Between birds and humans: The design of the encounter

by

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Submitted to the Department of Architecture in partial fulfillment of the requirements for the

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Abstract

Through objects like cages, places like zoos and institutions like preserves and natural parks, humans have represented and produced ideas of nature, informing the relation between our specie and others. These institutionalised spaces and objects have traced boundaries, established ideas of proximity and distance to other living beings, and projected moral and aesthetic values on the environment, ultimately extending the realm of human politics to the totality of the earth.

The thesis argues that it is through “placing” that the relation between humans and other animals has evolved, and that the established objects, spaces and rules which mediate between our specie and others are in a state of crisis. The cage no longer domesticates, as everything has already been domesticated; the zoo no longer represents the wild, but constructs fantasies in a tarzanesque vernacular; the national park no longer preserves, but produces “nature”. In other words, the current forms and ideas through which we institutionalised nature no longer help us make sense of it, producing a confusing sense of guilt, helpless concern, and distance.

Focusing on birds (animals which, more than any other, have been vectors of metaphors, and that along humans, through migration, seeds dispersal and adaptation, have most contributed to the globalisation of nature), the thesis investigates how new objects, places, and definitions can emerge from the crisis of current spatial and juridical models, shaping other forms of encounter between species.

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Between birds and humans

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Through objects like cages, places like zoos and institutions like preserves and natural parks, humans have represented and produced ideas of nature, informing the relation between our specie and others. These institutionalised spaces and objects have traced boundaries, established ideas of proximity and distance to other living beings, and projected moral and aesthetic values on the environment, ultimately extending the realm of human politics to the totality of the earth.
"We know what animals do and what beaver and bears and salmon and other creatures need, because once our men were married to them, and they acquired this knowledge from their animal wives."

Hawaiian Indians quoted by Levi Strauss

Animals have not entered the life of humans as meat or leather. Rather, they first entered our imagination as messengers and promises – the earliest drawings, and one could suppose, the earliest metaphors, were about animals. In Greek mythology, Orpheus played his lyre and communicated with feral creatures, as if the limit of understanding animals were a human limit, one that gods could overcome; Aristotle, in his History of Animals, organised animals according to qualities that they possess in common with men; in Christianity, San Francisco spoke to the creatures of the forest, superimposing moral values upon all living beings. Plants and animals were far more than flesh and fibre, and their relation to humans was essential in defining both the human and the divine. Art historian John Berger argues that Anthropomorphism emerges from the constant use of animal metaphors, and the discomfort we feel today towards it is twofold – it is the residue of the continuous use of these metaphors, paired with the removal of animals from urban life. This “new solitude”, Berger writes, “makes us doubly uneasy.”

Today, the definition of the urban is expanding geographically and culturally. The “urban” encompasses the totality of the earth, a condition which does not just emerge through built matter, but also through air pollution, climate change, and processes of ecological and cultural globalisation. Within this vast, global “interior”, new forms of conflict and interaction are emerging between humans and non-humans. In a domesticated planet, there is simply no place left for animals to be outside.

The thesis argues that it is through “placing” that the relation between humans and other animals has evolved, and that the established objects, spaces and rules which mediate between our species and others are in a state of crisis, cracking under increasing pressure. This pressure is not only ethical – the immorality of keeping animals caged, or of killing undesirable species – but aesthetic: the devices we use to investigate, understand, communicate or keep other species at distance no longer work.

The project of preserving nature has left the question of “which nature to preserve” unanswered; the idea of “wilderness” is a notion more suited to describing an abandoned rail track than the way a National Park is managed; the dream of controlling, bending nature to our will, simply has not worked; the concept of ecosystem services, often advocated to justify the presence of animals and plants, reveals an increasingly sinister side, the zoo no longer represents the wild, but constructs fantasies in a tarzanesque vernacular, while the idea that “nature” would be better off without humans is masochistic and, if carried through, leaves suicide as the only possible coherent path. In other words, the current forms and ideas through which we institutionalised nature no longer help us make sense of it, producing a confusing sense of guilt, helpless concern, and distance.

Focusing on birds (animals which, more than any other, have been vectors of metaphors), the thesis investigates how new objects, places, and definitions can emerge from the crisis of current spatial and juridical models, shaping other forms of encounter between species.

Above: Sermon to the Birds, Giotto di Bondone (1267-1337)


Removal and Return

Two inventions are to be credited with a prominent role in the disappearance of most animal life from cities: the diesel engine and the refrigerated van. The exchange of horses for motorised vehicles rendered grass fields in proximity to dense urban centres, food sources for the livestock, useless. The expansion of the cities that followed, and the exchange of grazing animals for gardeners, first, and mechanical mowers later, brought further shifts in the landscape. The grass fields were then no longer managed by animals, and their memory developed into the lawn, constructing a pastoral imaginary capable of conjuring images of wealth, democracy and shared values. Refrigerated trucks, in the meantime, allowed the centralisation of slaughterhouses, removing livestock from cities under the insignia of hygiene.

Today the notion of “urban” has expanded beyond traditional readings of cities. Through systems of value, pollutants in the atmosphere, and economies and knowledge, “urban” has become a quality that pervades the totality of the planet. In this continuous interior, new forms of encounter and conflict between humans and other species are emerging. Recent cases have seen animals being convicted for attacking humans or livestock, (a recent case in Italy saw the conviction and executions of a wolf to the death penalty, after the animal was found guilty of attacking a pastor outside a National Park). Simultaneously the return of animals thought to be long removed from the urban realm (wolves, foxes or bears in various parts of the US and Europe), as a direct consequence of reforestation projects and changes in agricultural practices, is bringing a new set of juridical and ethical questions to light. Human territories and objects define animals and their rights: a bear in a national park holds different rights from the one found in the suburbs, while the same bird species may hold different rights according to a native or non native status, or may be deemed, in the course of a few generations, endangered or invasive. In many ways, animals participate in human politics, as the nature of the relation between human societies and animals is political and cultural.

Animals used to be subjects to the same law as humans. A bear could be tortured for attacking livestock, a dog could be sentenced along the human for an act of bestiality, a tree could be “killed” again for falling on a house. The humanization of animals was a matter of law, and their de-humanization, their characterization as purely instinctual creatures, emerged only during the Enlightenment.


3 Beyond the statistical readings – according to the world bank, over 50% of the world’s population resides in urban areas – it is the complete territorialization of the earth’s surface that defines a new urban condition.


Paradoxically, as we became more “humane” towards each other, we progressively took humanity away from animals, and animals have progressively retreated from cities and human life. What to do now, when there is no “outside” left to place them?

The Cage and the Territory

La Serinette is a 1751 painting by Jean Simeon Chardin depicting an interior scene with a woman teaching a canary bird. In the scene, the woman plays a barrel organ to the bird, apparently teaching him a melody. The bird and the cage, considering the wealth displayed through the silks and tapestry, were part of the room’s public presentation. The scene, however, does not only display curiosity or a taste for the exotic, the characterization of a “curieux”, but depicts domestic values, projected on both the woman and the bird: ideas of tamed virtue, of domestic tranquility and control.

The bird cage is a powerful metaphor as well as a practical instrument to tame wild animals, forcibly exposing the bird to human presence.


Below: La Serinette, Jean Simeon Chardin, 1751


Caspar Netscher, *Lady at the Window* (1660), and Lady with a Parrot, a Monkey and a Man (1660).

Jan Havicksz Steen, *The Parrot Cage* (1660) and Ferdinand Wilsert, *Fisherman in Gent* (1850s).


Karoly Brocky, *Woman and Bird* (1850s), and Philip Connard *Budgerigars* (1934)

Charles W. Peale, *Details of Mrs. Richard Gitting: with bird in cage* (1788), and Johan C. Fiedler, *Woman with parrot* (1730)

Ange Francois, *Footerung des papages* (1869), and Johann H. Tischbein the younger, *Woman with parrot* (1780s)
Objects like the cage have a crucial role in defining animal and human relations, operating both as a practical mean of control and as a device to transform the animal. As the cage makes the bird a pet, the yoke transforms the ox in a machine, and territorial boundaries can make an animal endangered or invasive. These objects operate a simplification of the animal, by making legible and selecting (in other words, domesticating and taming) desirable or undesirable traits of life.

Foucault, when discussing the panopticon, wonders if Bentham had Louis XIV's menagerie in mind. Both a metaphor and a space, requiring maintenance and inputs of energy, the cage is a cultural object that allows human and non-human cohabitation. It is across the cage that the communication between the species takes place, and it is through the cage that the distinction between the two is enforced. The cage acts as an intermediate object, enabling the human to retain its “humanity” by confining the animal, embedding demands, expectations and concessions to the animal through the cage. The cage not only imposes human desires on the bird (display, singing, or flying), but sets the limit to how much of an animal the human will become in the relation. The cage both embodies and controls the aesthetic relation with animals (where one is both looking at and being looked at). Through the cage we decide how much the animal is to be humanized and the human to be animalized.

Birds, along humans, are the most powerful biological force of globalisation on the planet. Through seed dispersal, adaptation and migration, birds have occupied every corner of the globe, their relation to humans stretching far into the realms of faith, metaphors and language. Birds evoke other, radically different, ways of conceiving territories, not only as small or large surfaces but as routes, lines cutting across countries, continents, ecologies. The caged bird in a house strikes us not only because of the ethical dilemma of caging an animal, but because of the incongruity of scales at play. The cage becomes a model of nature - the cup as a pond, the perch as a tree, the sand as the soil - as well as a model of society; one where, through domesticating a species, we project cultural values and attributes of morality on other animals, cherishing the bird that doesn't attack, the dog that won't bark at strangers or the cat that won't steal food from the table.

The Grammar of the Zoo

While cages emerge as cultural objects representing ideas of domesticity - it is not a coincidence that most bird cages today are shaped like houses - the zoo developed as a mean to display power and wealth. The transformation within the zoo is not just that operated on the animal - making the collection one of “exotic” species - but of the zoo itself: from displaying colonial power, zoos have over time claimed a pedagogical role, have become places of leisure, and are currently being framed as venues for research and species preservation.

The evolution of the zoo follows that of society, and cages in zoos are currently being redesigned in the soft spoken language of landscape architecture8. Berms, ponds and artificial rocks are replacing steel bars and nets, while “immersive” exhibitions, where the human enjoys the illusion of moving inside the animal precincts, are becoming the new standard for zoo curation. This conflation of ambitions and agendas is breeding a growing set of doubts on the role and meaning of the zoo in society, as well as on the status of the animals it contains. The meaning of an Indian tiger displayed in victorian Britain was a clear manifestation of the empire's reach, which simultaneously brought life to the narratives of exotic adventures in far-away lands. Today, the meaning of the tiger is much more complex; it is in a zoo to evoke the ecology it is (or is supposed to be) part of, it is there to create awareness about its condition in the face of environmental change (as many zoos claim), and it may be there as part of a project of species preservation and medical research. But to most visitors, it is there to provide an image of the wild, regardless of the fact that the caged tiger may share biological traits with its non captive relatives, but hardly any of its behaviors.

The Zoo and the World

Zoos are places with a civic function, scale, and ambition, yet, their plan is unlike any other urban plan. They exist, beyond the banality of local climate, as a contextless diagram of the world - most zoos are curated according to continents, or ecosystems - and their features are more akin to those of a map than to a plan. In this sense, the edge of the zoo is always the edge of the world, and every zoo is the same zoo. The sameness of the zoo is not reflected only in their similarities, as design innovations in zoos are rapidly adopted globally, but in the very genes of the animals, which are often exchanged and lent between zoos for breeding and displaying purposes.

8 For an overview on the intersection between HAS and design, see: Wolch, Jennifer and Owens, Marcus. Animals in Contemporary Architecture and Design. Humanimalia: a journal of human/animal interface studies, Volume 8, Number 2, Spring 2017.
Bird devices (cages, leashes, feeders, diapers, homes, etc), from the U.S Patent Office
If one was to forget the vernacular of the zoo, the crude language of steel bars, wired fences, and pits, but also the more acceptable one of ponds, water frames, glazed caves or rocks, the fundamental transformation of the zoo is in its conflation with other types, in its hybridisation with parks and preserves, in the blurring or reversing of the relation between guest and host. In contemporary zoo projects, such as BIG’s project for Copenhagen, the zoo acquires the traits of a national park, where visitors explore the “ecologies” of the zoo through pods, bending the once straight line between species. Projects like the Copenhagen zoo bring to the limit ideas of immersive exhibitions, developed in the 1970s, within urban settings, but simultaneously highlight other boundaries, those between the humans inside and outside of the zoo, as well as those between the animals inside and outside of it.

Zoos, using the cage and evoking territories, are conscious projects of representation of nature. As the meaning of the zoo shifted over time, an increased confusion developed regarding the meaning of the zoo and the of animals within it: The paradox of the zoo today is in the effort
of representing a natural world which does not exist anywhere else. The diagrams propose a way to move from the individuality of the cage to the collectiveness of the zoo, from the encounter of an individual bird and an individual human to the encounter between a society of humans and a society of birds. In doing so, the proposal is to reconsider current curatorial practices of zoos—based on geography, or on simplified ecosystems—to embody operative modes of thinking nature, which act through cultural, rather than biological categories; those of wild, native, feral, domestic, invasive, endangered, etc. Temporarily abandoning the geographical fiction of the zoo allows to conceive it as a project about the future, rather than one invested in the representation, or the construction, of the past.

Above: Diagram of current and past curatorial schemes for zoos (Tower of London Menagerie, 1200s to 1835, London Zoological Gardens, 1850s, Perth Zoo, 1990s, Copenhagen Zoo, 2019); the zoo as a list, as a landscape, as a map, and as an ecosystem (top four). Increasingly, the line between humans and animals within the zoo is designed to disappear, and the fear of the encounter reappears as an effect within a geographical fiction. Exploring curatorial possibilities through zoos: the zoo as an arena for environmental politics, as a progression of fear, as a dispersed network of cages, as an overlapping system of territories, as a system of ecotones (between land and air, the canopy, between water and land, the swamp...), the zoo as a gradient of disturbance, as flows of energy, biomass, or money, and the zoo as a route, a territory within territories.
The National Park

Where cages reflect on the individuality of an animal (human or bird), zoos propose ideas of the world, National Parks carry the weight of proposing ideas of Nature. At their core lies the idea of wilderness, legally defined by the Wilderness Act of 1964. Wilderness, from John Muir to Thoreau, all the way to the present day, has undergone substantial stratification and changes, as have the policies that inform the agenda of National Parks.

Sabine Hofmeister articulates the specific nature presented in National Parks as belonging to a “second wilderness”. In her view, the first wilderness is a primeval state, which may or may have not existed, one in which humans were in wilderness, and therefore, unaware of it. The second wilderness of National Parks is a reconstruction of this idea, a pristine world where humans are guests and plants and other animals dominate. This leads to the definition of a third wilderness, a state of permanent crisis where nature is no longer a benign, motherly nature, and wilderness is once more the unknown, the unexperienced, the terrifying and exciting promise of an unpredictable future. Looking at the ideas of preservation and restoration enacted within many National Parks, the project of preservations is unveiled of its conservative mask and reveals a revolutionary nature, dedicated to the construction of the imaginary of wilderness through territorial control, regulations, species identification, removal, and introduction.

Wilderness

“This Nation began with the belief that its landed possessions were illimitable and capable of supporting all the people who might care to make our country their home; but already the limit of unsettled land is in sight (...)” declared President Theodore Roosevelt in 1908, addressing State Governors at the White House. “We have become great because of the lavish use of our resources and we have just reason to be proud of our growth. But the time has come to inquire seriously what will happen when our forests are gone, when the coal, the iron, the oil, and the gas are exhausted, when the soils shall have been still further impoverished and washed into the streams, polluting the rivers, denuding the fields, and obstructing navigation”.

In his mandate, Roosevelt created five national parks and signed the Antiquities Act, which allowed the President to unilaterally declare a National Park. He wielded the power 18 times during his presidency. In the following 110 years,


01 From Roosevelt’s speech at the opening of the “Conference on the Conservation of Natural Resources”, May 13th 1908 accessed online at http://www.theodore-roosevelt.com/images/conservationconferencespeech1908.txt
a broad bipartisan acceptance that areas of "natural beauty" or ecological importance should be off-limits gradually settled: The network of National Parks in the United States currently includes 412 federally protected sites, comprising areas of ecological value, as well as historic trails, battlefields and monuments. The value attributed to National Park over time has shifted as well. Initially seen as a mean to preserve the "natural beauty" of exceptional sites, National Parks are now more commonly understood as important parts of ecological networks; no longer islands of pure wilderness, but components of broader ecologies.

The ideas of wilderness and natural preservation were fundamental to promoting an environmental agenda at the beginning of the twentieth century, but their construction did not come without a cost. The ideological split between progress and preservation alienated the environmental culture from that of production, cementing an idea of "nature" as an autonomous, feminine entity, to be saved or conquered. The dialectic of protection and production, which was instrumental in the creation of national parks, is, today, under increasing pressure, and with this pressure comes the urgency to re-evaluate the paradigm of wilderness.

The Return to Eden

Across scale and categories, the thesis argues that the project of world domestication has already taken place, and that new forms of beauty, wilderness, sublime, and wonder are to be found within this interior. The end of the wild, not only the end of the geographically unknown, but the end of the wild as a form of salvation, preludes to new attitudes towards humans, places and other animals. Over twenty years ago, Daniel Janzen advocated an horticultural approach to ecology and, more broadly, to the world; the thesis argues that such an approach, one where we may cultivate, rather than conquer or save, the various ideas "nature" is made of, is a project that belongs to the realm of aesthetics, where forms, places and things compose new territories between the way we speak of and the way we act on the world.

To the right: Animals across scales. From the home to the territory, the agency of words in the placing of animals increases. Ultimately, cultural categories such as domestic, wild, exotic or invasive inform policy, design, habits and taste. At each scale, the same animal is reassessed with other parameters, as the lines between the scales become blurred, and, just like the line between one species, or between a territory and another, the line becomes a territory of its own.

02 Keiter, Robert B. To Conserve Unimpaired: The Evolution of the National Park Idea. N.p.: Island, 2013
The Domestic - *The Civic* - *The Territory*

**Realm**

- "he is part of the family", domestic view of animals seems to overpower their role to society. Animal, till here is human, after this point is removed (??) humanization/dehumanization/rehumanization
- production of pests versus production of pets.
- animal territory - incompatibilities - as different as chartier's aboriginals from british - different nation of territory, yet mutually influenced (poster in w.cremon on wild cans land, or bear territory, bird territory - what is it a line in time? timelines versus areas

**Actor**

- in which way familial bonds are reflected in role of animal? society change/role of animal change is clear - how does this enter private sphere? only animal rights or more?
- "nature" as institution - how to give agency to animals, of course. Institution as "peace treaty" (Tafuri).
- where definitions become laws (wild-invasive etc), ambiguity is lost or becomes conflict.

**Metaphor**

- Cage (cultural object), questions what is "use", what is "ornament". Bird doesn't need water "bowl", food plate or sand below. Solidification of an environment which animals typically transform through feeding, breeding etc. Cage becomes object that doesn't need the bird, as much as the bird doesn't need the cage. Cage as scenography, orderly frame for messy creatures (simplification/legibility)
- Zoos as biomes (David Hancocks).
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**Type**

- The cage as a metaphor (incarceration/freedom/domestic life), the house in the house, place where conflict of animal/human territory is most evident/brutal.
- Cage as act of simplification (highlighting of a specific trait of the animal - singing, talking, display of colour) cage becomes ornament to the house, bird ornament to the cage, display of paraphernalia part of the act of simplification (bowl for water, stand on the ground etc.) still node of network (hygiene, food.
- Colonial Power, pedagogy, leisure, research. Newman's claims of preservation. From display of species to display of ecologies (multi species cage). Spectacle, but no longer of "wild", of what, then shift from macrofauna (reason ethical, but also has to do with mission of representation)! No more cages, landscape architecture lends devices (berms, rocks, water bodies). Simulation of nature, production of "Tarzan-esque" vernacular.

*The Territory*

**The Family(?)**

- in which way familial bonds are reflected in role of animal? society change/role of animal change is clear - how does this enter private sphere? only animal rights or more?

*The Institution*

- "nature" as institution - how to give agency to animals, of course. Institution as "peace treaty" (Tafuri).
- where definitions become laws (wild-invasive etc), ambiguity is lost or becomes conflict.

*The State*

- animal territory - incompatibilities - as different as chartier's aboriginals from british - different nation of territory, yet mutually influenced (poster in w.cremon on wild cans land, or bear territory, bird territory - what is it a line in time? timelines versus areas

*The Ecosystem*

- Zoos as biomes (David Hancocks).
- Reflects changing in studies of ecology: from attention to individual species to representation of balance ( Clements in Ecology), multi species cages in XX century etc.), to representations of places - more space for animals, space for autonomous research, forget pedagogical myth in favour of animal health, abandon megafauna in zoo (closer link between space/biomass/species in zoo).

*The National Park*

- Roosevelt's speach - depleting resources, project for posterity (a postcard from an imaginary past?) problem of removal of men - construction of the wild when wild had disappeared - changing meaning of the wild) nature becomes value concept.

(from Thoreau to Muir to Roosevelt to ...)
The vocabulary of the cage explores through a sequence of spaces and objects notions of territory, boundary, border, domestication, invasion, retreat, and scale.
The zero degree of the cage

When we communicate with a bird, hands do most of the talking. The bird will recognize the hand as a separate entity, an inbetween animals, ambassador between species – it may bite the hand, but not the face, fear the hand, but not the rest of the body. Through the hand we communicate an offer – to sit, to feed, to bathe – an instrument designed to cover the space between species, to build proximity and communicate desires.
Bench for a human and a parrot

An ashwood bench, a variation on the canonical Windsor chair, to sit a parrot and a human.
Dress Cage

From stool to cage to dress; from sitting to enclosing and dressing. An ash wood “cage” designed to “dress” a bird while undressing a human, and vice-versa.
Floating Cage #1

A floating frame, caging elements from its context as it drifts.
The frame

A mobile, floating pier, to surround, frame, enclose species and places while granting easy walking on swampy grounds.
**Screen #1**

An unfolded cage, collecting bird parafernalia in a display of actions, and suggestions exchanges between humans and birds.
Sixteen perches

Sixteen tall perches, visible from afar, for migratory birds to rest on. Pure silhouettes from the air, the cast shadows become a projected language.
Bird Scenography

A screen and a collection of objects as the scenography for the performance of a domestic bird.
**Screen #2**

A wall piece displaying elements to share with a bird, flattening the cage into a pure display of pieces to be shared in a house.
Veering Cage #1

A cage designed around the veering space of a flock.
Ladders for birds and bird watchers

Three ladders exploring the level of peril a bird watcher is willing to face to spot birds, recovering, through fear, the humility of danger and abandon, for an instant, the belief in the banality of survival.
Veering Cage #2

A cage to accommodate the minimum space required for the veering of a sparrow.
Room cage

As the cage is reduced to its surface, a suspended curtain, the interior is the space for a human, to sit, observe, and communicate with the other animal. As the territory of the bird becomes the surface of the cage, the territory of the human is within it, surrounded, legible.
Intersections #1

A sequence of rooms; for a human, a bird, and for the encounter of the two, a space which both can access while neither may enter the space of the other, a space between the territory of the bird and the territory of the human.
**Mirroring Cage**

Objects attached to a mirror are suspended in mid air, only accessible through flight.
Intersections #2 and #3

A cloud shaped aviary is the first step in a sequence of increasingly complex territorial definitions and boundaries, where bird and human habitats are superimposed, colliding and intersecting.
**Intersections #4**

As the courtyard becomes the habitat for a bird community, its perimeter is permeable to humans and birds from the outside.
Tree cage

The territory of a bird may be a bush, a tree, a few shrubs. The territory of a tree, the space it needs to live, reproduce, grow, may include rocks, lichens, fungi, several bird nests. As the definition of territory implies the definition of invasion, the change of subject builds new relations and forms.
3

Swamp Routes

Dangerous and endangered, wet and dry, between water and land, wetlands are the territory within the lines, the space between categories.
The Swamp

By definition, wetlands are borders between wet and dry, water and earth, solid and liquid, but also, between something to fear and to protect, to transform and to preserve, between something endangered, yet dangerous.

In the course of two hundred years the Everglades have been shaped by a sequence of powerful visions. The eighteenth-century myth of the Everglades' uninhabited wilderness embodied a variation on the myth of the frontier: From its perception as an inhospitable swamp, to be left to the Indians as undesirable, to its appeal as a new Arcadian territory, where agriculture could flourish, to its portrayal as a recreational paradise and as an area where to preserve and observe the many, by now “endangered” species that inhabit it, a series of ideas shaped the Floridian wetlands through wars, drainage projects, agricultural production and resource extraction.

The call to preserve relies on the characterisation of the area as an uninhabited wilderness, where nature reigns as a sovereign over a balanced ecosystem. In Florida, the more the land was urbanised at the turn of the twentieth century, the more it was “reclaimed”, the more the pressure for “preserving” wilderness and “natural balance” grew, and the fact that the Everglades had to be actively uninhabited through several wars with the Indians, just contributes to the irony of wilderness 1.


To the right: the Everglades' ecology around 1900, based on data by Lou Steyaert, USGS and NASA GSFC, including a reconstruction of the historical water flows.
The Field

This succession of ideas shaped the Everglades of today: the subsidised farming around lake Okeechobee releases phosphorus and nitrogen to the water, altering the historically nutrient-low soil and water of the peninsula. This change in soil and water conditions, together with the altered water flows, a consequence of canalisation and urban expansion, has changed the population of plants and animals in the region. Today, millions are being spent on the restoration of the Everglades\textsuperscript{2}, and millions on subsidies to help the declining economy of sugar cane farming.

\textsuperscript{2} Comprehensive Everglades Restoration Plan (CERP). The CERP was authorized by Congress in 2000 as a plan to "restore, preserve, and protect" the south Florida ecosystem while providing for other water-related needs of the region, including water supply and flood protection, with a budget of 10.5 billion dollars and a 35 year implementation schedule.

Image: the Everglades today, the canals, the new plants, the drainage network and a diagram of the current water flows.
The Everglades were instituted as a National Park only in 1947. The recognition of the importance of the site took time to settle; the flat, monotonous swamp of South Florida did not have the dramatic appeal of Yellowstone or the Grand Canyon, and hardly fit into Roosevelt’s narrative of America’s wild, untouched, majestic landscapes. It was not until concepts of ecology started to shape environmental culture that the importance of the Floridian wetland was acknowledged, and till this day the Everglades remain an exception in the panoply of National Parks, as the area is protected because of its value as a habitat and as a unique ecosystem, rather than for its aesthetic qualities.

The Park is generally absent in the familiar representations of Florida’s suburban life style, populated by swimming pools and palm-lined beaches. Separated by a 20 foot tall, 60 foot wide berm from the neighbouring counties, the swamp remains framed and isolated, generally perceived as a source of concern, directed either to the well-being of its delicate ecology, or to the risk that its most undesired inhabitants—mosquitos and alligators—pose to the tranquility of its suburban counterpart.

The term Everglades itself is subject to conflicting definitions. While the whole of South Florida, originally a vast, slow flowing delta, was defined as “the Everglades”, two Parks—the Everglades National Park and the Big Cypress National Preserve—frame the area as a juridical body, which is subject to two different regimes of preservation.

To the right: National Parks and preserves

It is precisely the distinction between the Preservation status and that of National Park that allows for drilling, amongst other uses, within the Big Cypress Preservation. The history of oil production in South Florida, as well as its present and future, is deeply tied to the fortune of the Tennessee-born entrepreneur Barron Collier. Oil was discovered in South Florida in 1943, four years before the institution of the Everglades National Park, at a depth of 11,263 feet by Humble Oil Co. (now known as EXXON Mobile) in Suniland, on Collier owned land. After decades of fruitless searching, the discovery was made, and received a prize of $50,000 granted to the first discoverers by the federal government. Among the three oil fields in the Preservation, Raccoon Point, with its 17 wells, ranks as Florida’s second most productive oil field, having yielded over 18 million barrels of oil since its opening in 1978. The site is located 20 miles from public roads in the South of the Preserve, accessible only by a private road. Touristic water boats, the only possible alternative to explore the area, typically avoid it in their tours and as a result aerial images and a handful of photos are the only testament to its existence.

Image: Oil fields in south Florida

3 From the Big Cypress National Preserve Business Plan: “A Preserve is a place that allows a broader range of activities than a park. While the primary mission of Big Cypress is conservation, activities such as oil and gas operations, hunting, ORV use, and cultural use are allowed under tightly regulated conditions. These activities would normally be banned within a National Park. By naming Big Cypress a Preserve, Congress respected the broad range of traditional uses to which the area had been put in the past.”

4 The official approval to further research in the Big Cypress Preservation has been granted in May 2017. Official statement accessible at: https://parkplanning.nps.gov/document.cfm?parkID=352&projectID=53498&documentID=72745

5 Data from Collier Resources Company, accessed online at: http://www.collierresources.com/mineral-holdings-oil-fields
**Territory #3**

The Parks and preserve of the Everglades act on its surface, a few meters below the water, a few meters above; the oil companies control the underground, miles below the thin layer of peat; birds control its air. Two main migratory routes intersect in the skies of the Everglades, the Mississippi Flyway Route, and the Atlantic Flyway route. Connecting Canada and central/south America, hundreds of species of birds make this route their territory every year.

To the right, flyway routes, preserves, national parks and oil fields; the territories of the Everglades
Preservation

The Big Cypress National Preserve borders the wet freshwater marl prairies of the Everglades National Park to the south, and other state and federally protected cypress country in the west, with water from the Big Cypress flowing south and west into the coastal Ten Thousand Islands region of Everglades National Park.

When Everglades National Park was established in 1947, Big Cypress was originally intended to be included; however, because the land had not been purchased from its private owners, the heirs of Baron Collier, Big Cypress was ultimately released from the park system.

To the right, environments of Big Cypress; roads, canals, plants
Actors

It was Collier-owned land that, in 1976, was donated to institute the Big Cypress National Preserve, in a time when the federal government was addressing the expansion of the Everglades National Park. By donating the land to institute the Preservation, the Colliers retained the mineral rights for oil exploration, as well as the monopoly for extraction in the preservation for the future.

Along drilling, the preserve allows for a variety of uses not permitted in the Everglades National Park. Within its boundaries, a contradictory and revealing mix of extraction, leisure and research facilities populate the land.

To the right: actors and figures of the swamp
Routes

The traces of these activities are not limited to the drilling pads, the camp sites or the education centers: The dark peaty soil of the preserve records traces of every action on the surface, and the slow flowing waters of the Everglades preserve traces of modification with extraordinary precision. As a result, tire tracks made by vehicles over thirty years ago are still visible today in satellite imagery.

These tracks, and the routes they trace in the isotropic landscape of the preserve are literally a representation of the movement of people, vehicles and animals on the ground. From an environmental standpoint, the impact of these marks on the soil is remarkable; the fragility of the Everglades depends largely on the fact that peat, once compressed or dried, can no longer recover its role as substrate for the local flora [8].

Along these tracks, the Everglades Songlines propose one of many possible paths, a route rather than a site, leaving its own mark on the soils and water.

To the right: tracks and routes: kayaking tours, hiking trails, ORV routes. In black, a possible route along the songlines.
A Garden of Birds and Humans

A sequence of frames compose a new inhabitant of the swamp. Floating on the water, each ring rests inches above the water, anchored or adrift, sometimes directed, sometimes set free in the slow flowing waters of the Everglades. Each ring explores a gradient of the "cage", from the coercive to the homeopathic, constructing a cultivated garden which operates across the cultural categories of invasive, native, feral, endangered; the words which inform the politics of the swamp.

From the perimeter to the core:

A floating pier covered by a canopy, absorbing the range of functions, typically dispersed in the preserve, and organizing them, giving them form.

A second frame defining an increased level of "protection", an archipelago of floating island, typically used in restoration projects to absorb nutrients here, designed as an habitat for wading birds.

A third ring, for kayaking, or loop-swimming.

A ring not to be accessed, but only seen from outside.
**Homeostasis**

One of the ideas behind Cedric Price's Snowdon aviary was that the metal mesh could be removed once bird territories and habitats were established: the ruin of the garden for the birds, after the removal of the hard elements of the island, would evolve in something else still, leaving behind a new ecology of plants, nests, and animals, eventually dissolving into the amalgam of the swamp.
Encounter #1

Habitats are then composed within the rings, according to human knowledge and understanding of bird behaviour; nesting preferences, territorial definitions, feeding habits, in a spectrum that ranges from the most common to the most rare. As the floating garden navigates the Everglades, it acquires a presence on the territorial scale, meeting other actors within it.
Encounter #2

.. confronting, and confusing, as it flows, the distinctions between Nature as sanctuary, and as a resource.

to the right: Raccoon points oil field and the aviary
Endless Curation

A garden that, in time, may be recomposed in other configurations, never reaching perfection, always informing and being informed, making and being made, disturbing and being disturbed by its surroundings.

Now stretched thin in a line, two kilometre long, zigzagging its way through the maze of hammocks, canals, shrubs, oil pads, and tourist resorts of the swamp, the garden is ready to take on other forms and meanings.
One may arrive by canoe, after days of travel across the slow flowing wetland, or with one of the many boat tours that operate on the park. As the Garden moves with its inhabitants, it may be sometimes easily accessible from a trail, appear as an unexpected encounter during a hike, or wait for human and bird passengers, like a port, in different locations during the year.
Meandering through cultivated and constructed pieces, the marks guide through an increasingly maintained landscape. On the edges, grasses and shrubs of the Everglades are absorbed within the frames, managed and kept alongside planted species.
Moving inwards; increased maintenance, growing protection, increased set of rules, as the landscape is curated for specialist species, like the rare Cape Sable Seaside Sparrow, a specie unique to the Everglades, for which millions are spent for the restoration of the nesting habitat.

Moving outwards; increased disturbance, increased noise, increased species diversity, as one moves from specialists to generalist birds.
Within it, a place for scientific research, data collection, field work on the ecology of the Everglades, as well as other forms of engagement with the place. A place to spend a night, as a floating hotel, or to dock the boat, a temporary home for a gardener-in-residence.
And as the island becomes an organism of its own, it lives on different scales; the place for humans to visit, it has bird territories within it, but is a territorial entity as well, with its own rules, engaging the scale by literally flowing on the water and meeting other characters in the Everglades, becoming at times part of the territory of migratory birds, at times invading the territory of other animals, plants and institutions.
A Garden of cages, ranging from the most subtle – a perch, for migratory birds, or for birds of prey to survey their surroundings – to the most coercive. A wild garden, with no maintenance, a garden for endangered species, a place to host the many species deemed invasive in Florida, for which bounties are placed as reward for capture.
Birds like the monk parrot, or the many feral birds released from cages; animals that in a lifetime may travel across all the spectrum of otherness; from endangered, or at risk of extinction, to home pets, then released, becoming feral, or pests, and perhaps, only then, truly wild, speaking once again to human fear.
As the aviary moves across the wetland, it leaves subtle traces on the land; a lost piece, a fragment left as a relic or a monument to its passage, bent grasses behind it as it flows with the currents, prints in the peat as it sinks to the ground during the dry season.
And like the zoo, it is another map of the world, one that represents it, or shows how it could be, and acts on it, through touching, hosting, intersecting, replacing, retreating and invading.
A nomadic territory, simultaneously an island, a ship, a garden, and a port, which follows the existing Songlines of the swamps, while composing other tunes.
The Pier

A “chain” composed of a modular piece, giving a hard, stable walk along the perimeter of the Aviary.
The Floating Dome

Caging monk parrots, protecting them from predators and preys, while allowing fishing birds to swim beneath its perimeter, entering and exiting the dome.
The Perch

A 12 meter tall pole, visible from afar, floating, during the rain season, leaning and laying in the dry season.
The Floating Wetland

Floating parcels, inhabited by plants growing hydroponically in the water of the Everglades, their root system exposed increasing the capture and processing of nitrogen and phosphorus, their surface inhabited by wading birds, with just enough buoyancy for nesting.
The Floating Mat

A neoprene carpet, a wet walk through the gardens, for birds and humans.

White Crowned Pigeon

American Flamingo

Grey Kingbird

Saw Palmetto
(serenoa repens)

Wood Stork

Alligator Flag
(thalia geniculata)

Common Loon

Largemouth Bass

PEAT
CLAY
LIMESTONE
The Folding Stage

A metal screen with nests, openings, feeders and perches, to look at, and be looked through.
4

**Everglades Songlines**

“Walking is a virtue, tourism is a deadly sin”

Bruce Chatwin, *The Songlines*