just a point of contention with regard to Yachay, but also more generally. According to the urban planners, the Ecuadorian government was trying to incorporate a large-scale vision into different construction projects around the country, so to propose something on a human scale constituted a challenge (Participant 10, personal communication, February 11, 2015). The third discrepancy was related to the integration of cultural heritage, nature and landscape: the local architects and planners wanted to construct a city featuring Ecuadorian architecture, taking advantage of the landscape and the cultural heritage found in the area. What they proposed was to create basic typological elements so that different architects could participate in the construction of the buildings. On the other hand, as I explained earlier, the Korean proposal contained typologies for a city similar to Songdo, following industrial models with large, high buildings and wide streets (Participant 8, personal communication, February 11, 2015).

In July 2013, Yachay-EP organized a workshop called “Think Tank Yachay”. The idea of the workshop was to invite experts in urban planning from abroad to present their ideas about urban planning and to discuss the urban model of Yachay. According to urban planners and architects involved in the project, the presentations of the international guests during this workshop again showcased two very different notions of urban planning: human-scale vs. large-scale. Nevertheless, the concepts and principles of the Yachay proposal by the local team gained strength as a result of the international workshop. The support of the North American architect Michael Mahaffey is mentioned as an important factor in heightening the visibility of the local proposal (Participants 8, 10 & 12, 2015). In the end, the model of the local team was considered in the Master Plan, but, as a result of the disagreement between the local team and the Korean consultants, the director of architecture and urban planning had to force the Koreans to incorporate it (Participant 12, personal communication, February 12, 2015). For the
incorporation of the concepts proposed by the Ecuadorian team to the Master Plan, the support of the general manager of Yachay Public Enterprise (Yachay EP) was also fundamental. He encouraged the team and asked the authorities of the central government more time to finish the proposals, even though “the political time was running” (Participant 10, personal communication, February 11, 2015). Thus, while the central authorities were supporting the Korean proposal, Yachay EP was backing the Ecuadorian team. After the Think Tank workshop, both teams started to work together and in December 2013 a new version of the Master Plan was signed. In this new design of the city the proposals of the Ecuadorian team were integrated, resulting in a plan very different from the first Korean version.

According to the new Master Plan (2015), the objective was “to shape a green, diverse and human scale city”. To achieve this objective, it established principles of planning and design, stating that the city should be a “sustainable, inclusive, compact, dense, democratic, resilient, ubiquitous, versatile and alive city” (Yachay-EP, 2015, p. 6, author’s translation from Spanish). The general idea was to construct a city where the human being forms the axis of the design and planning. According to one of the urban planners in charge of devising the principles for the project, the people working in the city would be the real constructors of its imaginary. The students and teachers at the university would be temporary, but the workers permanent, thus making them the true city builders (Participant 12, personal communication, February 12, 2015). Here, an important difference emerges from the political discourse about Yachay, in which the students and professors and the institutionalized knowledge of the university constitute the core of the city. Under the new plan, the idea is to construct an architecture more appropriate for the landscape, achieving, for example, the objectives of the “Typological code”: a) a defined and clear configuration of Yachay’s public spaces; b) a city that fits with the “cultural landscape” of Urcuquí (the town next to Yachay); c) an integration between the new buildings and the local architectural typology; c) a harmonious but simultaneously diverse architecture (Yachay-EP, 2015, author’s translation from Spanish). According to the Master Plan, “the typological code is the result of a study of the architecture dominant in the Ecuadorian Andean region and it shows patterns of successful experiences with the space in terms of functionality and aesthetics. It also gathers elements of contemporary and modern architecture…” (Yachay, 2015, p. 44, author’s translation from Spanish). On the basis of the findings of this study, the architects chose the materials and general typology of the buildings, prioritizing the use of less
processed materials such as stone, soil and traditional bricks, and avoiding serial architecture (Participant 10, personal communication, February 11, 2015). Another important element taken from the study is the porch as a “friendly and public space” typical of Ecuadorian houses (X. Ron, personal communication, February 11, 2015, author’s translation from Spanish). The general idea was to establish a common architectural language and to create solid, durable structures. The result, at present, is a complex of buildings of very different scales and designs than those imagined as part of the first Master Plan for an Ecuadorian Songdo (Figures 2.11 and 2.12).

The first buildings constructed were those of the university. As can be seen in Figures 2.11 and 2.12, the buildings are not very high and the design is a combination of new structures and others that already existed, such as the sugar mill located in one of the university courtyards. The other buildings that have been constructed are two student residences. The first of these is next to the main university building and is used by the first year students (D. Armijos, personal communication, February 23, 2015). This residence is composed of little houses that follow a square design with a porch. The

![Figure 0.12 University Yachay-Tech, featuring the old sugar mill, and student residences (2016). Photos by the author.](image-url)
second student residence is about 600 meters from the university and is composed of five large three-story buildings. Green areas surround the university buildings; there is also a garden behind the main building with ancient trees, stone walkways, acequias\textsuperscript{17} and wooden sculptures depicting people (in line with the design of a human-scale city) and abstract forms made by artisans from Ibarra, the closest city. Located in this area is the so-called “Chalet”, a renovated neoclassical house of the hacienda\textsuperscript{18} San José meant for the rector of Yachay-Tech University (Figure 0.13). Other renovated buildings are those of the hacienda San Eloy, which are used as the offices of Yachay-EP. Still, even though Yachay as it has been built so far does not include skyscrapers or super-highways, and is based on a local perspective that incorporates local history and architecture, the desire to control the space and the inhabitants persists, for example in the implementation of detailed building regulations reflected in the codes, as described in the previous section.

Figure 0.13 Park with wooden sculptures and the “Chalet” (2016). Photos by the author.

A second factor that led to a questioning of the Yachay imagined by the authorities was the persistence of the past. By building a city capable of securing a global future for Ecuador, the authorities wanted to dehistoricize the space; everything was to be constructed from zero, from a space presented as empty. In the case of Yachay, the region where it is located was the land of pre-Columbian aborigines (the Caranquis) and many remains have been found and catalogued as heritage artefacts. The remains date from different periods in time; some are from the Pleistocene era, some from between 1000 and 800 BC, and others from between 500 and 1500 AC. There are also haciendas from

\textsuperscript{17} Acequias are ancient water canals used to water crops.

\textsuperscript{18} A hacienda is a large landed estate with a house, which was used for farming since colonial times.
the 17th and 18th centuries (B. Camino, personal communication, February 23, 2015). In response to the quantity of remains found, a cultural department was formed within the Yachay-EP office to identify the objects, recover information about their origins and characteristics, and to work with the architects to integrate them into the new buildings. The current university building, for example, is constructed around an old sugar mill and there is also a tola in the middle of Zone 1, which at some point the authorities wanted to tear down to construct a building; in the end, the urban planners decided to keep it as part of the skyline (Participant 12, personal communication, February 12, 2015). With regard to the archeological finds, one of Yachay’s urban planners reveals:

That was terrible, lots of them [the remains] have been hidden by express command of the president; he asked us to put away the remains in order to finish the project quickly: “take those bones away and cover the place quickly” [the president said]. Otherwise, it would not have been possible to construct the city, because it was a very strong zone in terms of human settlements. (Participant 12, personal communication, February 12, 2015, author’s translation from Spanish)

According to the urban planners, there was also a conflict between the architects and the members of the National Institute of Patrimony (INP) (Participants 10 & 12, 2015); the architects wanted to add to the traditional architecture of the haciendas some contemporary and innovative elements, but the INP would not allow this, arguing that the haciendas have patrimonial value and therefore cannot be modified.

The discussions about the management of the archeological remains and colonial architecture reveal the importance ascribed to the question of how to “deal with the past” in a project that was essentially imagined from a futuristic and modernist perspective. An innopolis heralding a second independency of Ecuador, a new start for the country as a whole, was supposed to materialize in a space seen as empty, but the vestiges from the (ancient) past imposed themselves during the planning and construction process, insisting that a start from zero was in fact not that easy.

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Tolas are little mountains made by the former inhabitants of the area (caranquis), who lived in the zone since approximately 900 AC. Tolas served as platforms for the residences of the caciques (the chiefs) and also for rituals and ceremonies (Bray, 2015).
A third aspect that “interrupted” the modernist ideal of Yachay city was its context and the presence there of local communities. The area occupied by the project is part of the rural canton of San Miguel de Urcuquí (with 64,000 inhabitants). Six established communities occupy the specific area of the Yachay project (Armas Tola, El Puente, La Merced, San Antonio, San Vicente and Tapiapamba), with a total of 1,909 people divided over 366 families. The economy of these communities was dependent on the haciendas situated in the Yachay zone, but once the haciendas had been bought to make way for the project, the former farmers became construction workers, employees and small traders in the Yachay project (Camino & Cordero, 2014). Since the beginning of the project, its impact on the communities has been a main point of discussion for Yachay-EP in terms of land use and the supply of basic infrastructure. The enterprise has worked to create jobs, promote cultural activities, supply basic infrastructure and improve the neighborhoods in the communities (X. Ron, personal communication, February 11, 2015).

When talking with the people in charge of Yachay-EP it becomes clear that these initiatives with the communities are seen as part of the main achievements of the Yachay Public Enterprise; they express their happiness when talking about the improvements and the participative social and economic development of the Urcuquí communities made possible by the Yachay project. Nevertheless, although these developments are without a doubt positive, it is important to make clear that they have nothing to do with the main goal of the Yachay project. Rather, they were only incorporated in the project after the experts and authorities started working on the construction according to the Master Plan. Once the project moved from an effort of the imagination to its realization, as if it were unforeseen, people, history and a space with existing dynamics appeared, necessitating different strategies more appropriate to the space and the social conditions.

A fourth way in which Yachay, as it had been imagined, was brought into question is related to the university and its operation. A year after opening its doors, in 2015, the Spanish rector, Fernando Albericio, was fired from his position at Yachay-Tech. His dismissal became a scandal when it became known that he received a salary of USD 16,300 per month (far exceeding the average salary of university rectors and professors in Ecuador) and that other members of the “management committee” earned the same amount without even living in the country. Albericio himself denounced irregularities, claiming that the management committee “fascinated by the experiences of the North, and without valuing their own resources” spent disproportional amounts on hiring
international consultancies to conduct studies that had no purpose or had already been done, without considering the economic realities or interests of the country (Albericio in Radio Rayuela, 2015, author’s translation from Spanish). Albericio’s testimony reinforces the idea that Yachay is taking shape as a project divorced from the social and economic Ecuadorian context. After Albericio’s departure, a provisional rector, Daniel Larson, former Dean of the Eberly College of Science of Penn State University, took charge, only to withdraw from the office in June 2016 for personal reasons. Since then, the Mexican Carlos Castillo-Chávez has been the rector. Castillo-Chávez is a Regents’ Professor, Joaquin Bustoz Jr. Professor of Mathematical Biology and a scientist at Arizona State University, and continues these activities while working as rector of Yachay-Tech. The irregularities denounced by Albericio and the fact that three rectors were appointed in just four years of operation demonstrate that Yachay-Tech, for the moment, is far from realizing its goal of being a center of global excellence.

A fifth aspect is related to the use of Yachay as an industrial and economic axis. The web page of Yachay-EP only mentions four projects that are currently taking place: the implementation of a research center for the genetic development of beef cattle, the implementation of a productive unit for alfalfa and production, another one for sugar cane and, finally, the renovation of an ancient train station to promote tourism in the region (Yachay-EP 2017). No information is provided about the financing or magnitude of these projects. In February 2017, furthermore, the Yachay authorities and the government made public the signing of an agreement between a firm called Red-Tech and Yachay-EP for the implementation of a “megafactory” for the production of electric cars and other devices, presenting it as one big achievement of Yachay. Authorities, including President Correa and Secretary of Higher Education René Ramírez, explained that Red-Tech was a consortium made up of Hewlett Packard and Tesla Motors (Ramírez in Ecuador Transparente, 2017), and that the amount invested would be USD 3 billion. Some days after these declarations, Hewlett Packard and Tesla clarified that they had no relation with the project (“Proyecto Red”, 2017). Moreover, journalists found out that Red-Tech was registered as an enterprise in Ecuador the same day the supposed agreement was signed, and that its director Justin Perry had no experience with projects or enterprises related to technological advances (Pallares, 2017). This aspect reflects how mediascapes continue to be actively used by the Ecuadorian authorities to show audiences an imagined and fantasized Yachay.
In terms of its infrastructure, too, the area in which the imagined and fantasized Yachay is supposed to radiate progress to the rest of the country and the world leaves a lot to be desired. Castillo-Chávez, the current rector of Yachay-Tech University, has complained about the lack of basic services, the insufficiency of the infrastructure and design faults. Two laboratories, for example, were constructed without ventilation, causing a risk of explosions. Fixing this mistake will cost USD 800,000 (Castillo-Chávez in “Yachay-Tech: no todo funciona”, 2017). In total, the university now has 1,010 students, but only twelve classrooms and four laboratories. Since May 2015 the construction of five buildings has been halted due to serious faults (“Yachay-Tech pagó”, 2017). Because of the lack of infrastructure and basic services, the industrial park does not exist yet and neither has there been private investment (“Yachay-Tech pagó”, 2017). This demonstrates that, when planning Yachay, its design was the product of the authorities’ imagination rather than based on a consensus with stakeholders that responded to actual needs and to the economic realities of the country. In 2016, the government signed an agreement with the Chinese Eximbank to receive a credit of USD 198 million to finance the construction of urban infrastructure and electricity in Yachay. The agreement establishes that the Chinese Gezhouba Group will be responsible for the design and construction of sewage, water and electricity systems. Importantly, these are works that could also be done by national enterprises. Moreover, according to the World Bank, the Gezhouba group is on a list of enterprises involved in corrupt and fraudulent practices (Villavicencio, 2016b). This shows how, in the end, the realized Yachay is indeed becoming global, but in a very different way than expected, making Ecuador more rather than less dependent on other countries.

Significantly, the new government of President Lenin Moreno, which took power in February 2017, has reevaluated the Yachay project and in June 2017 the university announced some austerity policies to optimize the use of resources (Yachay-Tech, 2017). In addition, Adrián Bonilla, the new Secretary of Higher Education, Science and Technology has said that the project must be “rescued” in terms of its organization, dimension and efficiency. According to him, the project must be “pertinent to the context and national reality and then pertinent to the regional reality. Because Ecuador is Ecuador, is not Qatar, is not Shanghai, Ecuador is Ecuador, is not California. And it is a poor country which requires technologies according to its productive capacities” (Bonilla in EcuadorTV, 2017, author’s translation from Spanish). At the same time, an expert in higher education revealed to me that the idea of Yachay as an economic development axis
remains in place (A. Espinosa, personal communication, November 30, 2017). Still, the recent actions and discourses of the national authorities confirm the fantastical nature of the original plan for Yachay. From the changes this plan underwent, both in the planning process and in the ongoing process of construction, it has become clear how far from Ecuadorian reality the conception of the project strayed.

The tensions discussed in this section between the original conception of Yachay and its realization show how the city of knowledge no longer exists as the utopia it was imagined as. Instead, in its realized form, it resembles Foucault’s notion of the heterotopia. Foucault defines heterotopias as real places that exist and act as counter sites. Such places exist in every culture and function as “a kind of effectively enacted utopia in which the real sites, all the other real sites that can be found within the culture, are simultaneously represented, contested, and in-verted. Places of this kind are outside of all places, even though it may be possible to indicate their location in reality” (Foucault, 1986, p. 24). To describe and explain heterotopias, Foucault mentions six principles (1986) that are useful when analyzing Yachay. First, heterotopias are a constant of every human group and take varied forms. Second, each heterotopia has a precise and determined function within a society. Third, a heterotopia “is capable of juxtaposing in a single real place several spaces, several sites that are in themselves incompatible” (Foucault, 1986, p. 25). Fourth, heterotopias “are most often linked to slices in time—which is to say that they open onto what might be termed, for the sake of symmetry, heterochronies. The heterotopia begins to function at full capacity when men [sic] arrive at a sort of absolute break with their traditional time” (Foucault, 1986, p. 26). In relation to this principle, Foucault also mentions museums and libraries as heterotopias that accumulate time. Fifth, heterotopias presuppose a system of opening and closing, which means that they are sites that are not always accessible like public places. Finally, “in relation to all the space that remains”, heterotopias can have two roles: “to create a space of illusion that exposes every real space, all the sites inside of which human life is partitioned, as still more illusory” or “to create a space that is other, another real space, as perfect, as meticulous, as well arranged as ours is messy, ill constructed, and jumbled” (Foucault, 1986, p. 27). The latter is what Foucault calls a heterotopia of compensation, wondering if certain colonies have not functioned in such a manner.

Considering these principles, it is possible to argue that Yachay could be called a heterotopia. When analyzing the constructions of Yachay, for example, it is precisely the juxtaposition of incompatible spaces representing different histories and functions that
disrupted the utopia conjured in the original plan, in line with the third principle mentioned by Foucault. As I explained earlier, ancient remains, structures from colonial times (such as haciendas, the sugar mill and acequias) incongruously share the space with computational laboratories, study rooms and a library. In Foucault’s words, there is a juxtaposition of “a whole series of places that are foreign to one another” (1986, p. 25).

Following the fourth principle mentioned by Foucault, regarding heterotopias and their capacity of breaking with traditional time, when analyzing Yachay in relation to the context into which it has been inserted – that of the rural town of Urcuquí – a radical temporal rupture can be noted between the temporal horizons of the inhabitants of the town and what Yachay was supposed to project – a futuristic city functioning as a hub of innovation and effecting a vast transformation of the area. The presence of Yachay has changed the lives of the inhabitants of Urcuquí by imposing on them a sense that they need to provide attractions for the new inhabitants, as well as new urban services to respond to the needs of the professors and students. In addition, in a similar way as Foucault sees museums and libraries fulfilling the function of accumulating time, Yachay aspires to condense the (past, present and future) knowledge of an entire country inside its walls, becoming a sort of heterotopia of the accumulation of knowledge. It was constructed with the idea that the knowledge necessary for the development of the country needs to be developed and concentrated “elsewhere”, rather than in the existing centers of knowledge distributed around Ecuador.

The fifth principle mentioned by Foucault, concerning the heterotopia as a system of opening and closing, can also be seen in Yachay, which is a site that is claimed to be a place for the common welfare of all Ecuadorians but, in fact, is not easily accessible. To teach at Yachay-Tech University requires degrees and other documents demonstrating your (preferably international) credentials, while a commitment to the Alianza País party’s vision of the country is necessary to work in its offices or even in the construction area. The same applies to the students; to be allowed to study in Yachay, it is necessary to obtain the best grades when taking the national exam that gives access to Ecuador’s public universities.

For example, in September 2014, on his personal Facebook profile, Héctor Rodríguez, General Manager of Yachay-EP, posted an open call for “Civil engineers with a Master’s degree, experience in infrastructure project management, politically ALIGNED and experience in the public sector” (capitals in the original text, author’s translation from Spanish).
A final aspect that signals the conversion of Yachay from a utopia into a heterotopia is its compensatory function (the sixth principle of heterotopias mentioned by Foucault). With Yachay, the government sought to create a space modeled on western and global capitalism, as if all the country’s economic and social problems – part of the messy and ill constructed space – could be fixed or disguised with new construction. This creates the impression that the government of Ecuador, a former colony, is repeating the same logic used by colonizing countries of the past, a logic of constructing (and imposing) a perfect and meticulous space where they could control everything, compensating for the fact that such control is more difficult to achieve in the country as a whole and for the perceived “lagging behind” of Ecuador in the global economy.

In this section, I have analyzed how the plans for Yachay have been realized up to now and described why, in the end, the imagined utopian Yachay was not reflected in the implementation of the project. The dream of creating a modernist, futurist city modeled on Songdo did not come true. First of all, this was because of opposition to the original Master Plan from an Ecuadorian group of urbanists and architects, focusing on the pace at which the city would be built and the scale of the structures. Second, the space where the city was to be located “spoke back” to the plan by revealing itself to be not a tabula rasa but harboring ancient vestiges, buildings and communities. This resulted in a very different design from the one conceived by the Korean team at the origin of the project, reflecting a different scale and incorporating, among others, historic structures and traditional Ecuadorian designs. Nevertheless, what persists is the will to control the space through regulations and through the ideal of using Yachay to educate exemplary scientists that will change the economy of the entire country. Again, this ideal has not yet been achieved, for many reasons, including, as detailed, financial irregularities, the lack of consistent leadership, problems related to the infrastructure and corruption scandals.

All the tensions discussed in this section reflect the discrepancy between the imagined, utopian Yachay as, in Lefebvre’s terms, a conceived space and its material implementation and use as a lived space. The concept of the heterotopia illuminates the compensatory function Yachay is supposed to fulfill, making up for the “lagging behind” of Ecuador in relation to other global economies. It also helps to recognize that this project was planned as if it could be placed outside of the social, economic and historical context, in order to create a space breaking completely with the surrounding temporality, a space where, effectively, other real sites (such as, for example, the neighboring town of Urcuquí, but also other universities) are contested and inverted. In the end, however, the
Yachay project failed in its compensatory function as a techno-fantastic space because, during its implementation, the authorities were forced to take into account the social and economic realities of both the area in which it was built and Ecuador as a whole.

Conclusions
The design process and the resultant construction of Yachay enable a reflection on the relation between the projected ideals of the Ecuadorian government of President Rafael Correa and the de facto results reflected in the buildings constructed thus far. In this chapter I have examined the construction of Yachay through the analysis of the political discourses that accompanied its inception, promotional materials, the first designs of the project and its implementation so far. The main outcome of this analysis is that the utopian imagination and fantasies of the authorities and technicians in charge played a central role when planning the city, converting Yachay into a container for their ideas about Ecuador’s role in the global context and how this role could be transformed by building a futuristic ideal city. The utopia of Yachay (following Foucault’s definition of this term) is that of a city capable of changing Ecuadorian reality by boosting technology and bringing together rational and brilliant brains to fuel the machine of development. The government, inspired by the Korean model of Songdo, constructed a tale based on the myth of modernity, with distinguishable characters (brilliant professors, talented students) and fantastic scenarios (a city of skyscrapers arising from a flat, rural space, slick laboratories, super-highways).

Two main fantasies supported the design of Yachay in its first version. First, the political discourse and the publicity of the project were centered on the project as a knowledge machine and technological hub capable of changing the economy of the whole country and making it a leading competitor in the global economy. In this effort of publicizing Yachay, the most visible aspect is the deployment and amplification of what Appadurai calls techno-, media- and ideoscapes (1990), which, according to Appadurai, are imagined worlds that configure the new global order. In the case of Yachay, the imagination of the authorities overvalues technological development as an instrument to achieve economic and social progress. The idea of a future global city projected through Yachay is one of technological advancement and innovation, understood as a direct result of material devices and infrastructures, without requiring changes in the economic and social dynamics of the country. Through the active use of mediascapes, this unrealistic future product of the authorities’ imagination is spread to the Ecuadorian public, blurring
the line between real and fictional worlds. The mediascapes also help to spread ideoscapes, as political images related to ideologies, among the citizens, reinforcing, in this case, the idea of a “second independence” and the achievement of Buen Vivir.

The second fantasy/imaginary was the one of Yachay as a Zone and the desire to control the space following modernist ideals. The Zone, following Bach, refers to export-oriented territories that are central to global capitalist development and that incorporate fantasies and ideals of urban futures. The way in which Yachay’s plans organize the space and the objective of it becoming a powerful, innovative industrial area follow the same logic of insertion in a capitalistic economy combined with urban ideals. In line with the model of the Zone, Yachay was supposed to become a space in which the sense of national identity and citizenship is embedded in a neoliberal context of entrepreneurship and innovation thought to contribute to global economic competitiveness. It is important to point out that, in this fantasy, the idea of Buen Vivir, with its basis in indigenous knowledge, is excluded, even though it was frequently utilized in the political discourse promoting Yachay. The urban ideal of Yachay regenerates the modernist principles associated with CIAM, in which architecture was perceived as a means of creating new habits and city planning was characterized by order, symmetry and large structures, following the model of the machine. Here, the urban ideal of Yachay comes together with the ideal of citizen control and order to guarantee the “proper” functioning of the city.

These two fantasies were the two main pillars sustaining the origin of Yachay: on the one hand, the ideal of constructing a powerful knowledge machine/technological hub and, on the other, the ideal of creating an export-industrial Zone. Together, they envision Yachay as a utopia, an unreal place that offers consolation to the authorities and allows them to pour out their dreams (Foucault, 1994 / 1966)). Significantly, the utopia of Yachay manifests as a conceived space in Lefebvre’s sense (1974), a representation constructed by authorities, professionals and technocrats, through an ideology and ideas of power and knowledge.

The last part of this chapter shows, however, that the ideal of an Ecuadorian Songdo or Silicon Valley could not be implemented for a variety of reasons. First of all, Ecuadorian architects and urbanists proposed a different design than the Korean advisors, arguing that the constructions should be more contextualized and suitable to the economic reality of the country, and proposing to construct the city in stages using a human scale. In the end, after much discussion, it was this vision that was implemented. Second, the persistence of the past also forced changes in the designs: archeological remains were
found in the area of the project, the haciendas’ heritage-status buildings had to be preserved and the communities already settled in the area had to be accommodated. In the end, the current design of Yachay (only partially implemented) is a model centered on smaller structures, prioritizing the human scale, green areas and a (partial) harmony between the structures and the landscape, also evoking some traditional architectural tendencies. Notably, one of the critiques leveled at the project’s current buildings, which do not resemble those of Songdo at all, is that they resemble a hacienda more than a technological center with global ambitions. In addition, after three years of operation, Yachay’s infrastructure still leaves much to be desired and, in relation to Yachay-Tech University, a series of political scandals has come to light, further eroding the already limited credibility of the project.

As in the case of the new airport of Quito, which was inaugurated in the same period that Yachay was being designed and implemented, Yachay reflects a particular political and social phase in Ecuador, during which politicians and technicians projected their ambitions on megaprojects that they imagined would allow the country to become fully part of the global economy. In the case of the new airport, the project was conceived of as an essential structure towards the construction of a global city region, while in the case of Yachay, it was presented as a powerful space capable of transforming the economy at the national level. In both cases, when designing and imagining the space, the first impulse was to leave behind history and already existent social dynamics.

The case of Yachay exemplifies the practice of designing disproportionately ambitious plans for a techno-fantastic transformation of space. In this context, the term “fantastic” refers to an urban construction originating from a fantasy of what might be possible rather than from a realistic discussion with citizens and national experts, or an in-depth study of Ecuadorian priorities or necessities. This fantasy arises from a political and technical effort to fit into a global reality characterized by technological development, in which scientific advances and knowledge produced in sophisticated laboratories are perceived as synonyms of progress. It arises also from the desire, on the part of a former colony, to be recognized as a major player in the global economy. Through a very deliberate use of the mediascape, the fantasy is spread across the country, not only to make public the authorities’ imagined worlds but also to obtain the support of the public and convince them that the fantasy can become reality.

In the next chapter, I continue my reflection on how the State manages urban planning and how the interests, ideals and imaginaries of the authorities are reflected in
the resulting transformations of space. This time, I take as my case study the construction of the so-called Millennium Communities, in the Amazon region, as well as the socio-cultural and political visions propelling this construction. The Millennium Communities project demonstrates several similarities to Yachay: when starting the project, the space was assumed to be an empty space, ignoring history and local dynamics; it constituted another attempt to integrate Ecuador into the global economy; and the structures were, once again, constructed following modernist ideals. Nevertheless, while the Millennium Communities also reflect an effort to change Ecuadorian reality, this transformation, unlike Yachay’s, is not based on a techno-futuristic ideal. Rather, at the core of the Millennium Communities project is the extraction of oil, a raw material that has sustained the Ecuadorian economy over the last sixty years and that I will discuss as producing an extractivist conception of space.