

English texts of the
exhibition

**tout contre
la Terre**

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au 6 novembre 2022*

TOUT CONTRE LA TERRE

Temporary exhibition

Museum of Natural History of Geneva

13 October 2021 – 6 November 2022

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PREFACE

The limits of the planet

Where are we in our attempts to dominate the earth? We who are 8 million now, soon to be 9 billion. We have emptied fossil deposits that were millions of years old, turned swathes of land into synthetic substitutes and exterminated much of our wildlife. Although we have failed to control nature completely, we have nonetheless overtaken certain planetary limits which have ensured, since the last ice age, a relatively comfortable terrestrial home.

The limits were set out by Johan Rockström's team at the Resilience Centre in Stockholm. They mark the beginning of the Anthropocene, a new age in which humanity becomes the main geological force disrupting hitherto beneficial equilibria as a consequence of an insatiable appetite for resources. We have accelerated the rate of species decline by nearly 1000, we have returned to the atmosphere of the Pliocene, nitrogen and phosphorous flows have exploded and we have cut down our forests more than ever before.

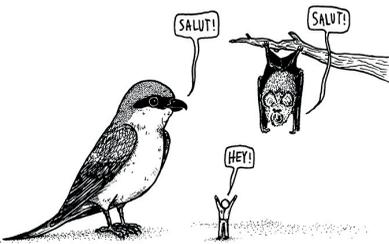
Soon we shall have to add two new limits that are being crossed: fresh water and acidification of the oceans. We have discovered how to stop destruction of the ozone layer but we still cannot determine the danger threshold for aerosols in the atmosphere, nor of substances such as the heavy metals that we are introducing into the biosphere. The new state that we have brought about is beginning to reveal itself, usually for the worse: heat waves, drought or floods beyond normal levels, massive wildfires and other storms of destruction, famine, etc.

Dominique Bourg, philosopher

Biodiversity threatened by the world trade in wildlife

When human populations were smaller than they are now, resources that were exploited renewed themselves naturally. Nowadays, a mere fad or the lure of profit amplified by millions of humans is enough to exterminate an entire species. The use of parts of animals (elephant tusks, leather, etc.) illustrates the drama of human greed: we are capable of annihilating animals of several tons in weight for a small part of their body. Multilateral agreements such as the CITES Convention now try to limit the traffic in wild animals in order to protect species threatened by world trade.

Manuel Ruedi, mammalogist



Fabian Branas ©



Photo Philippe Wagner ©



Photo Philippe Wagner ©



Photo Philippe Wagner ©

Embrace the earth ACTION!

Global warming, mass extinctions, ecosystem collapse, all kinds of catastrophes, even the threat of the disappearance of the human race everything is going wrong. Although we don't know all there is to know about the state of our earth or what the future may hold, scientists are quite clear: we know enough to be aware that our future is no longer very attractive. So, why are we doing so little to change the situation?

With the support of Dominique Bourg, philosopher, Tobias Brosch, psychologist and Cristina Soriano, linguist, the Museum invites you to examine people's emotions and behaviour to better understand their impact within and in the face of the environmental crisis. Our approach is to draw together artistic and scientific perspectives to throw light onto an ecological situation and review the solutions. Drawings, photography, words, interviews and the Museum's collection of natural objects hold a dialogue in scenarios that we wanted to be as ecological as possible. That is why we have recycled former settings and have chosen materials with low environmental impact.

We must re-think our relationship with the earth and learn from our experience and knowledge. We must act, that is, change our excessive behaviours in order to live in balance with nature, and thereby contribute to the well-being of all living creatures whether plants, animals or humans.

Live with the earth, not against it.

The Museum museography and scenography team



What a site!

“Make sure that this stone never arrives at the site. No stone, no building. No building, no palace. No palace no palace.”

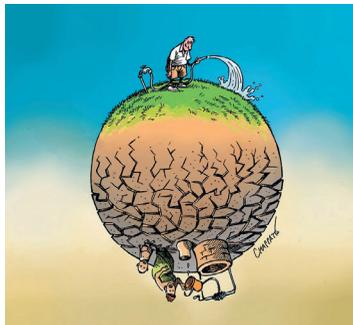
Asterix and Cleopatra
(Amonbofis à Nexosis dans *Astérix et Obélix : mission Cléopâtre*)

My first memory of nature is of a jungle

I was 3 or 4 years old. We lived in a house with a large garden. I remember the swing, the inflatable pool. A dog - Tosca? - with whom I shared my water ices, each licking his own side. And behind, at the bottom of the garden, the jungle.

A green shadow at the garden's edge which sometimes sent us, as a neighbour, its coleopteran and other creatures. We were living in Singapore. I cannot recall the name of the road - Sunny Road perhaps. I wonder if the house still exists. The jungle has certainly disappeared, replaced by a forest of apartment blocks and towers, a hotchpotch of traffic lights and blinking signs, a human buzz.

The jungle was a background, not a place to explore. We didn't venture too deeply into its tropical mystery. In the homes of our district minds were turned to the future. Cars, the road which led to my school where I spoke English and learned a few Chinese words: rice, house, flower.



Singapore's future development was being constructed. Nature had to be domesticated, illness had to be controlled, adjustments to global competition were necessary. With a strong leader, Lee Quan Yew, the country forged ahead. Its administrators rang the doorbell at the house and checked that my parents had not left stagnant water under the plant pots which would have attracted mosquitoes and strange vapours, and also a very big fine.

Progress won. The economic tiger devoured the jungle. And I have forgotten how to say 'flower' in Chinese.

Patrick Chappatte, press cartoonist

Overexploitation of minerals

During antiquity, seven native elements were used as basic metals to create practical objects for the good of the population. Since then, and especially over the last thirty years, we have increased our use to 70 chemical elements, that is, nearly all the elements in the periodic table. Minerals that contain them are found everywhere from cosmetics to vehicles, construction materials to food. Natural resources become exhausted and large quantities of waste, which are often not recyclable, are generated.

Cédric Schnyder, mineralogist

Ecosystem instability

Species of animals and plants in natural ecosystems interact forming a dynamic equilibrium. However, for a long time, we have been changing most of the environments in which we live, notably through agriculture and urbanisation. In the absence of natural predators and with abundant food, some species have colonised towns and cities, others damage our crops. Alien invasive species have followed us on our travels and have multiplied in their new habitats.

Alice Cibois, ornithologist

Let me live!

“We must learn to live together as brothers, or perish together as fools.”

Martin Luther King, political activist, pastor (1929-1968)

Project 2635: A plea for our brothers

Begun in 2017, this project has produced images of the 2,635 animals that appeared on the global IUCN Red List of species threatened with extinction in that year. The project was conducted over three years and the dramatic revelation is that, today, the number has increased to 3,483. While a single number cannot really convey the enormity of this distressing situation, I felt that it was essential to give a “face” to the animals in order to honour them and to engrave them in our minds.

My attachment to nature began when I was very young, running across meadows, following the rivers and passionately observing the spectacle of life in the wild, a fascination that has never left me and that continues to accompany me in all my excursions into nature. This work is also a cri du coeur for our brothers, the animals. Sadness accompanied each stage of the project and each time I drew an animal knowing that it was one of the last envoys of its species. Protect our brothers!

Gabriel Ruta, artist



The scientific view of the disappearance of species

The Red List established by the International Union for the Conservation of Nature (IUCN) lists a species as being 'threatened' according to various criteria: size and density of the population, rate of decline, contraction and fragmentation of its geographical distribution. For each species, the main threats are also identified such as habitat loss, hunting, pollution, etc. From a scientific point of view, we know that threatened species are on borrowed time: if nothing is done, they will become extinct in the short or long term. There will remain, in nature, ever more impoverished ecosystems whose extinct species will only be known through specimens in museums.

Alice Cibois, ornithologist

Scenery 3

Poisoned earth

'What is food for one, is poison to another.'

Paracelsus, alchemist, astrologer, doctor, scientist (1493-1541)

"We spray our elm trees and the following springs are silent of robin song because the poison traveled, step by step, through the now familiar elm-earthworm-robin cycle."

Rachel Carson, marine biologist, ecological activist (1907-1964)



Photo Philippe Wagneur ©

These two series of drawings have their origins in the depths of my childhood

It was a bitter discovery when, in the age of innocence, I collected dead birds at the side of a very busy road. I was experiencing the Anthropocene. In the spirit of 18th century nature illustrations, these drawings in coloured crayon evoke a tragic reality.

1011, artist

“Medea’s robe”. The origin of this title is a Greek myth. Medea, a magician whose name means “guileful”, is rejected by her husband Jason. Furious and vengeful, Medea offers her rival a poisoned marriage robe which kills her instantly. With the same power to kill, pesticides, the poisoning of soils, deforestation and destruction of natural habitats are the modern robe of Medea.

The flower adorned with insecticides thus becomes, for the insects, the gift of the cruellest witch and the marvellous story of their love is transformed into a nightmare. The flower kills the small insect, the small insect kills the big one. And the bird, no longer eating insects, dies itself. Thus the animal kingdom disappears.

These drawings have been made from specimens conserved at the Muséum of Geneva. The labels are different though: the names of the animals are not displayed as usual, but the reason for the disappearance of the creature is given.



Photo Philippe Wagneur ©



1011 ©

TII

“You are here”.The series of drawings of dead bees simply suggests pollution by chemical substances or pesticides used in agriculture. The title indicates that **“This is where we have ended up”** with our advanced technology.

There is a given name under each drawing. It is the most popular name in each of the countries which consumed the most pesticides in 2018: Zi Yang for China, Tamar for Israel, Sakura for Japan, etc.

Declining species, forgotten species?

Pesticides devastate nature, directly or indirectly affecting many species. The first to be affected are usually insects, especially pollinators, meaning that the food source of insectivorous animals disappears. To this should be added the destruction of natural habitats to make way for agriculture or urbanisation. But species decline is insidious because it is gradual and the effects only appear in the long term. Can we rescue such species from oblivion by showing these drawings of dead individuals which we assume have starved or been poisoned?

Alice Cibois, ornithologist

Scenery 4

Everything is going too quickly! What to do?

“When it is obvious that the goals cannot be reached, don't adjust the goals, adjust the action steps.”

Confucius, philosopher

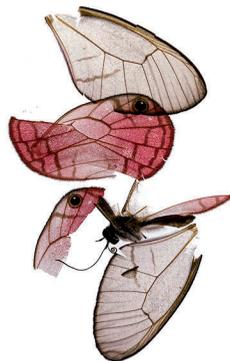
About flying

“It’s probably a mixture of everything. And also an echo of this dislocated world, the collapse of beauty, a ricochet in space, an aborted take-off, a sorrow revealed, parts theory, fragments of a universe, repressed anger, silence at last, the turbulence of received ideas, demolition of an incoherence, desolation of the ephemeral, traces of a lost life, a space without atmosphere and without a tomb. Consolation found.”

“About flying” is a work that confronts us with “sublime destruction”. The butterfly is portrayed through the intensity of its delicate colours, like a stained-glass window, but also like the broken mirror of our illusions. It reflects the shattered hopes of our faith in the other and the painful impasse that the destruction of biodiversity and the simple poetry of life, plunge our culture.

Aline Kundig is a French-Swiss photographer who is, above all, a free spirit artistically. Using all resources available, she is content to extricate herself from her usual technique to work with textiles, collage, installation or assembly. By avoiding classification, she cultivates a fertile paradox: from a bewitching black and white ‘photo’ aesthetic to lethal quasi kitsch saturated with colours; a to and fro between seduction and disconcerting strangeness.

Aline Kundig, artist



Aline Kundig ©

Natural history collections and the decline of insect populations

The decline of insect populations is now a concrete reality recognised by a consensus of the scientific community. However, we have few data on the dynamics of this decline except from certain regions and for a few specific groups.

In Switzerland, for example, the decline of insects has only been properly documented over the last few years. How then should we examine the dynamic of insect populations over decades or even over centuries?

Could the collections of millions of specimens at the Museum, witnesses to their times, offer a way forward? The project decliNe research team is analysing the DNA of thousands of historical specimens to identify their genetic information at the moment they were collected. This has led to information on the decline dynamic of 10 species of insect well-represented in our collections.

Nadir Alvarez, biologist specialist in ecology and evolution

The world in a handful of earth

The soil is home to a vast array of tiny animals, unseen by most people, but collected and studied by museum scientists. These animals are extracted from the soil and sorted into groups for further study by experts all over the world. Of course, not all the thousands of samples sorted in the museum contain 21,000 mites like this one from Ticino: some are much more diverse! Natural soils often contain 100,000 individuals and 1000 species of arthropods per square metre. Mites, springtails, protura, woodlice, millipedes, spiders, beetles – they all play a vital role in the decomposition, nutrient cycling and soil formation that makes ecosystems work. Without them agriculture, and our civilisation, would be impossible.

John Hollier, entomologist

Renaturalisation of the Geneva countryside

The word 'renaturalisation' implies seeking a balance between different actors in a territory, notably farmers, politicians, nature conservationists, inhabitants and users. The challenge is to modify agricultural land use in order to restore habitats and the connections between them. In Geneva, renatured zones are often located in the vicinity of wetlands, a habitat which has been severely reduced in Switzerland but which potentially supports very rich biodiversity. Restoring the nature of watercourses also avoids floods in residential zones because the water can spread out upstream. Finally, these zones often become popular walking paths such as at the Haute-Seymaz marshes. In the end, everyone is happy!

Alice Cibois, ornithologist

A more natural park at Malagnou

At the Malagnou park surrounding the Natural History Museum, the grass and the flower borders have been changed into gravelly meadow and native plants. Various installations have been provided such as two large insect boxes, squares of bare earth to attract wild bees, new plantations of native bushes, a bird bath carved into an impermeable erratic boulder, an intermittent pond for dragonflies and amphibians, shelters, piles of branches and dead tree trunks for wood coleopteran, and nesting boxes for birds and bats. The aim is to create an environment that will favour the development of indigenous flora and fauna, a park that demonstrates the objectives and needs of a modern city like Geneva to address the challenge of protecting and preserving biodiversity.

Mickaël Blanc, entomologist

Emotions and affects in the face of the crisis

“The advantage of the emotions is that they lead us astray.”

Oscar Wilde, artist, writer (1854-1900)

Is language important?

The language we use when we speak of the environmental crisis has an emotional charge. It reflects and can change our perception of reality. Let's think for a moment: are we facing 'climate change' or a 'climate crisis'? We have argued that when we speak of these issues we must use words with which we can identify but which also convey the urgency of the problem. For example, loss of biodiversity resembles an abstract scientific concept which is not, however, the case for 'fauna crisis', or 'ecocide'.

The emotional impact of terminology can vary between languages. In English, a distinction is made between 'hot' and the more moderate 'warm' (agreeably hot), the word used to refer to heating of the planet - 'global warming'. There is little sense of urgency or negativity. Language helps us to visualise new emotions arising from the climate crisis. The term 'solastalgia' has been created to identify the specific distress caused by environmental changes already unfurling. And neologisms such as 'eco-anxiety' and 'eco-connection' are becoming more widespread as psychology reveals the impact of people's emotional relationship with nature on their psychological well-being. Words translate reality and communicate emotions. Words count in the debate about the environment.

Cristina Soriano, linguist

Metaphors of daily life (The metaphors we live by)

A lot of what we say in our daily lives is metaphoric even if we are not aware of it. For example, to see something clearly, take a holiday or even fall in love are examples of figurative language. How we talk about the environmental crisis is full of metaphors: natural capital, carbon budget, carbon deficit and so on. The point is that, in many cases, the metaphors are not simply neutral ways of speaking but have a real impact on perception and decision-making.

Expressions such as carbon deficit give the impression that we can reimburse accumulated emissions and return to normal, whereas the reality is that we can no longer stop the rise in temperature and our actions are no more than measures designed to halt further increases. Another familiar metaphor is “the war against climate change”.

It has been shown that characterising a situation as a war, whether against climate change, COVID or terrorism, increases people’s obedience to rules and their willingness to take action. This can be very useful in the case of an emergency but it has a cost: the war metaphor increases anxiety, promotes aggressivity and radicalisation, and can be demoralising in the long term if the situation endures. Metaphors can provide effective and affective communication but it is important to be aware of their implications in our daily lives.

Cristina Soriano, linguist



What are our emotions good for?

The functioning of the human mind has for a long time been described as the battle of two opposing forces: rational reason versus irrational emotion. Advances in psychological and neuroscientific research have led to a revision of this idea, revealing that emotions are absolutely necessary for successful functioning of the mind. People who do not feel emotions, for example because of brain damage, often make poor decisions. The important functions of emotions are better understood today: Emotions have evolved as quick analysis mechanisms that alert us when something important is happening and that give us the motivational momentum to deal with it. For example, we feel afraid when confronting a dangerous situation, and this feeling motivates us to take protective action. We feel hopeful when we think that a currently bad situation may turn into something better, so we act to make it happen. We feel guilty when we think that we have done something morally inappropriate, so we try to repair the situation. We feel proud when we have done something worthwhile, which further encourages us to keep doing it. Thus, far from being irrational, emotions often help us make rational and useful decisions.

Tobias Brosch, psychologist

Are we “worried enough” about the destruction of our planet?

Despite the considerable risks posed by climate change and the loss of biodiversity, many people still do not react with strong emotions to these issues. This may be due to the fact that some aspects of the environmental crisis make it difficult to understand that it poses a threat to us. Our brains are very good at understanding events that happen in the here and now, that we are familiar with, that we can see, hear, or touch. Climate change and biodiversity loss, however, are complex phenomena, their worst consequences may happen in the future or in other countries, they are often talked about in abstract terms and statistics. This makes it harder for us to feel emotions, to become “as worried as we should be”.

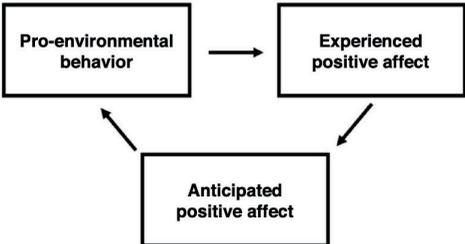
While we may rationally understand that climate change or biodiversity loss are bad things, without feeling the appropriate emotions we are unlikely to act accordingly. In order to use the power of emotions to avert these crises, it will be important for us to find new ways to connect emotionally with sustainability problems.

Tobias Brosch, psychologist

How can positive emotions lead to sustainable action?

Actions are driven not only by the emotions that we feel at a given moment, but also by the emotions that we think we will experience if we behave in a particular way. For instance, I may give some money to a homeless person on the street, not only because I feel compassion for their suffering, but also because I expect to feel good about myself afterwards. This “warm glow”, the warm feeling that we experience after pro-social behaviour, may also be an important resource to motivate more sustainable behaviours. Studies have shown that people do indeed feel good after they perform a pro-environmental action and that if they do feel good, they are more likely to perform more pro-environmental actions later. Good deeds leading to more good deeds. Thus, a promising strategy to increase sustainable behaviours may be to create situations where people can feel good about themselves when behaving sustainably by making it fun to do so, or by making it more meaningful. This may help us move toward the sustained behaviour change that is needed to fight problems such as climate change and biodiversity loss.

Tobias Brosch, psychologist



EPILOGUE

Tomorrow's earth?

How have we reached such levels of destruction? The mass of objects that we produce using power and resources, and the infrastructure we build for a growing population, is destroying the habitability of our planet. Two types of opposing responses have emerged.

Firstly, there are those who think that we should change our way of life and institutions as little as possible because our technology will save us. This is the case of the sustainable development approach which seeks to decouple production of wealth from consumption of resources. Another example is the miraculous technology of ecomodernism.

Secondly, the answer that seems to be more closely related to the diagnosis: the reduction of the production of infrastructure and objects as proposed, for example, by the European Environment Agency. It should be possible to partly compensate for the reduction of such activities by an increase in services, which are more sparing in their use of matter and energy.

Let us add two other thought-provoking considerations. Since the beginning of the industrial revolution our technologies have, of course, made many advances, sometimes spectacular, but not miraculous. They shift rather than resolve the problems. In any case, we are where we are because of them. Our challenge is to examine our habits of thought, first and foremost that we expect too much from technology. But also our incapacity to think outside the box that continues to hold onto the idea that we are not part of nature, not related to other living beings.

Dominique Bourg, philosopher

The distinction between nature and culture is so obvious that we no longer reflect upon it. Nevertheless, it implicitly structures all our ways of being and our relationship with the world. In order to include it in critical reflection, we need to turn to the view from anthropology and the example of people who do not consign plants and animals into the autonomous sphere of “nature” but incorporate them seamlessly into the tissue of social life. Non-humans are not resources or objects to be protected but partners with whom we discuss, negotiate, argue or that we charm. By using absurdist humour, Alessandro Pignocchi conjures a world in which we too, contemporary westerners, know how to free ourselves from the nature/culture distinction. Inspired by his travels in Amazonia and his stays in the Notre-Dame-des-Landes ZAD (Zone to Defend), he shows that such a world can only emerge from breaches in capitalism. Thus, militant ecology must attack the supremacy of the economic sphere which transforms everything it touches into an object, humans included.

Alessandro Pignocchi, anthropologist and cartoonist



Alessandro Pignocchi ©