A close-up photograph of a person's hand touching golden wheat stalks in a field under a bright sky. The hand is dark-skinned and is positioned in the center-right of the frame, with fingers gently touching the wheat. The wheat is in sharp focus, showing individual stalks and grains. The background is a blurred field of wheat extending to the horizon under a bright, slightly hazy sky. The overall color palette is warm, dominated by golden yellows and browns.

A biosemiotic perspective on the human condition & the environmental crisis

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Environmental crisis

What is a human being?

How have humans impacted life on Earth?

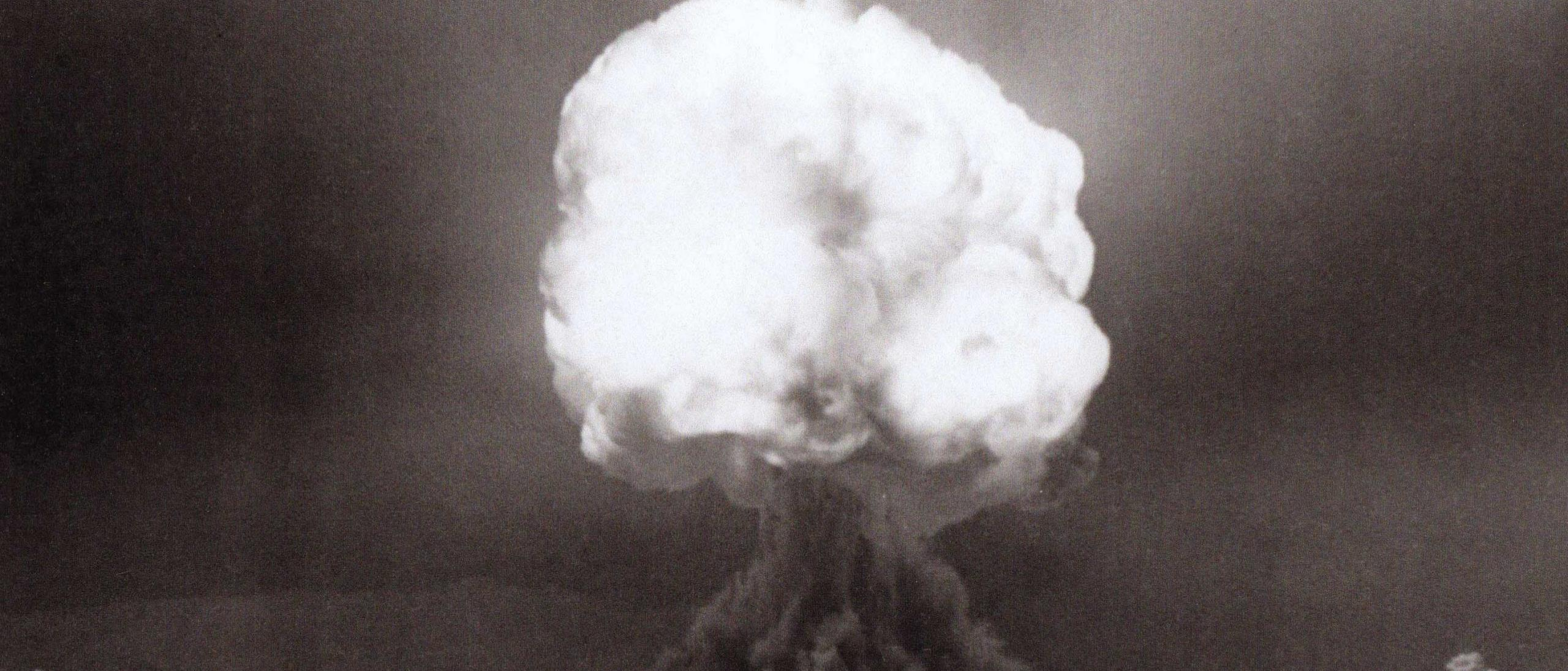
How are humans conditioned by the Earth?



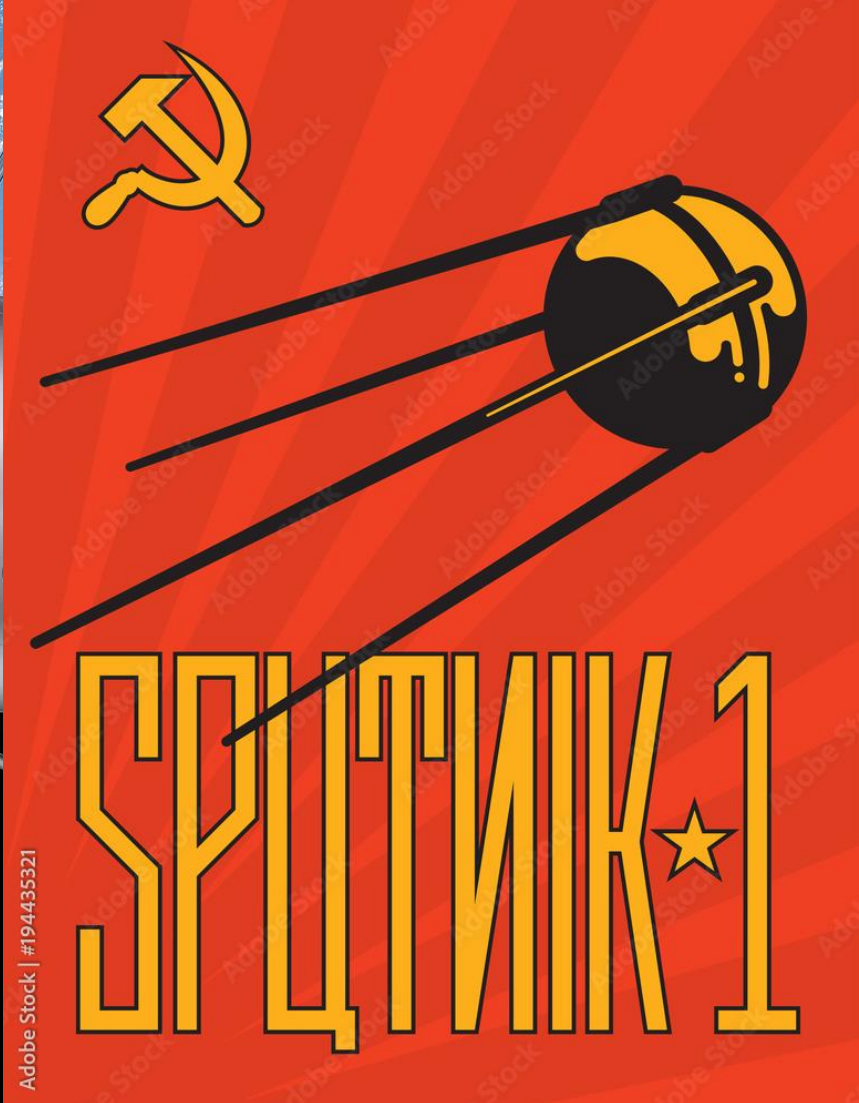
Credit: Ancient Origins



Credit: Classic Trains Magazine



Human agency in modern times



Adobe Stock | #194435321

Human agency in modern times



THE HUMAN CONDITION

- In recent decades, the expression ‘The Human Condition’ has been strongly associated with the political philosopher **Hannah Arendt (1906–1975)**. In her book with the same name (Arendt 1958), she stresses that “[t]he earth is the very quintessence of the human condition”, and yet argues that “the “human artifice of the world separates human existence from all mere animal environment”.
- In this sense, in her view, human reality is distinguished from the reality of any other living being on Earth, despite our shared ecological circumstances.



WHAT IS THE HUMAN CONDITION?

Human
condition



Human
nature

WHAT IS THE HUMAN CONDITION?

Natality

Mortality

Earth

The human
artifice

Labor

Work

Action



The human species' Sputnik moment

- Are we no longer Earth-bound creatures?
- Can we escape the Earth as «the very quintessence of the human condition»?

Reformulating the human condition in light of the environmental crisis

- As **Masatake Shinohara** (2020) has proposed, “what conditions human beings in the most fundamental sense includes not only the world of the human artifact but also the world of earthly things”, and in light of this, “the consideration of the human condition should be fundamentally reformulated” by making the human world “open to the earthly things that vastly expand outside of the human artifice”.





From «Current Human Ecology in the Amazon and beyond: A Multi-Scale Ecosemiotic Approach»

Table 1 Adjacent levels of study in general semiotics and ecosemiotics

Level	General semiotics	Ecosemiotics
Higher adjacent level	Context	Environment
Focal level	Text	Experiential subject
Lower adjacent level	Subtext	Physiological subject

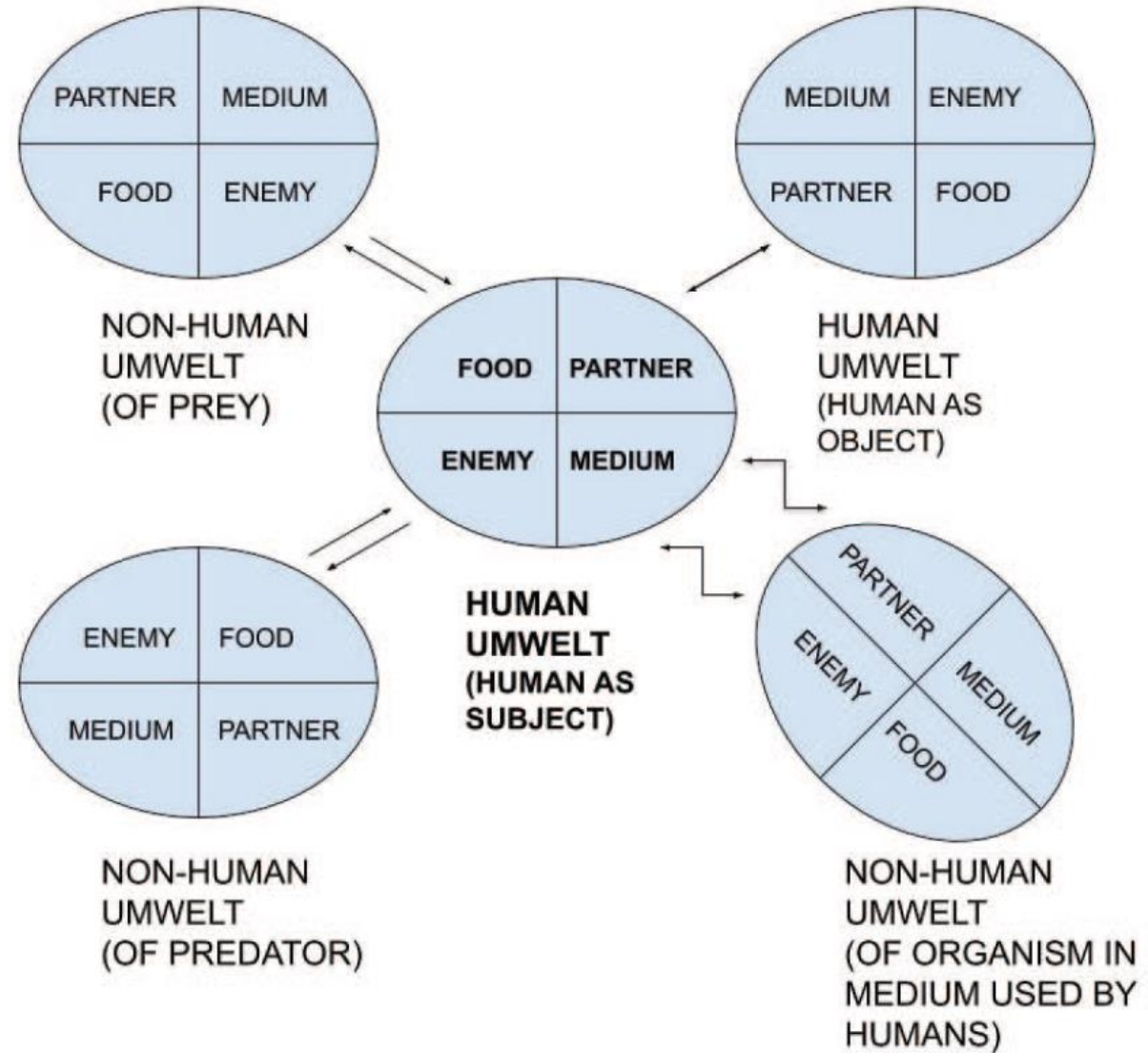
From «Current Human Ecology in the Amazon and beyond: A Multi-Scale Ecosemiotic Approach»

Table 2 Adjacent levels of study in ecosemiotics with regard to related aspect of Umwelt.

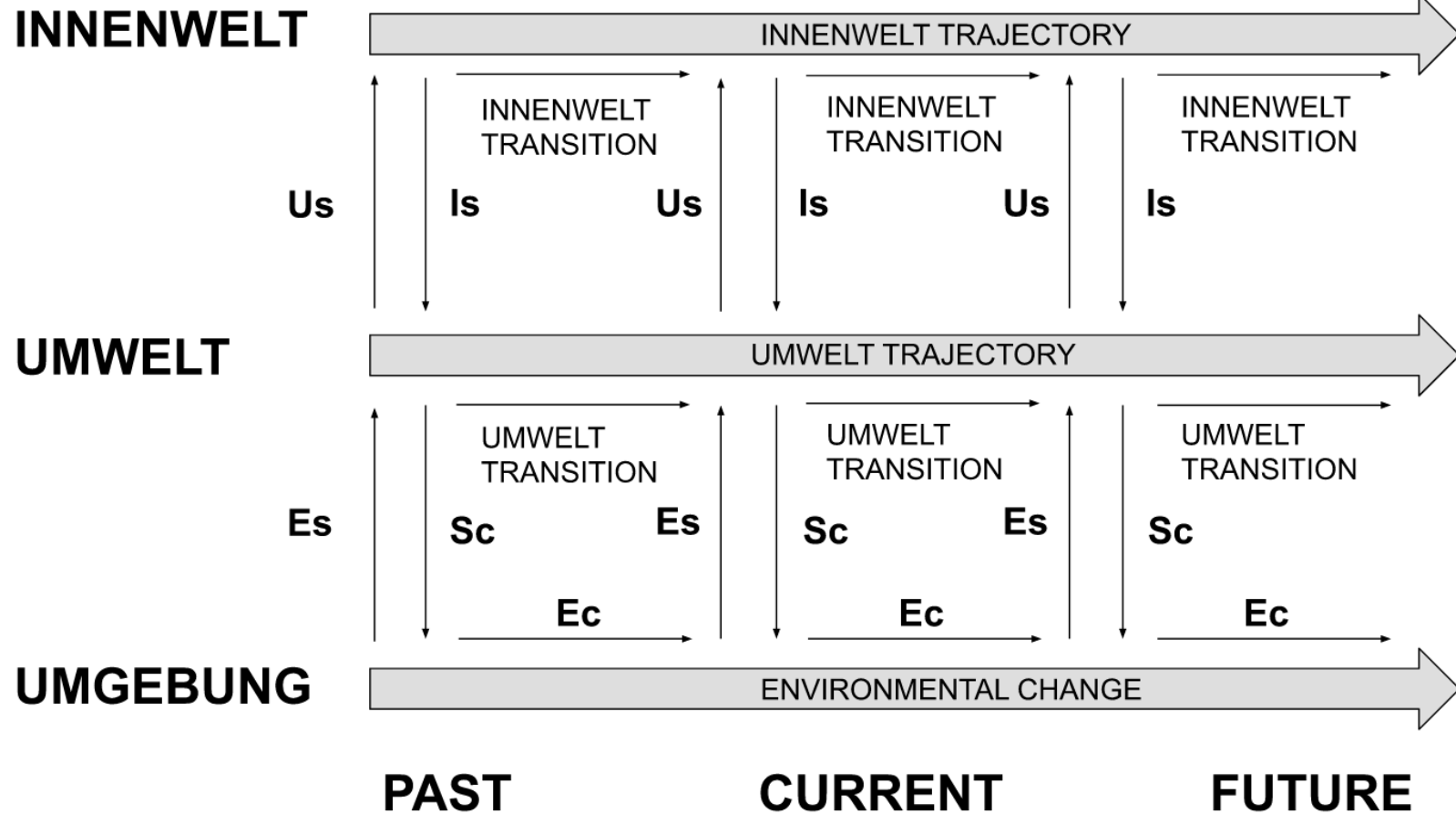
Level	Ecosemiotics	Related aspect of Umwelt
Higher adjacent level	Environment	 Umwelt
Focal level	Experiential subject	
Lower adjacent level	Physiological subject	 Innenwelt

Fundamental Umwelt relations in human ecology

From «Anticipating the societal transformation required to solve the environmental crisis in the 21st century»



- **Semiotic causation**
 “cannot be reduced to efficient causality, but is dependent on efficient causality since interpretative activity, even in its most primitive modes, is connected to possible anticipatory action, and action unquestionably depends on efficient causality.” (Hoffmeyer 2015: 10)



What are we made of?

The chemical elements required for life

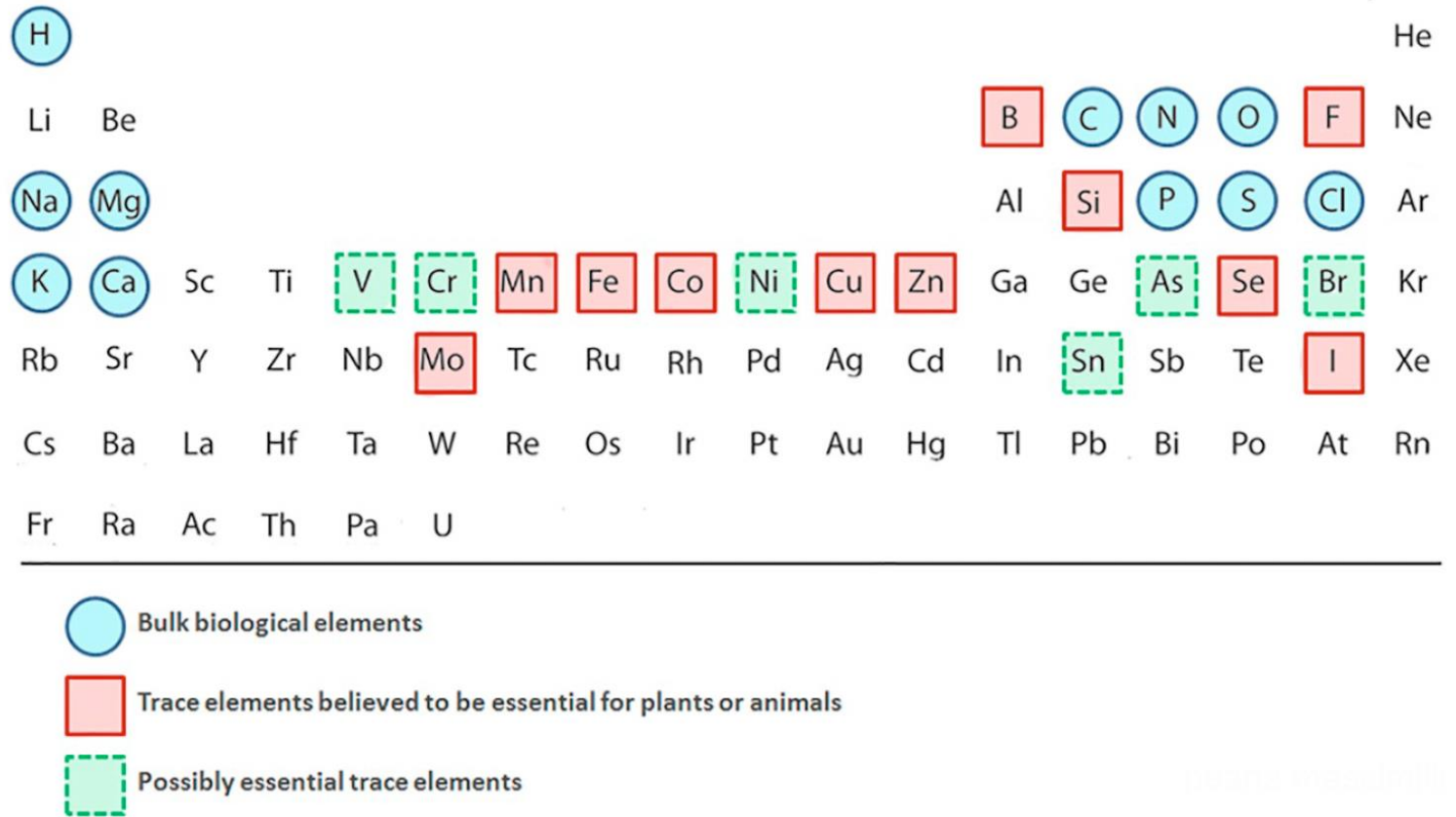


Fig. 1. The periodic table of the chemical elements required for life.

ELEMENT ABUNDANCE IN THE UNIVERSE

Hydrogen: 73.9%

Helium: 24.0%

Oxygen: 1.0%

Carbon: 0.5%

Neon: 0.1%

Iron: 0.1%

Nitrogen: 0.1%

All Others: 0.3%

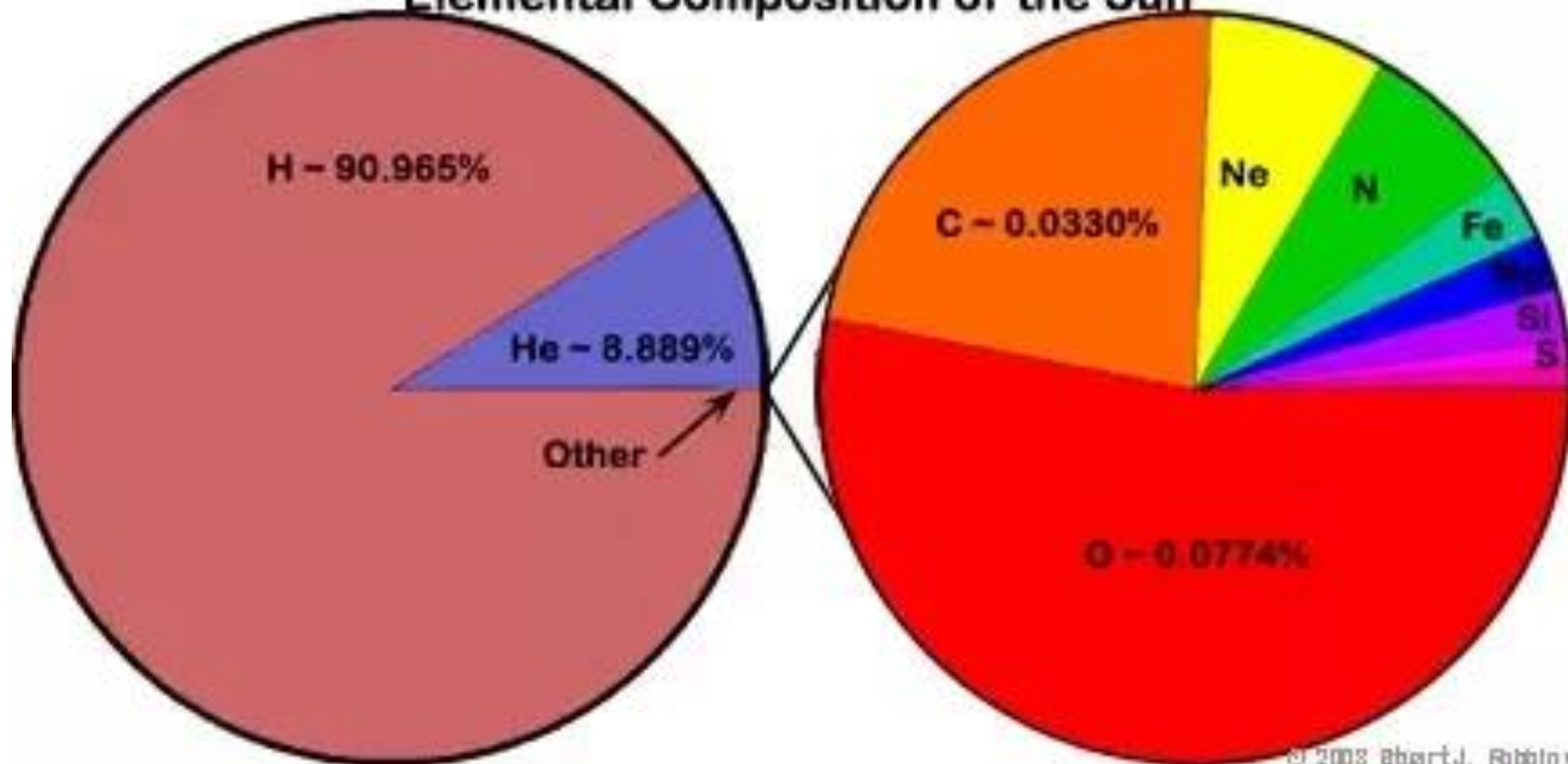
All Others
1.1%

Helium
24%

Oxygen
1%

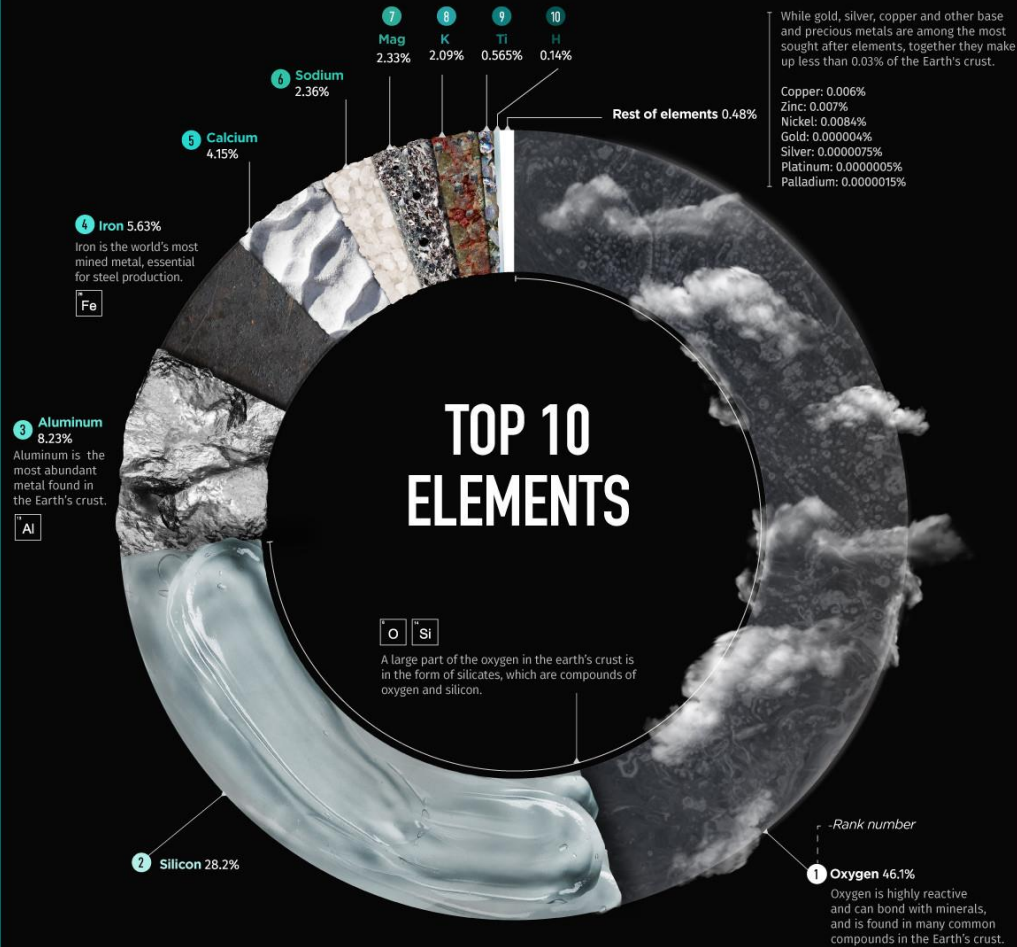
Hydrogen
73.9%

Elemental Composition of the Sun

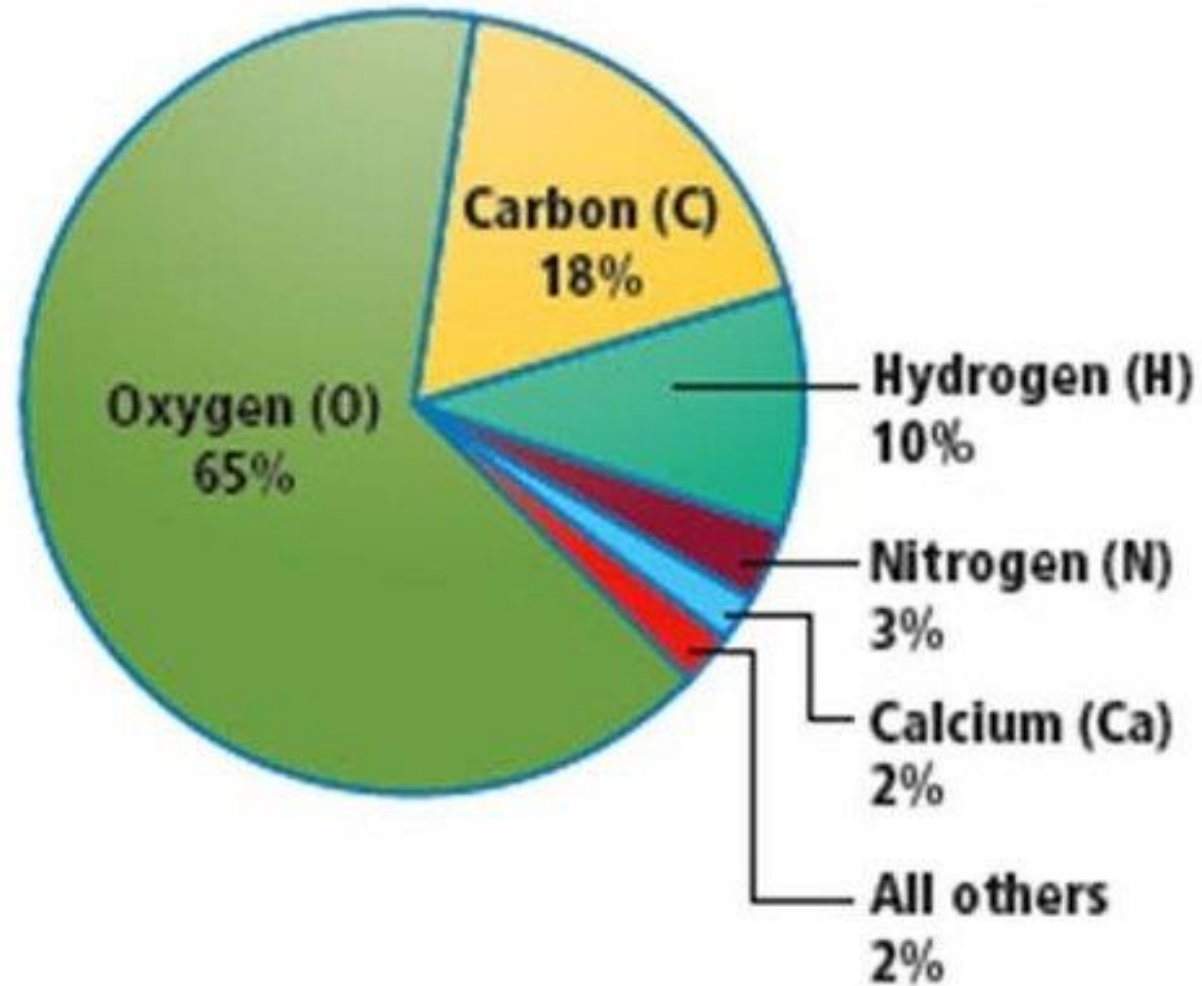


VISUALIZING THE ABUNDANCE OF ELEMENTS IN THE EARTH'S CRUST

The Earth's crust is only 1% of the planet's volume but it contains the materials we use everyday. Here is the abundance of elements in the Earth's crust by percentage (%).



Percent by Mass of the Elements in the Human Body

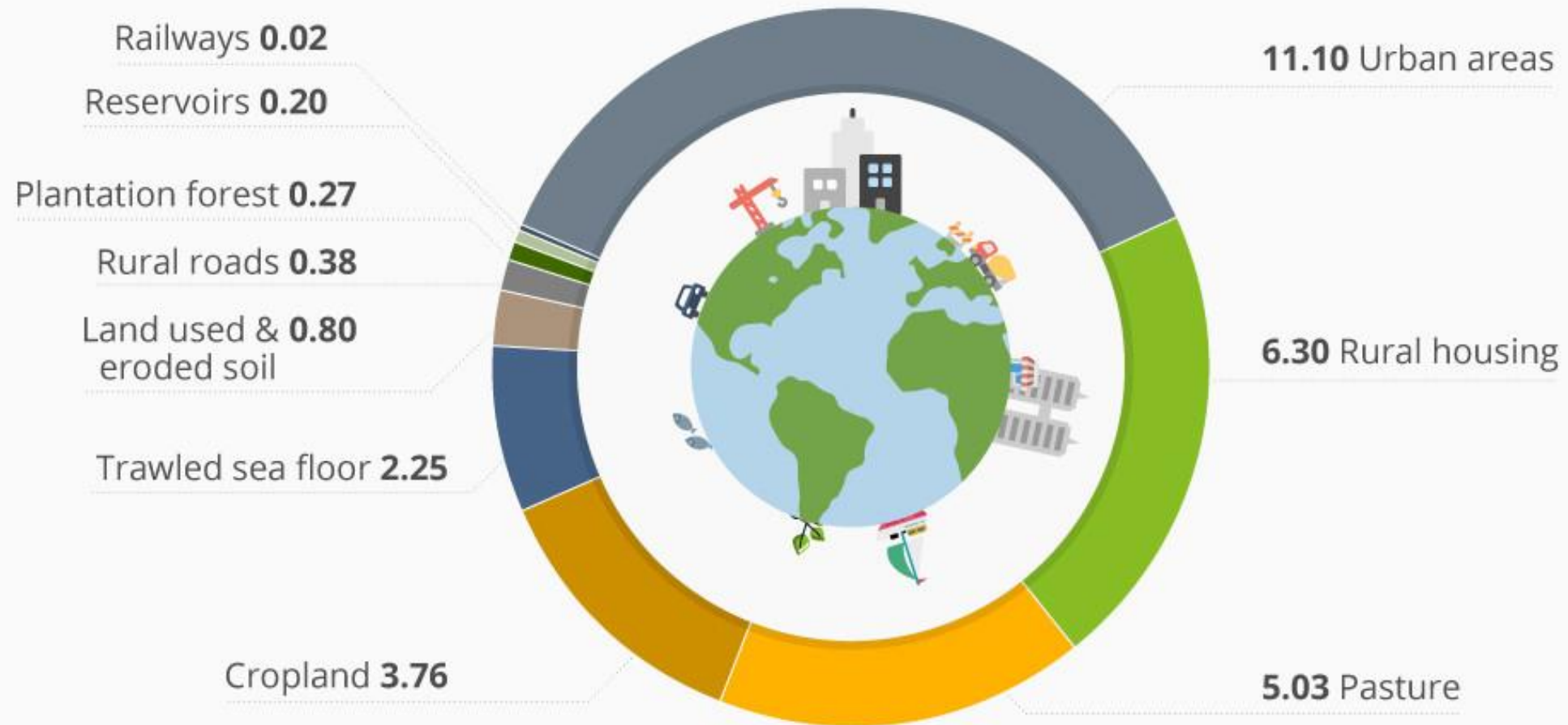


A satellite image of Earth showing the Western Hemisphere, including North America, Central America, and the Caribbean. A large, well-defined storm system is visible in the North Pacific Ocean, with a clear eye and spiral cloud bands. The text "How have humans impacted life on Earth?" is overlaid in white, centered on the image.

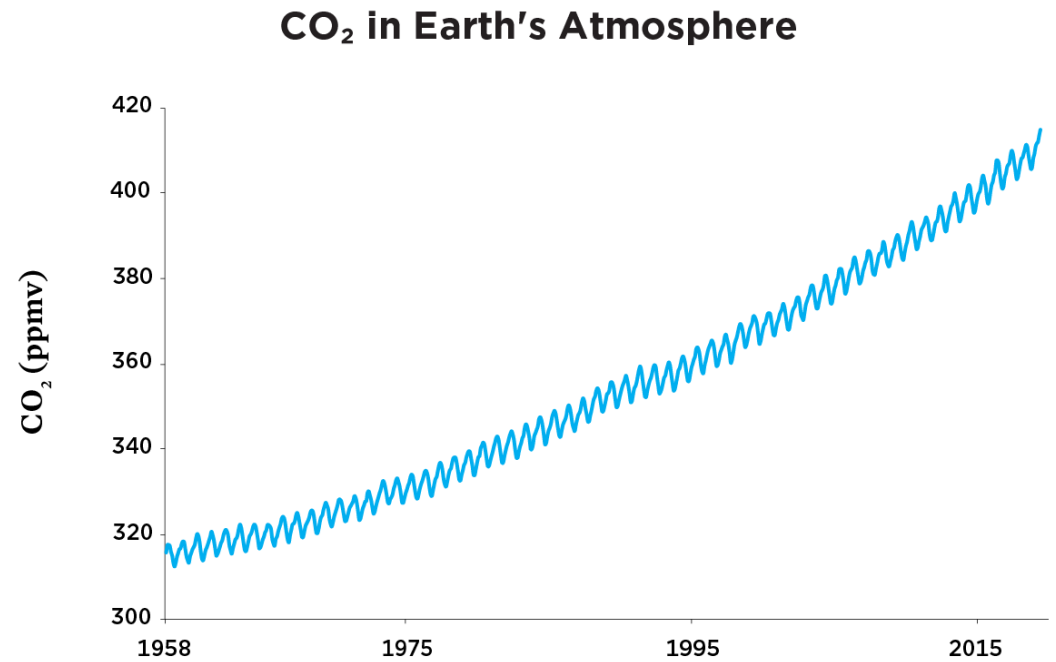
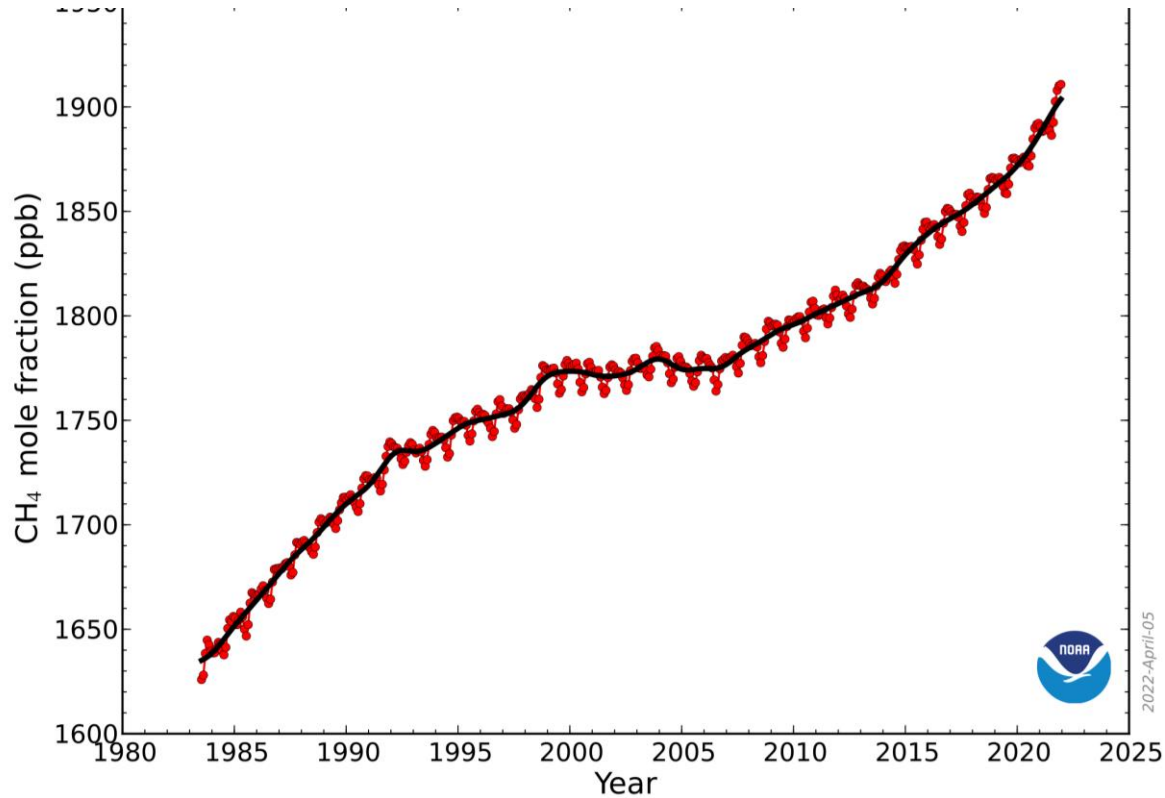
How have humans impacted
life on Earth?

The Weight Of Human Influence On The Earth

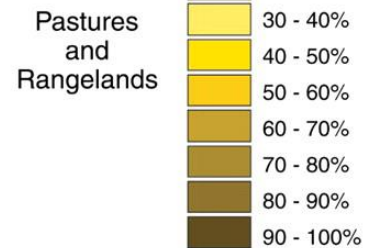
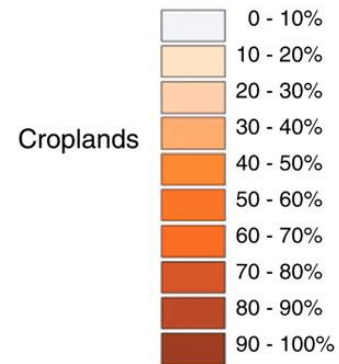
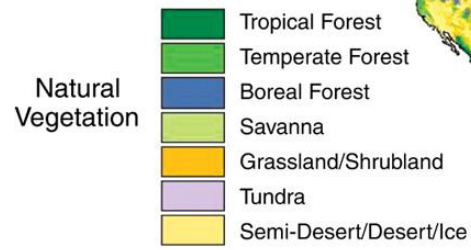
Estimated weight of human material output on Earth (in trillion tonnes)



Human-induced changes in the atmosphere

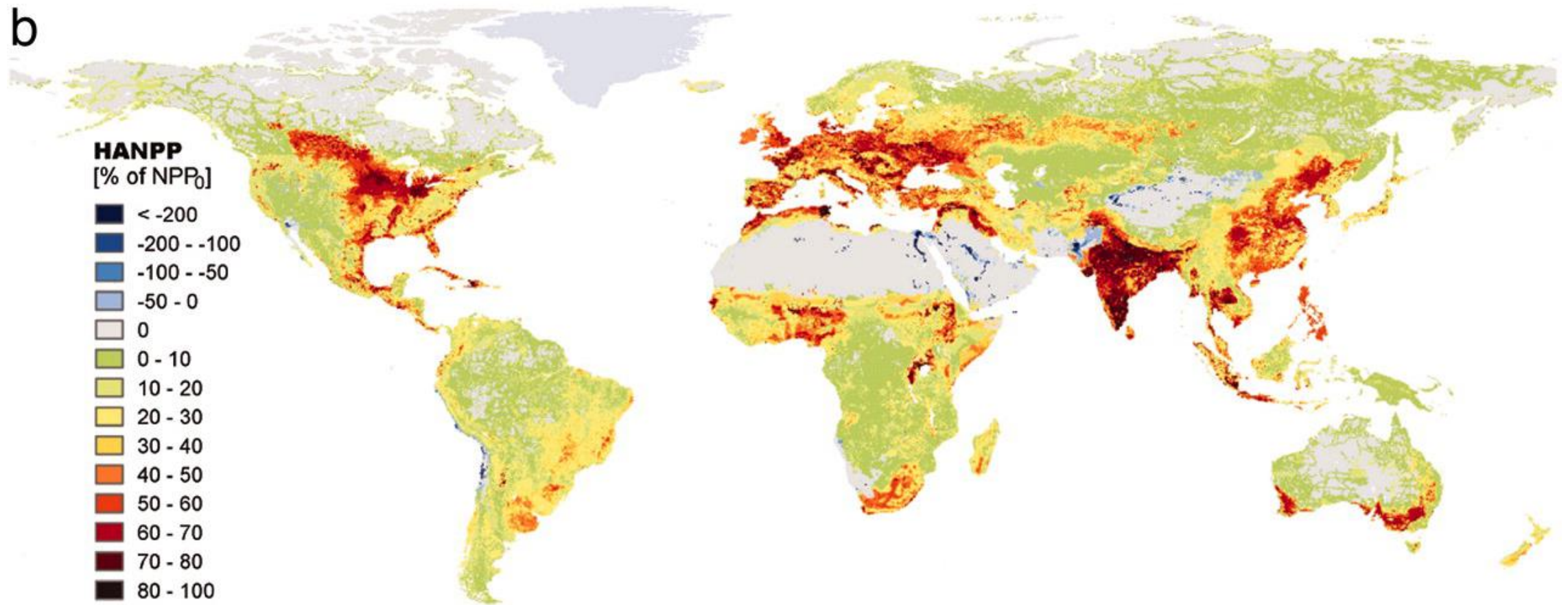


Global land use



Human appropriation of net primary production

b



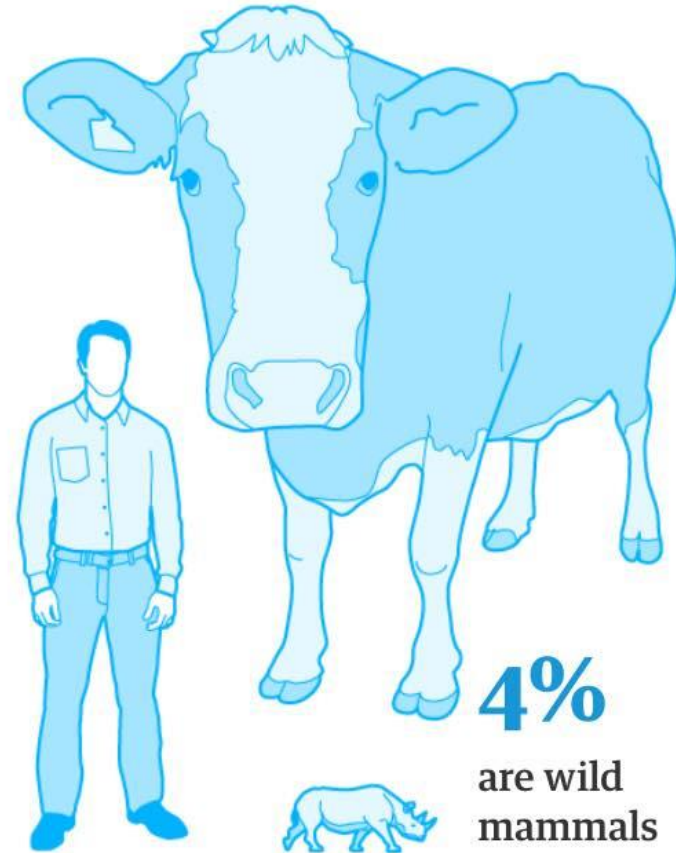
A crisis for nature's
semiotic diversity

Figure: From «The
biomass distribution
on Earth»

**Of all the mammals on Earth, 96% are
livestock and humans, only 4% are wild
mammals**

60%
are livestock

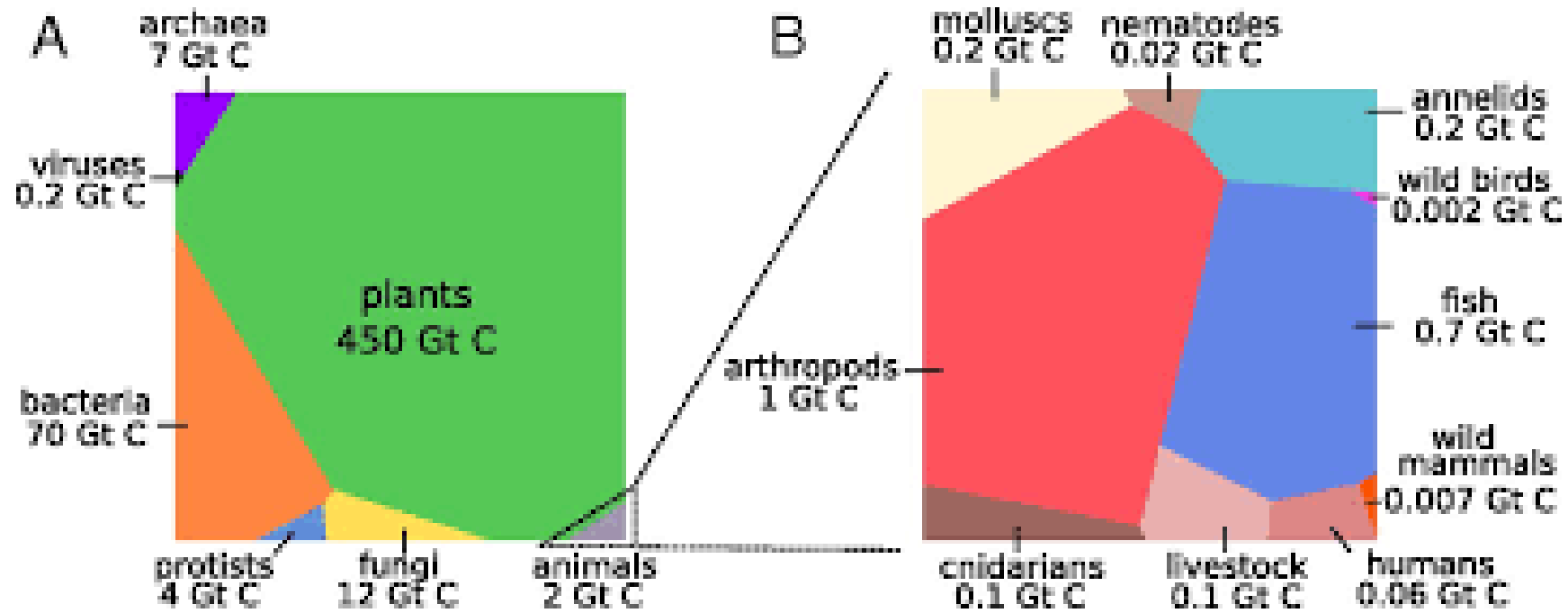
36%
are humans



4%
are wild
mammals

A humbler picture of global biodiversity by biomass

Figure: From «The biomass distribution on Earth»



WHAT IS THE BASIC SITUATION FOR LIFE ON
EARTH – INCLUDING: THE HUMAN CONDITION?

Natality

Mortality

Earth

Semiosis

Labor

Alternative Umwelt trajectories for the human species

From «Anticipating the societal transformation required to solve the environmental crisis in the 21st century»

COMPLEXITY OF
TOTAL HUMAN UMWELT

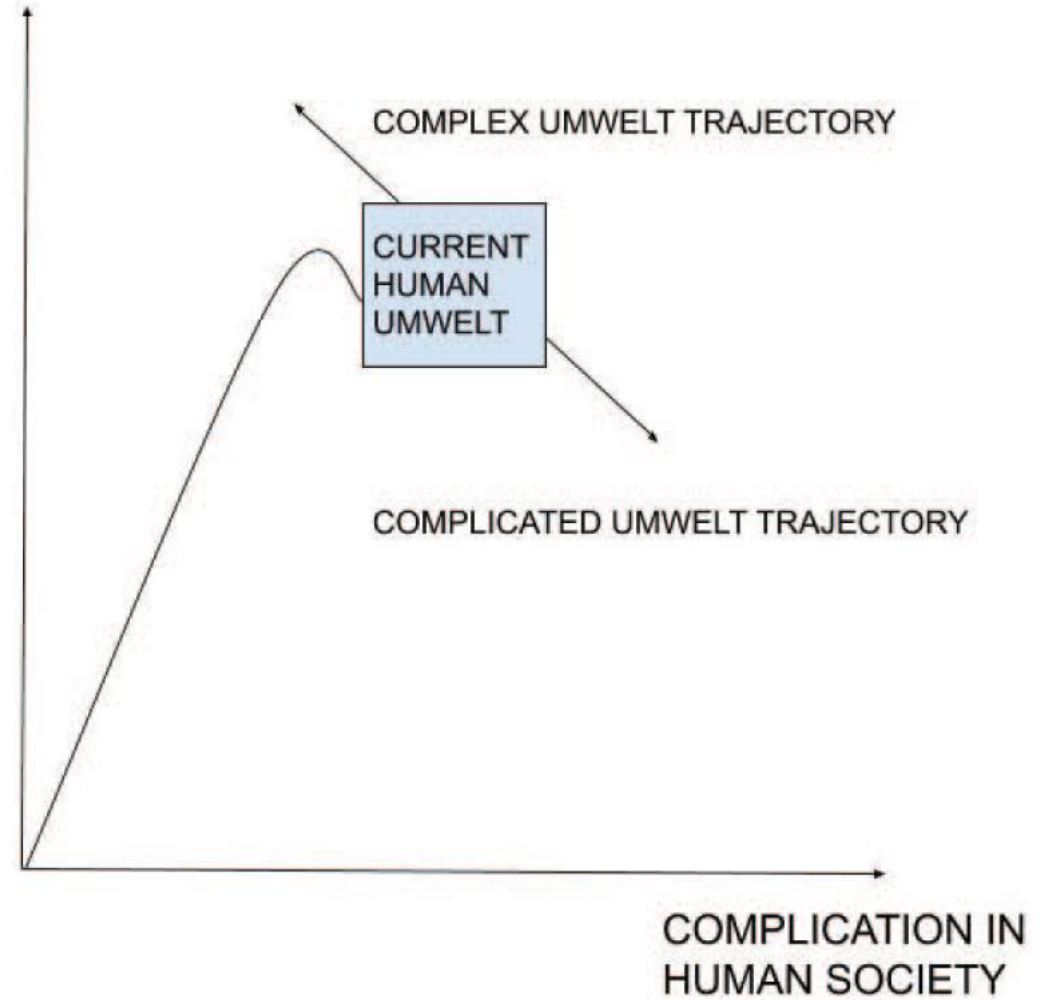


Figure 3. Complex vs. complicated umwelt trajectories.

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