

HOW GRAPHIC MEDICINE AND TRANSFORMATIVE NARRATIVES CAN HELP EMBRACE THE ONE HEALTH CONCEPT AND REIMAGINE OUR RELATIONSHIP WITH NATURE

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Illustration: Aurore Gaspar

HOW TO APPROACH ONE HEALTH

BY READING COMICS,
TEARING UP BOOKS AND
INVENTING STORIES

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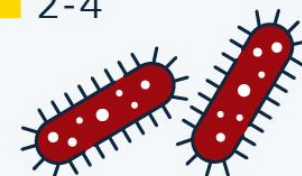
PANDEMICS, A HUMAN HEALTH ISSUE?



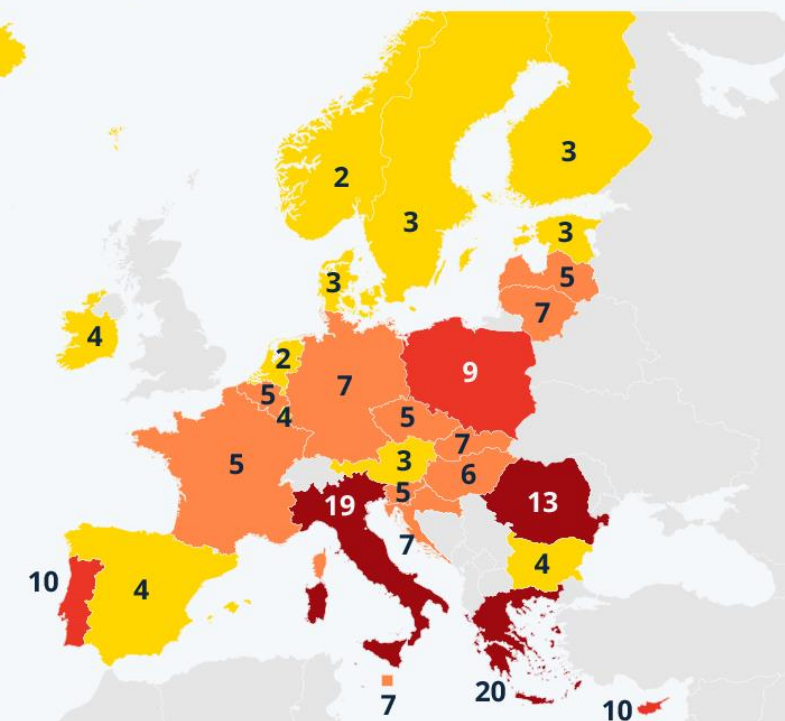
Superbugs Kill More Than 30,000 Europeans Every Year

Estimated annual number of deaths related to antibiotic-resistant bacteria per 100,000 inhabitants, by country*

- >10
- 8-10
- 5-7
- 2-4



Deaths attributable to antibiotic-resistant bacteria in EU/EEA countries
30,730 to 38,710 per year

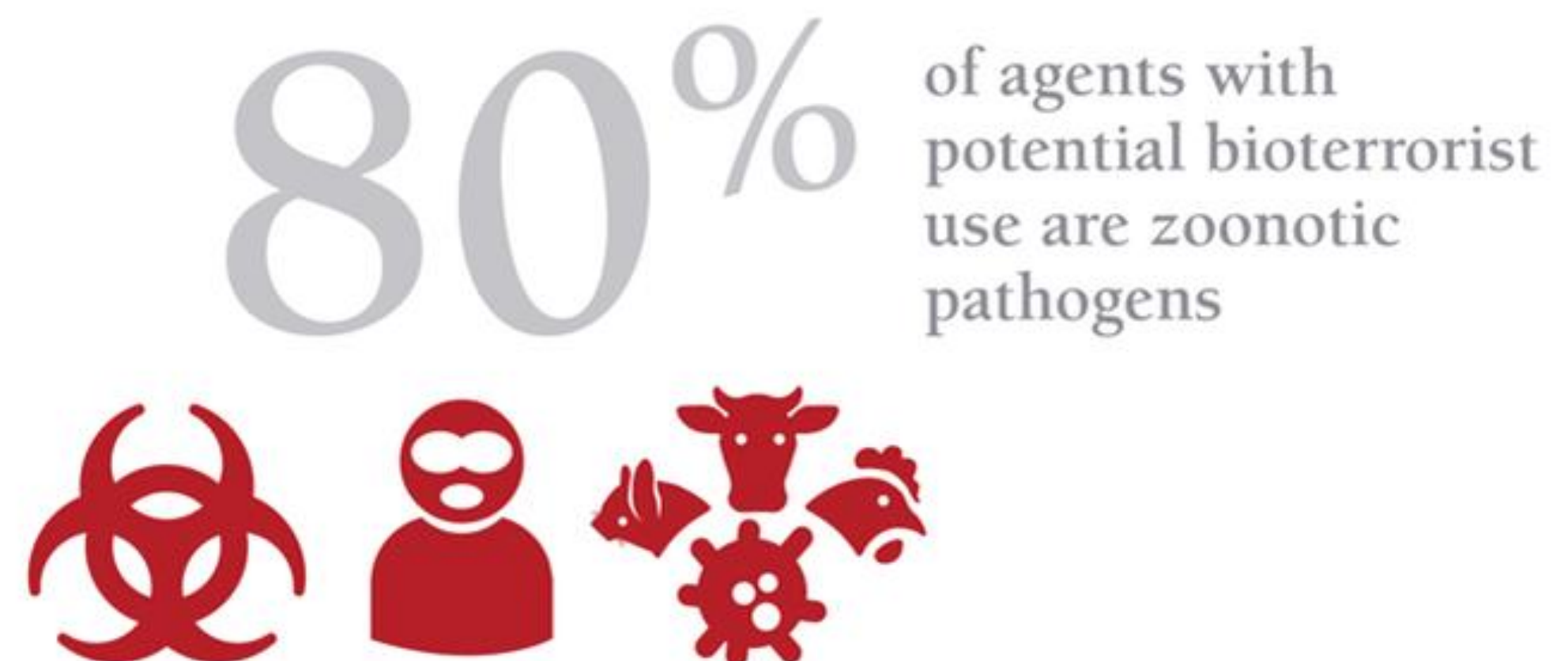
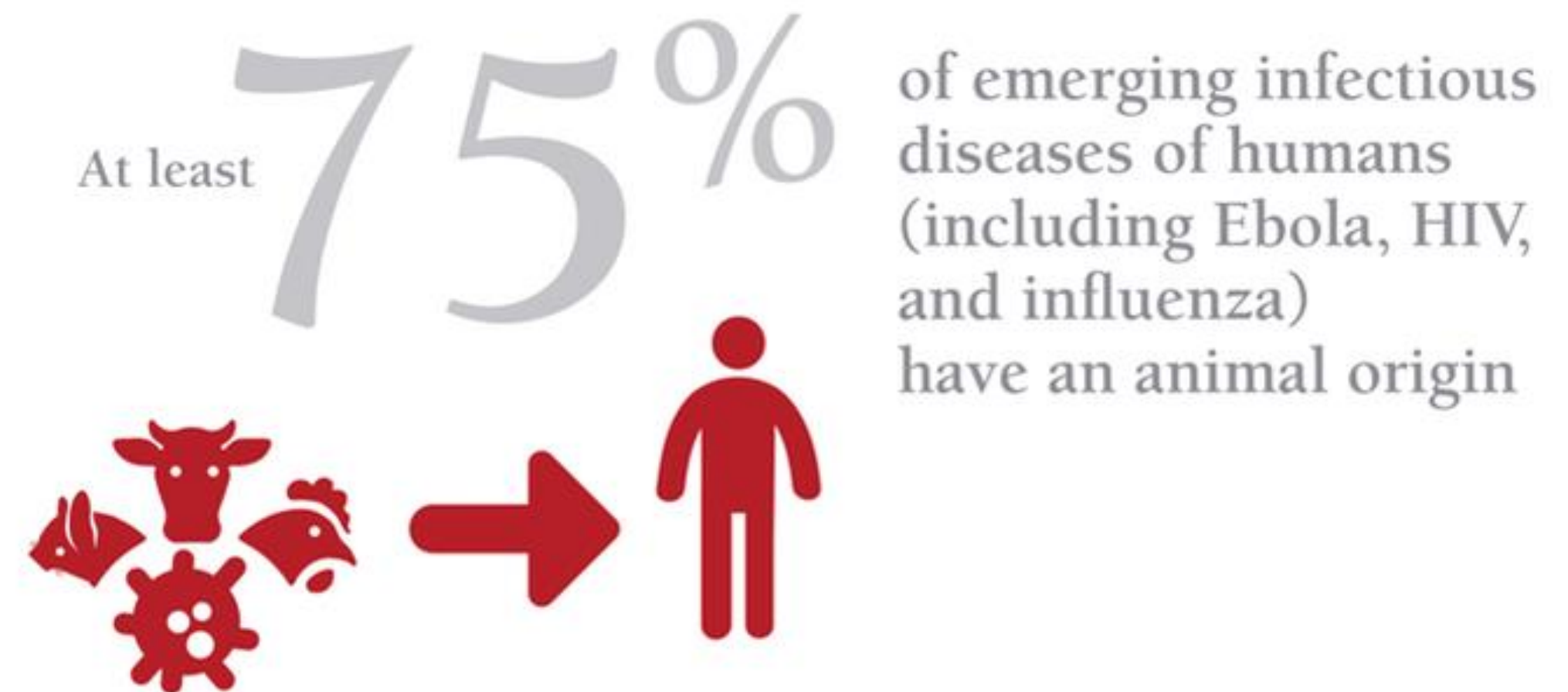
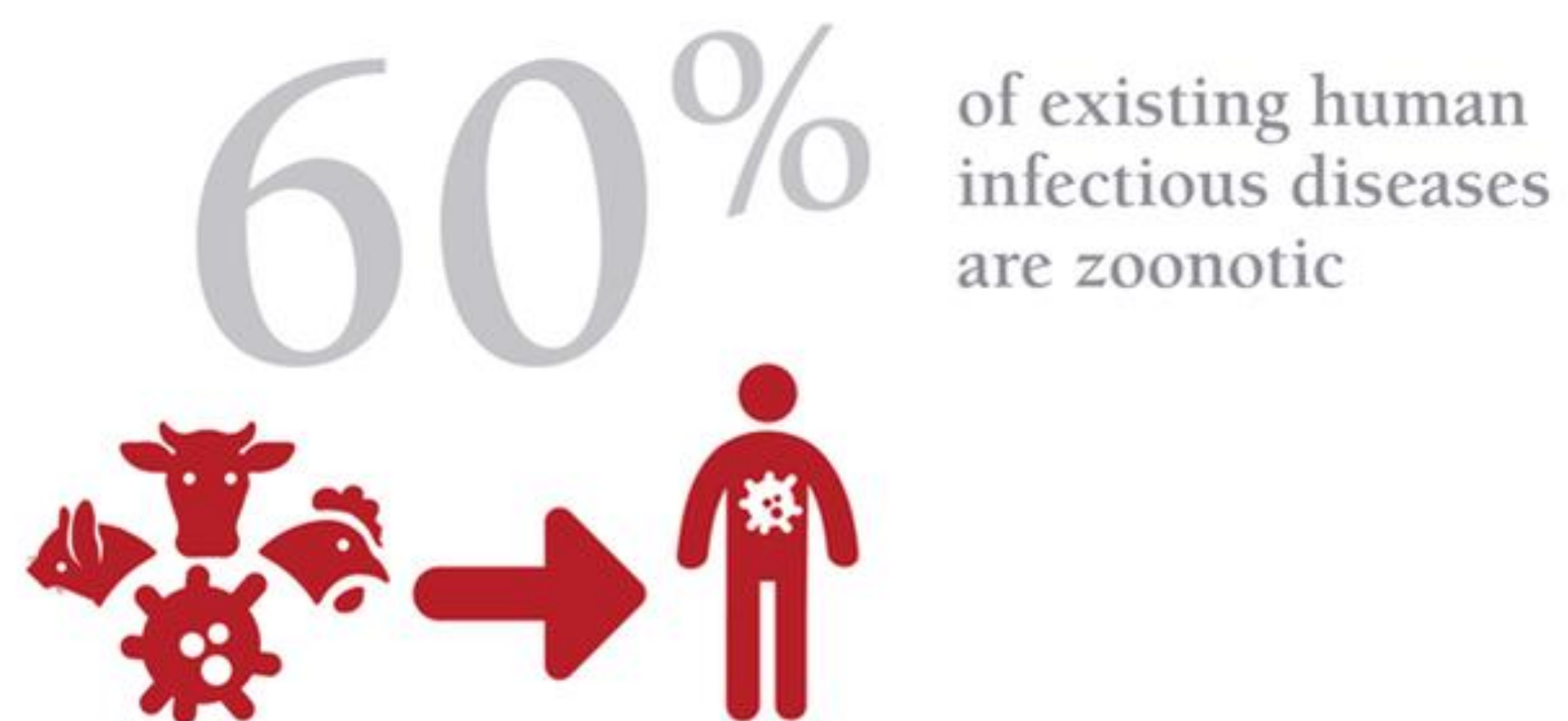


* Estimates based on data for the period 2016-2020
Source: European Centre for Disease Prevention and Control (ECDC)



statista

ONE HEALTH, BEYOND HUMAN HEALTH

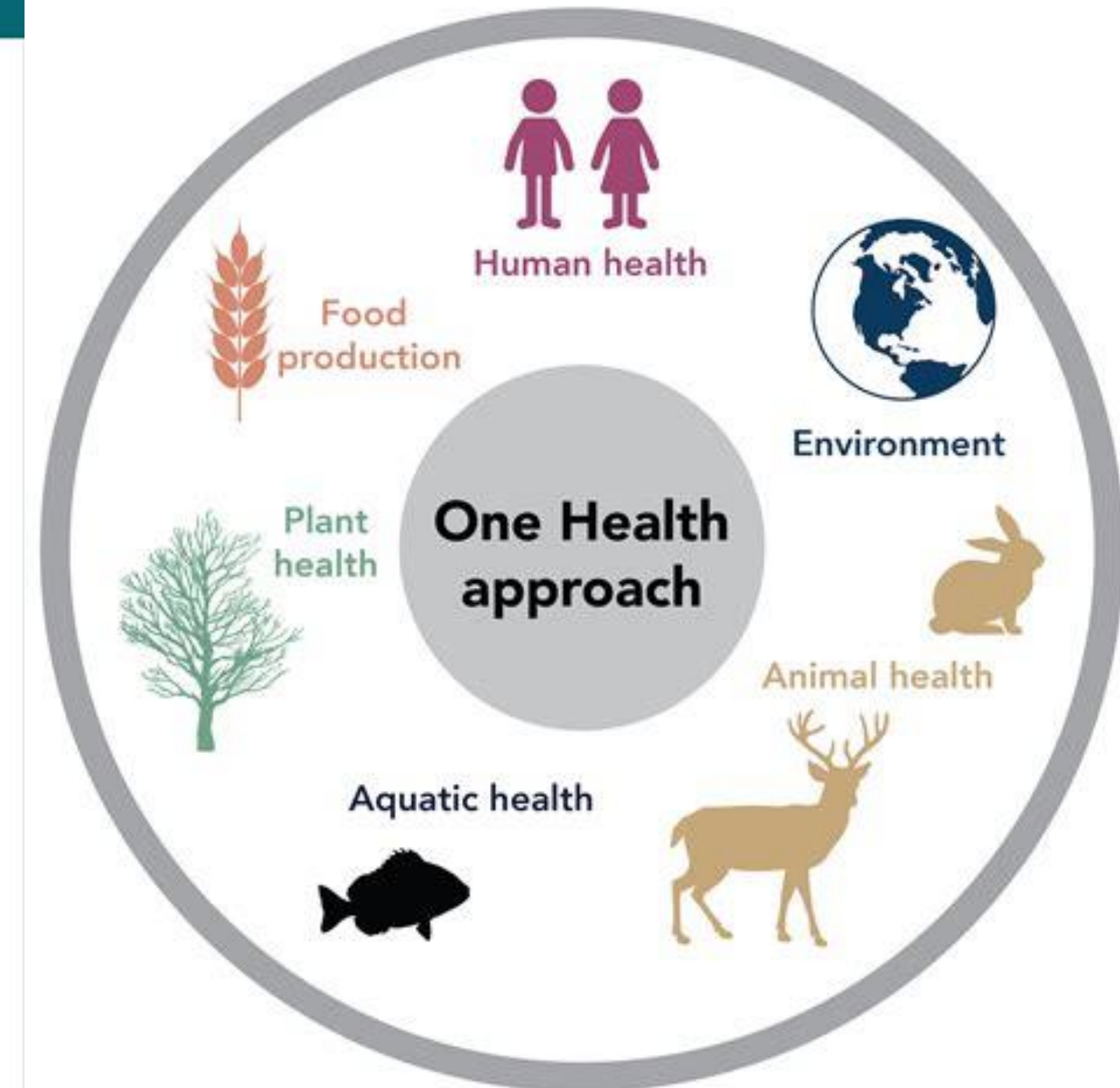


ONE HEALTH CONCEPT

DEFINITION AND CHALLENGES

One Health is the idea that the health of people is connected to the health of animals and our shared environment.

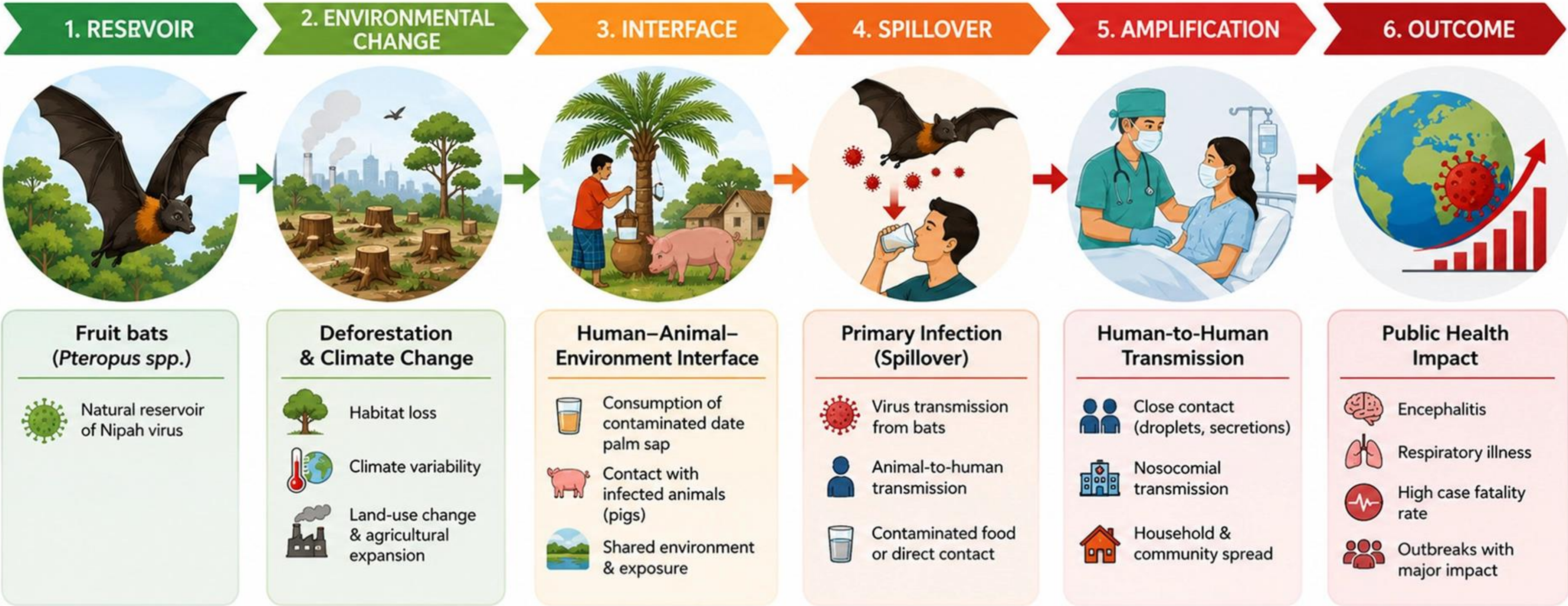
When we protect **one**,
we help protect **all**.



ONE HEALTH CONCEPT

DEFINITION AND CHALLENGES

One Health Spillover Pathway for Nipah Virus – Conceptual Framework



ONE HEALTH APPROACH:

Integrated Surveillance

Early Detection

Risk Communication

Prevention

Preparedness & Response

Working together for the health of humans, animals and the environment

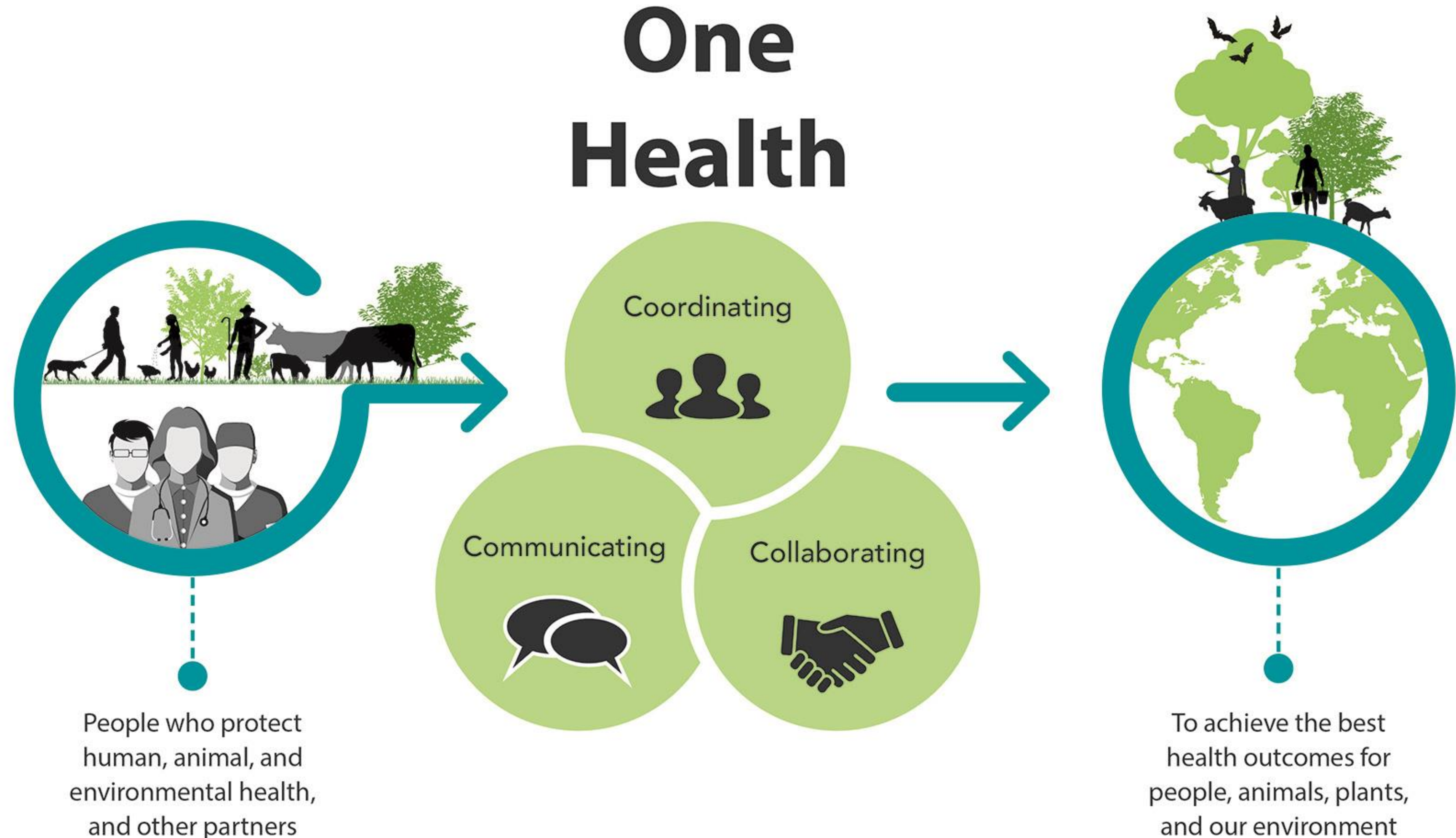
ONE HEALTH CONCEPT

DEFINITION AND CHALLENGES

Professionals in

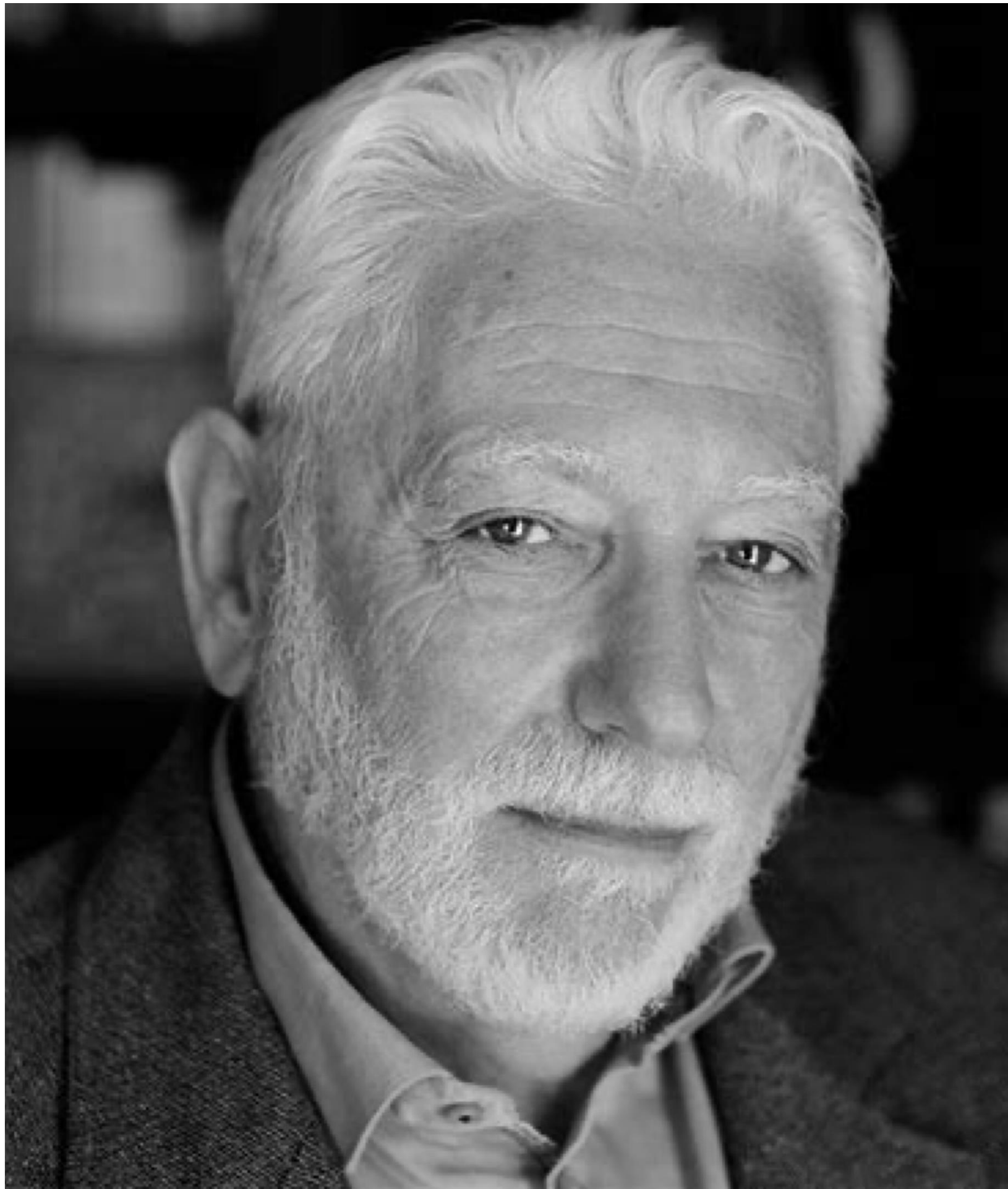
- **human health** (doctors, nurses, public health practitioners, epidemiologists),
- **animal health** (veterinarians, paraprofessionals, agricultural workers),
- **environment** (ecologists, wildlife experts),
- **other areas of expertise**

need to communicate, collaborate on, and coordinate activities.



BEYOND NATURE AND CULTURE

RETHINKING NATURE AND HUMANS RELATIONSHIP



Philippe Descola, philosopher and anthropologist
Descola, P. (2005). *Beyond nature and culture*. Gallimard..

Definition of four ontological models of the relationship to the world and to other living beings (animism, totemism, analogism , naturalism)

Naturalism

Classical thinking in the West

The animal can have similar physicality but have different interiority (lungs like man, but not a soul)

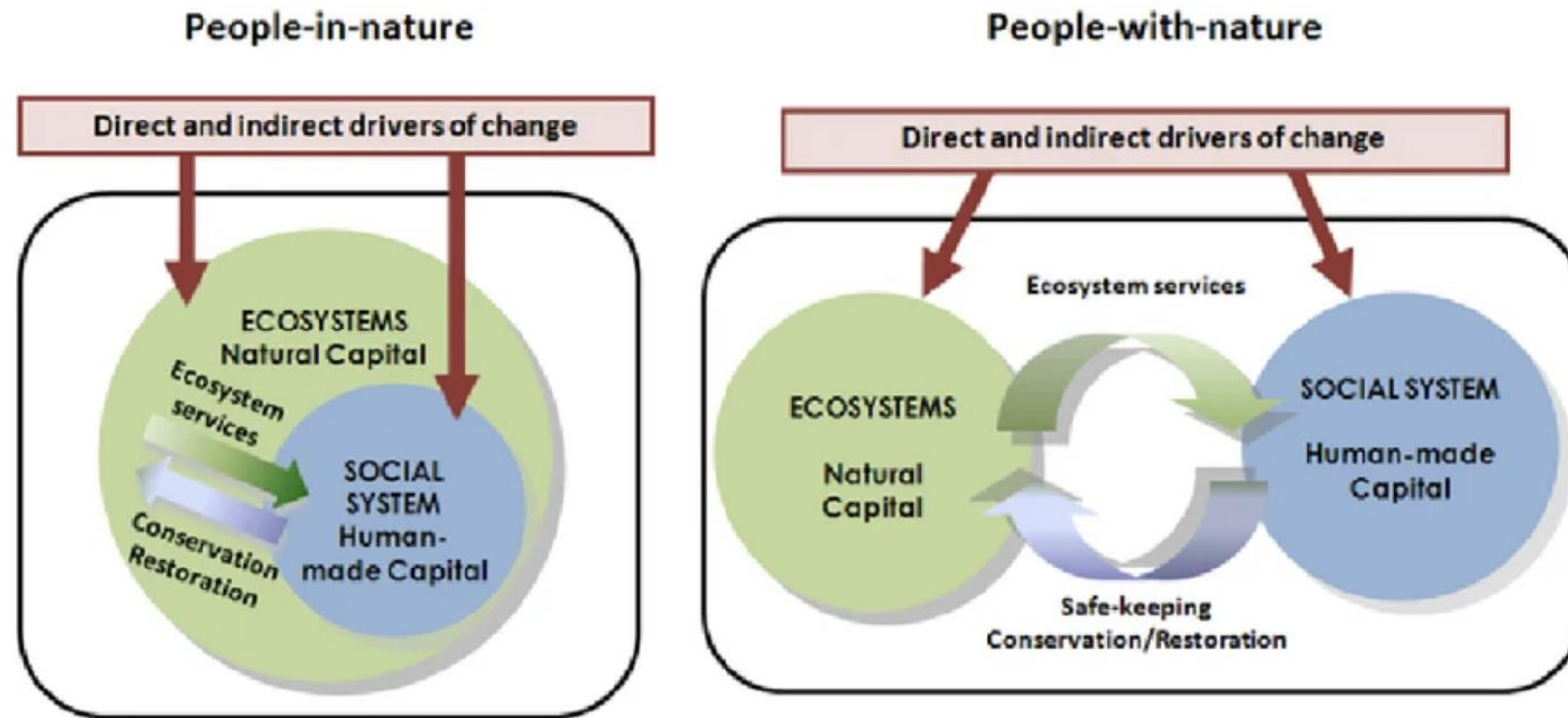


**Nature are machine-like and
can be used and exploited**

HUMAN IN NATURE, NOT WITH NATURE

RETHINKING NATURE AND HUMANS RELATIONSHIP

Human in nature versus Human with nature

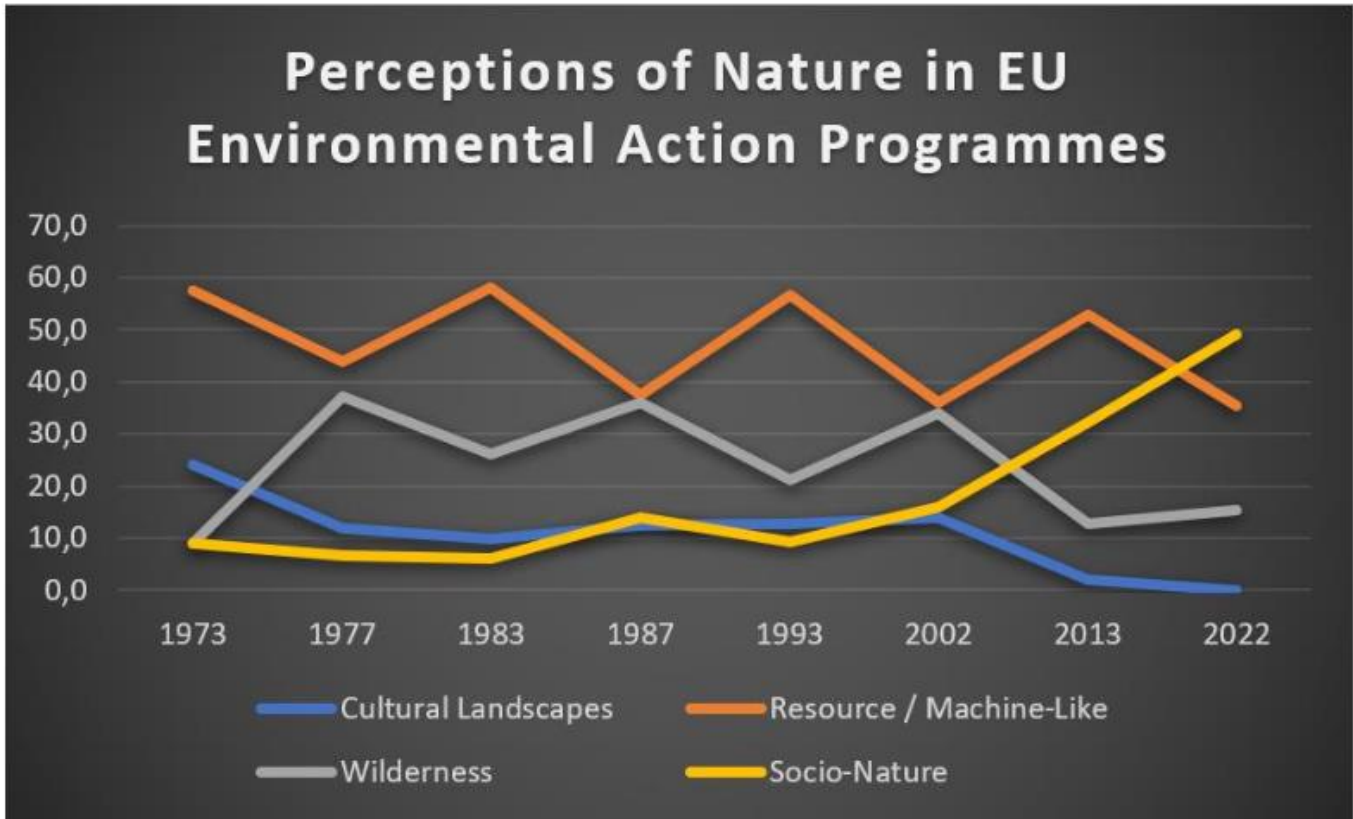
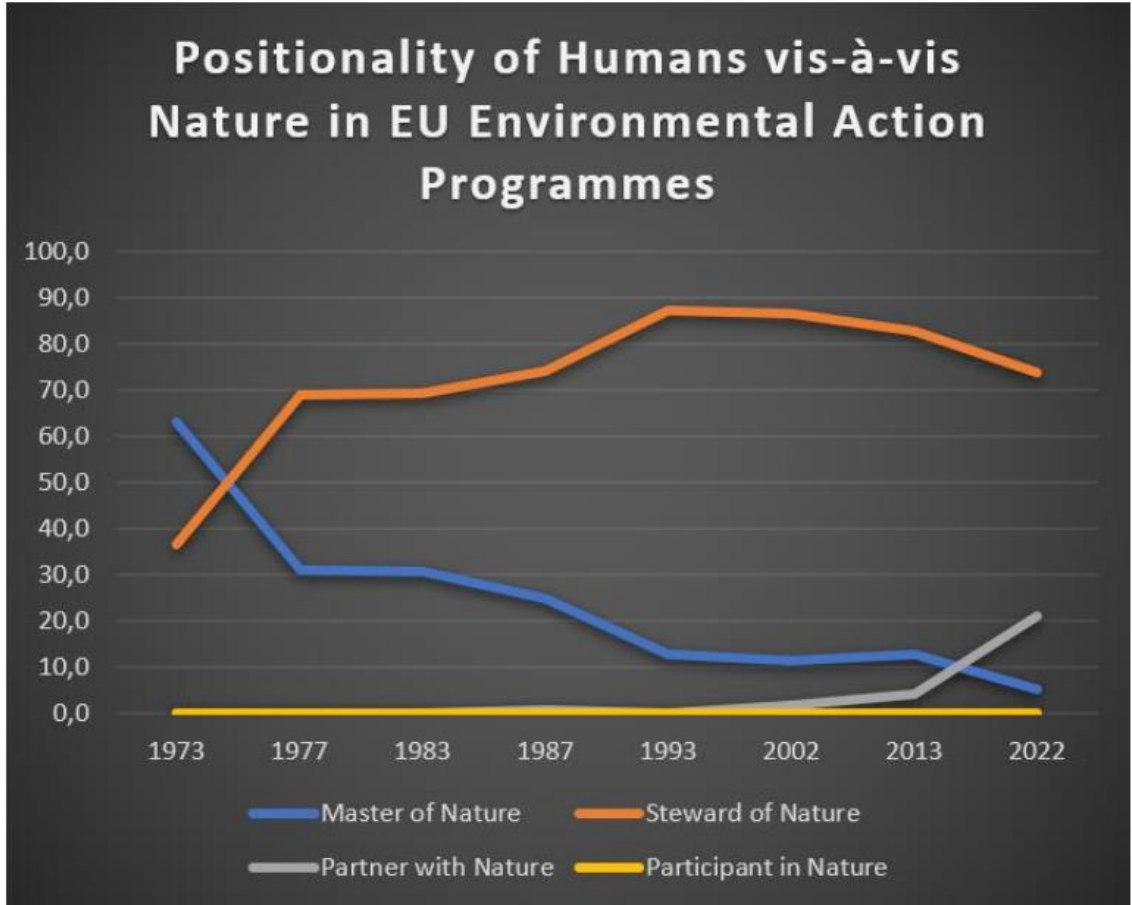
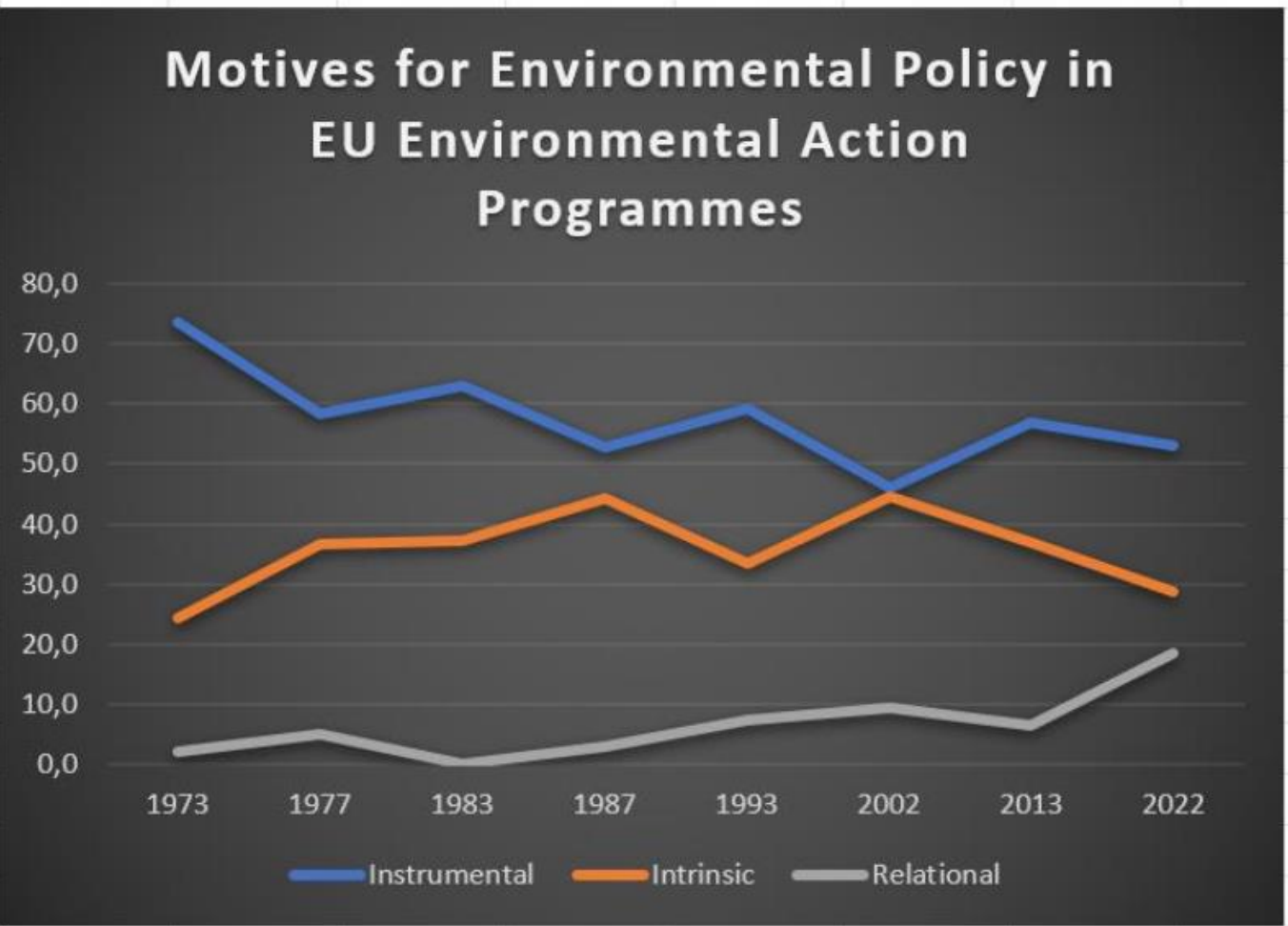


Coding Scheme 1: Why Protecting Nature?			
Human-Nature Divide Ontology ←		→ Human-Nature Relational Ontology	
Instrumental	Intrinsic	Relational	
<i>Nature is protected to safeguard the services it provides to humanity and to safeguard human lives and the persistence of the human race.</i>	<i>Nature is protected because of the intrinsic value of non-human nature, plants, animals, and ecosystems, without reference to their utility for humans.</i>	<i>nature is protected for human and more-than-human nature in their co-existence, without making the distinction explicit.</i>	

Coding Scheme 2: How Do We Relate To Nature?			
Human-Nature Divide Ontology ←		→ Human-Nature Relational Ontology	
Master of Nature	Steward of Nature	Partner with Nature	Participant in Nature
<i>The Master of nature sees no point in protecting nature if it is harmful/difficult/has negative consequences for humans or the economy. It can manage nature without moral constraints</i>	<i>The Steward of nature believes that protecting nature should be a fundamental side-effect of human and economic progress: do-no-harm principle</i>	<i>The Partner with nature believes we should give back to nature more then we take: we should actively enhance nature through interacting with it.</i>	<i>For the Participant of nature the bond between the self and nature is very important, it co-constitutes the self. Without nature, humans cease to exist, not because they depend on natural resources, but because nature is part of the self.</i>

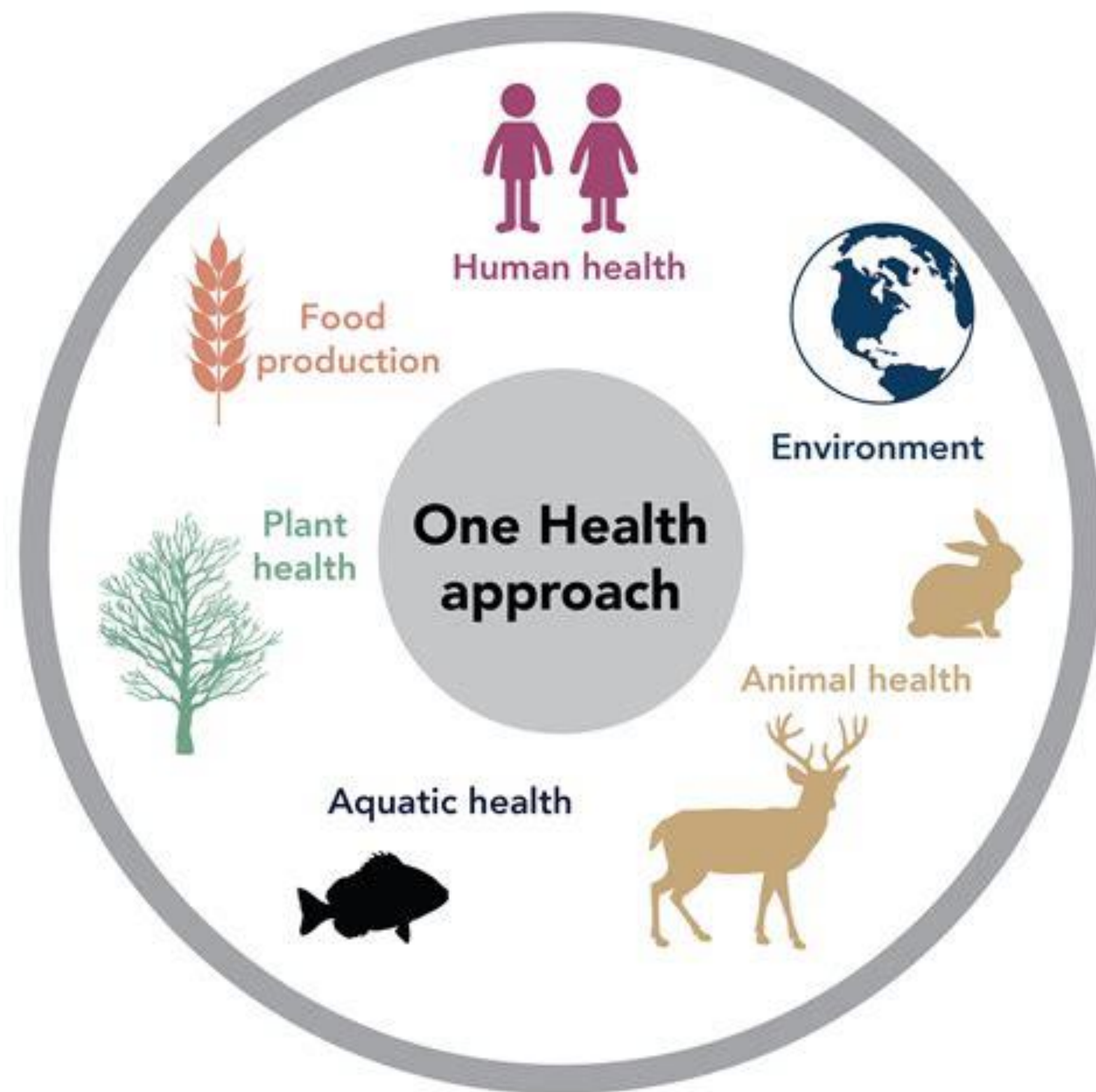
Coding Scheme 3: What Do We Perceive As Nature?			
Human-Nature Divide Ontology ←		→ Human-Nature Relational Ontology	
Machine-Resource	Wilderness	Arcadian Landscape	Socio-Nature
<i>Lifeless nature, dead matter, resources at the service of humans</i>	<i>Vast, pristine, virgin nature, fixed in time, untouched by humans.</i>	<i>Nostalgic landscapes of semi-nature, valued for its aesthetics and sense of nationalism, and in which human interventions are exalted.</i>	<i>The natural environment in our direct surroundings. A place in which humans and more-than humans co-habit, without particular nostalgic or majestic features.</i>

TURE



TOWARD A SHIFT « IN » NATURE, BUT HOW?

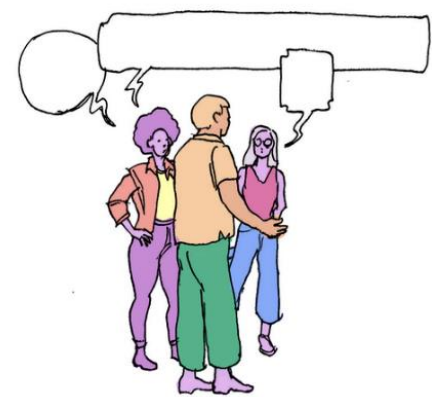
RETHINKING NATURE AND HUMANS RELATIONSHIP



- Understanding human and non-human (animals and the environment) **connections and interdependence** is crucial to address One Health challenges (such as zoonotic pandemics)
- This holistic One Health approach is **not always fully understood by healthcare professionals** or students despite its importance

TOWARD A SHIFT « IN » NATURE, BUT HOW?

RETHINKING NATURE AND HUMANS RELATIONSHIP



GRAPHIC MEDICINE EUROPE



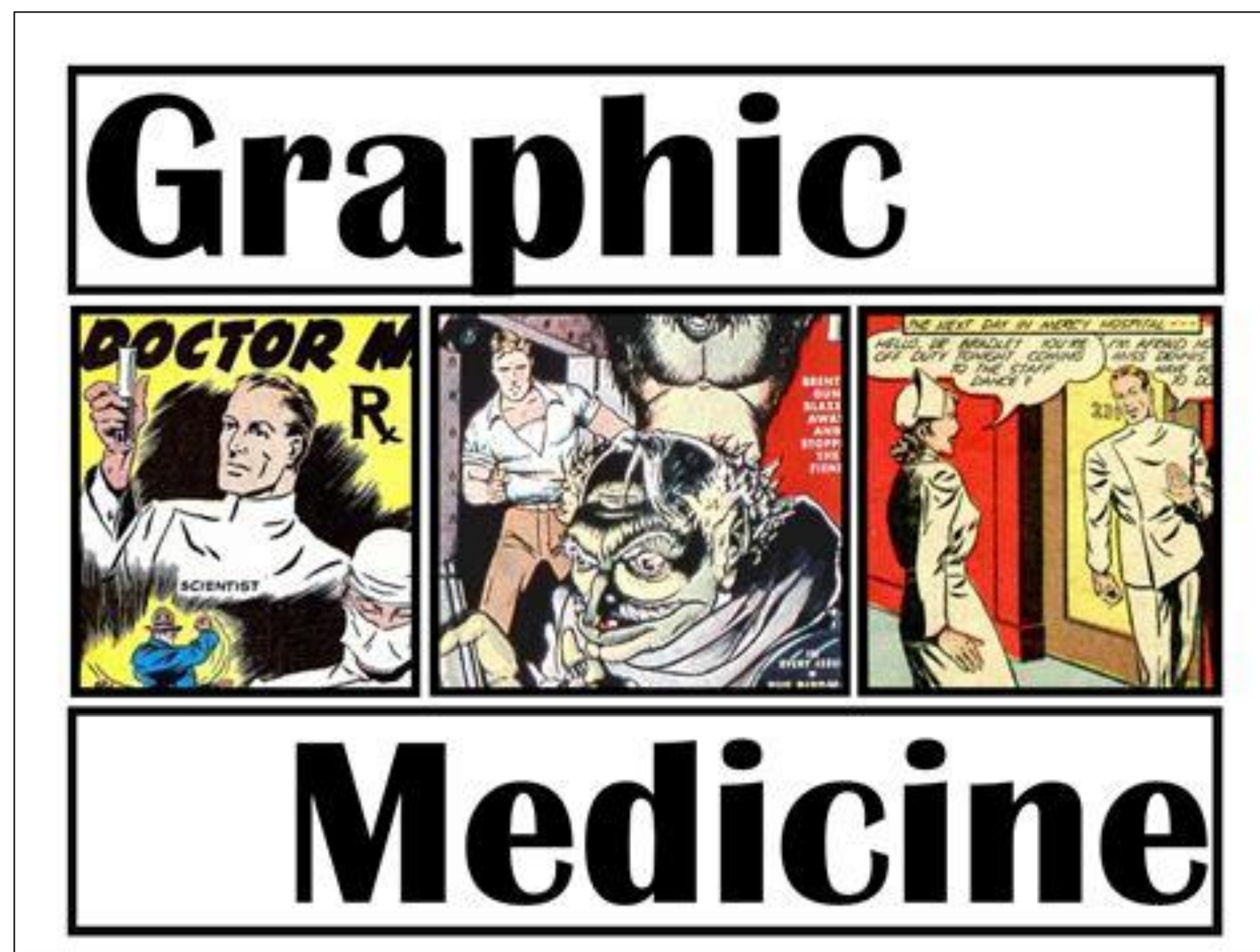
- Creating emotional connection with non-humans and “nature”

⇒ “Empathy” for nature

- Having complex ideas and concepts explained visually

⇒ the Big picture of One Health

- Understanding transdisciplinarity



A NEED FOR EDUCATING ON ONE HEALTH

WITH ACTIVE AND EXPERIENTIAL PEDAGOGY

**Development and evaluation of a
new interdisciplinary pedagogical
module to raise awareness of One
Health using story telling**

A ONE-DAY SEMINAR

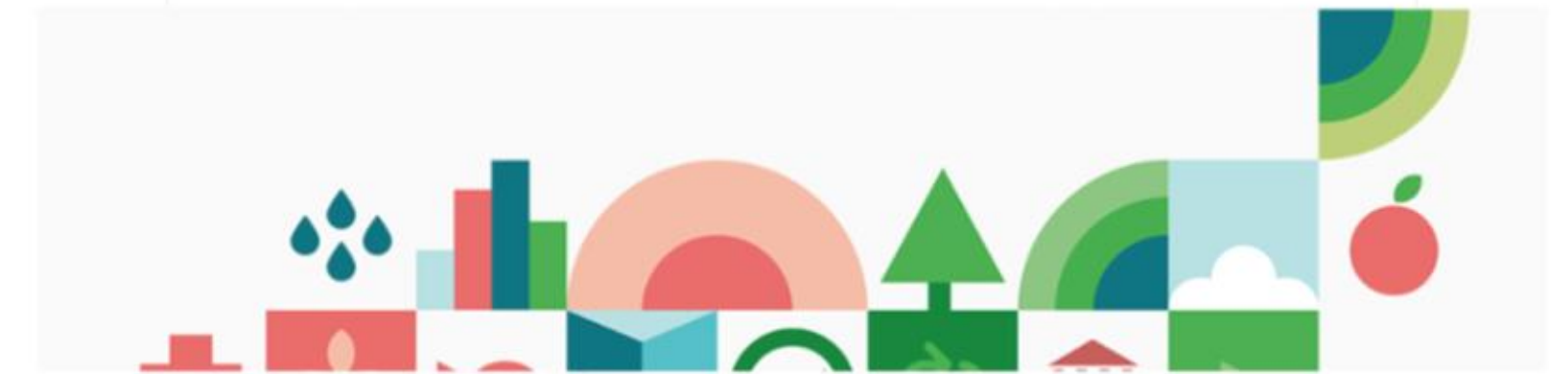
THREE NARRATIVE PEDAGOGICAL ACTIVITIES

Collaboration : six teachers from different faculties, incl. in a mandatory training on sustainability and transition



Training for transition: an interdisciplinary course at the University of Liège

In a world facing systemic environmental, social and economic upheaval, the University of Liège has strongly affirmed its educational commitment to transition.



Interdisciplinarity : up to 150 students from several faculties (health sciences (MD, pharmacists, biomed, public health,...), VT, political science, engineering...)

Active and experiential pedagogy : One day using three narrative pedagogical activities (Graphic Medicine, Arpentage, tales of possibles)

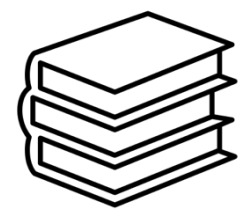
Learning goals:

- Transversal: self-learning, critical thinking, exploring the need for interdisciplinarity
- On One Health: the big picture, “empathy” towards nature to move from “with nature” to “in nature”

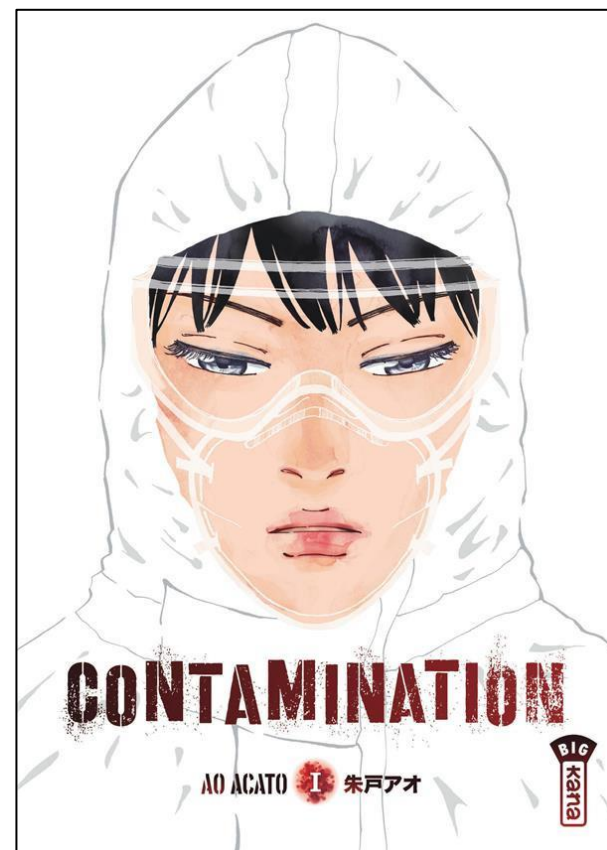
A ONE-DAY SEMINAR

THREE NARRATIVE PEDAGOGICAL ACTIVITIES

Yokobashiri is a city located at the foot of Mount Fuji. A soldier of the Self-Defense Forces who is barracked there collapses coughing up blood. He is soon followed by other patients who present the same symptoms... They all die quite quickly. At the central hospital, Suzuho Tamaki, a young energetic doctor, in charge of the first cases, suspects a large-scale contamination, but she has to fight with her superiors to make them aware of it and for measures to be put in place! Will she manage to mobilize everyone in time!?



GRAPHIC MEDICINE



Beforehand

"Put yourself in the shoes of"

Searched for a graphic novel/comic with the following features:

- Exploring zoonotic diseases
- Examples in the story of connections between animals, humans and environment
- Examples of interdisciplinary collaboration, communication and coordination between different profiles
- In French ! (bibliodiversity)

A ONE-DAY SEMINAR

THREE NARRATIVE PEDAGOGICAL ACTIVITIES

Collective reading using “Arpentage”* reading technique: reading rapidly and collectively a complex book on One Health/pandemic (The pandemic factory, Marie-Monique Robin)

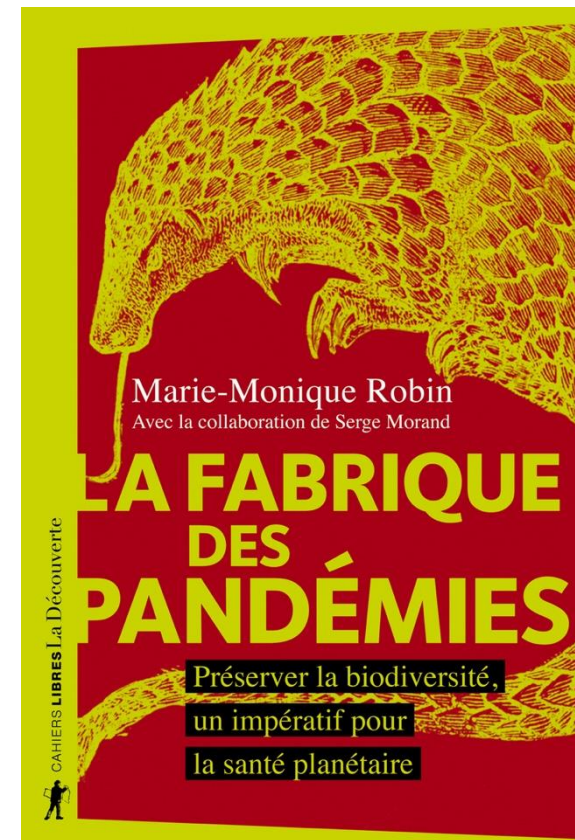
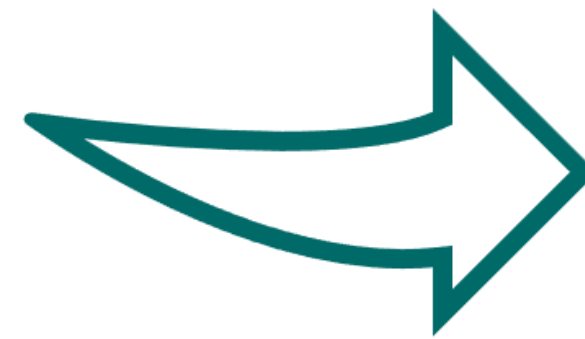
*Developed by working class' groups as part of popular education and used in the maquis during the French Resistance, this technique allows a group to engage with a text/book collectively with the aim of critically analysing it.

Beforehand

"Put yourself in the shoes of"



COLLECTIVE READING



Morning

Facilitate the overall understanding of the subject

Arpentage (n=10-15)

- 1) Every participant read a part of the book for 30min
- 2) All participants discuss together about the part they read
- 3) A facilitator helps them to “rebuild” the book and discuss about it
- 4) The manga is used as a narrative support for the participant

(“it reminds me the doctor in the manga that decided to help the infected patient”)

A ONE-DAY SEMINAR

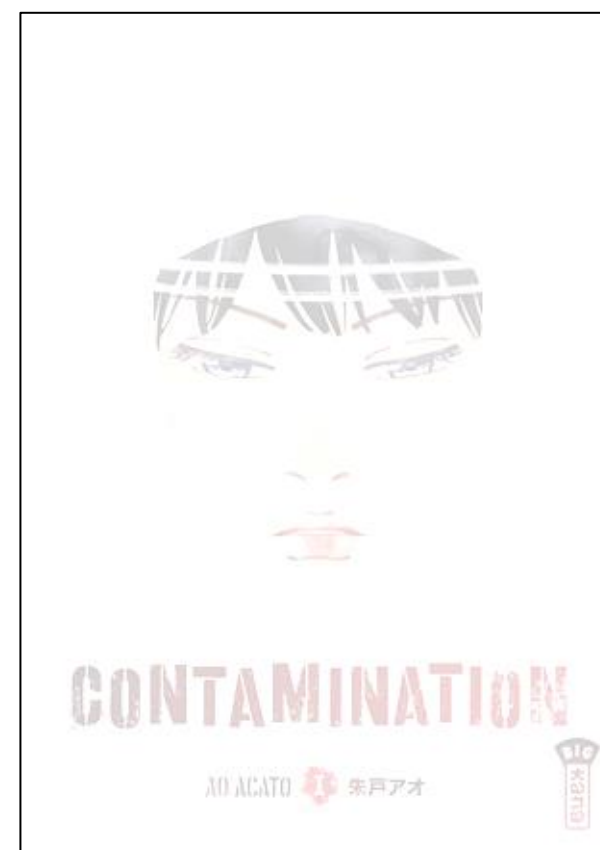
THREE NARRATIVE PEDAGOGICAL ACTIVITIES

Imagine the future: using the power of imagination and stories to imagine a desirable future

Inspired by “From What Is to What If: Unleashing the Power of Imagination to Create the Future We Want”, Rob Hopkins



GRAPHIC MEDICINE

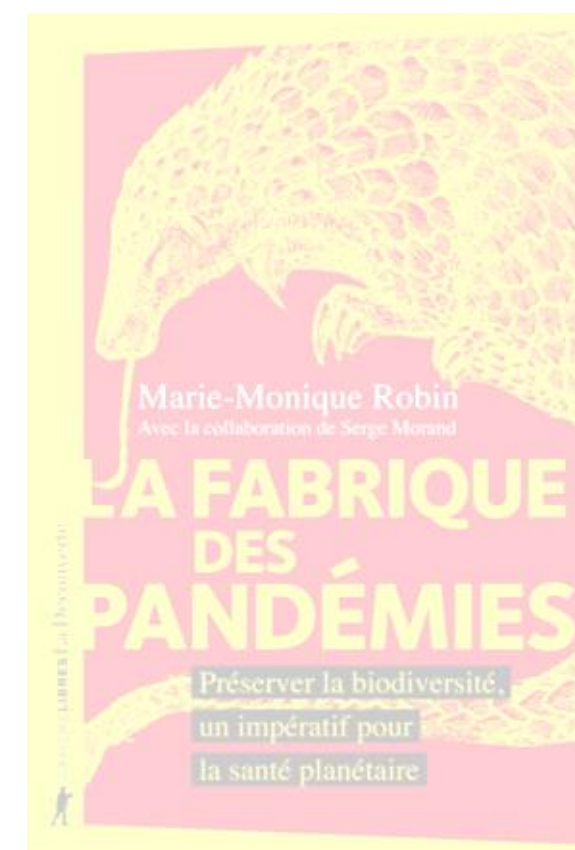


Beforehand

"Put yourself in the shoes of"



COLLECTIVE READING



Morning

Facilitate the overall understanding of the subject

TALES OF POSSIBILITIES



Afternoon

Synthesize the concept (interconnection, brakes and levers)

EVALUATION OF THE SEMINAR

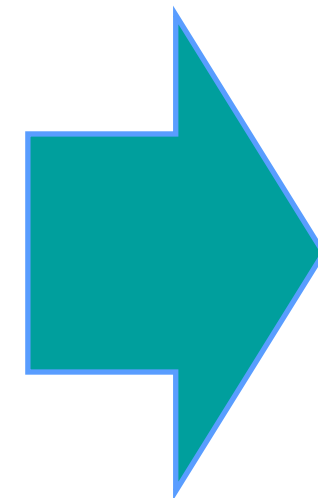
DOES IT WORK?

2023

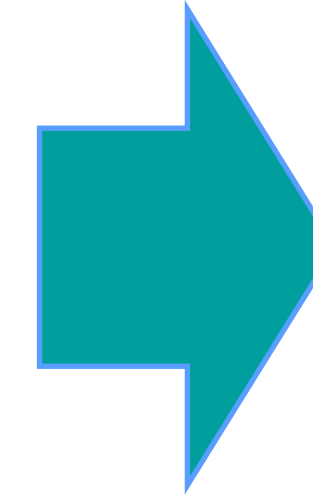
2024

2025 and 2026

Pilot study
on small scales (n=18)



Pilot study
on large scale (n=160)



Annual seminar
on large scale (n=+-100)



QUALITATIVE DATA

Focus group



QUANTITATIVE DATA

Questionnaire

RESULTS IN WORDS

DOES IT WORK?

- 1) Importance of interdisciplinarity
- 2) Effective learning techniques
- 3) Reading a comic: another way to see a subject



QUALITATIVE DATA

Focus group

«[...] the fact that I had political science and I said to myself yes, indeed, there is this whole plan that I never think about because I'm more into the environmental, scientific and all. And so yes, I said to myself OK, yes it's super interesting, we have to include everyone in the debate. »

I remember the importance of interdisciplinarity and creativity (!) to think about (un)desirable futures

It's interesting to see the divergence of opinions depending on the faculties

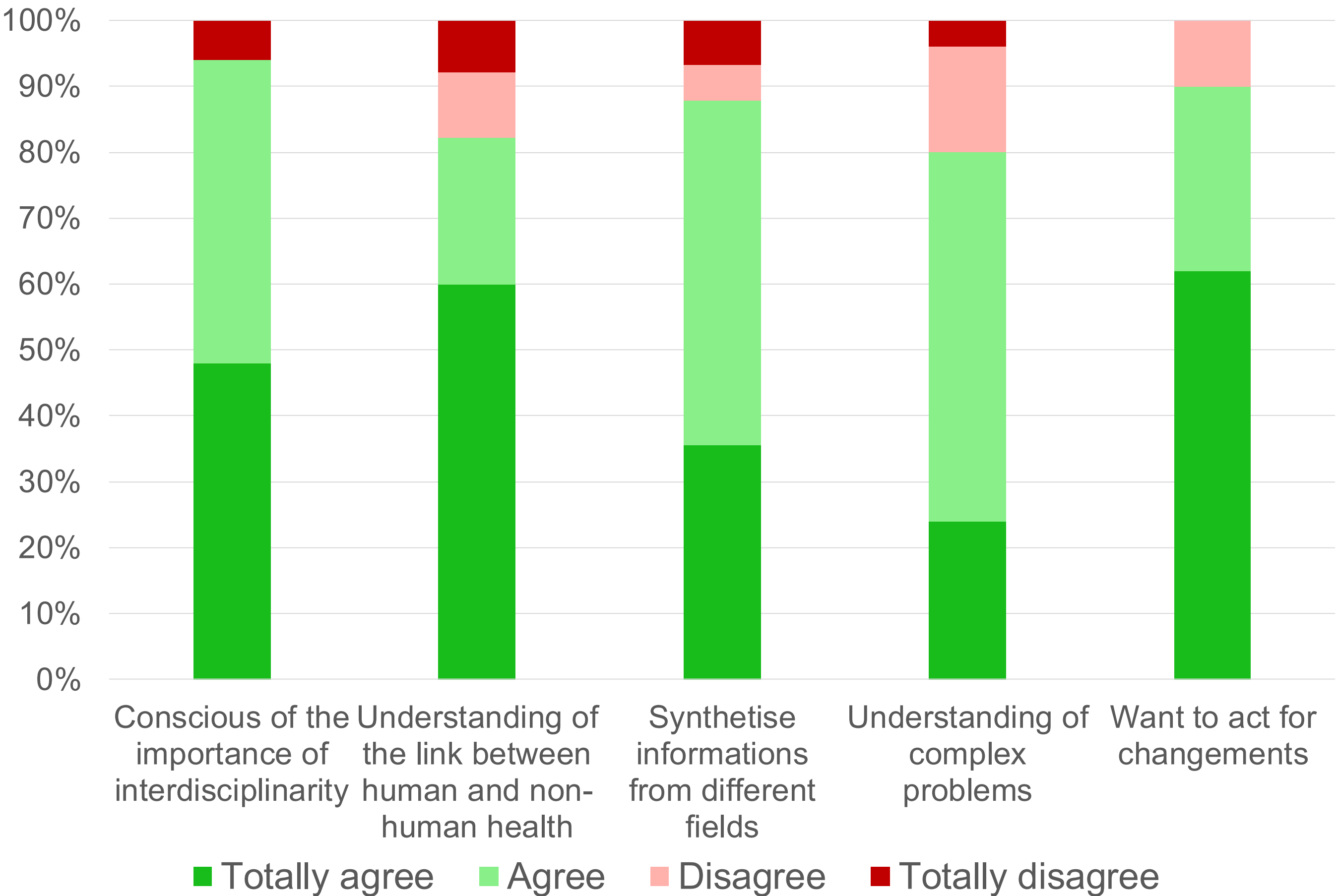
I appreciated the original and innovative methodology.

Arpentage and reading a comic book brought a playful touch to a very serious subject.

Arpentage should be used more often in teaching, it is a very interesting learning method that allows you to learn about a subject through the vision of the other people with whom you do it.

RESULTS IN NUMBER

DOES IT WORK?



19 questions
evaluating
competences and
satisfaction

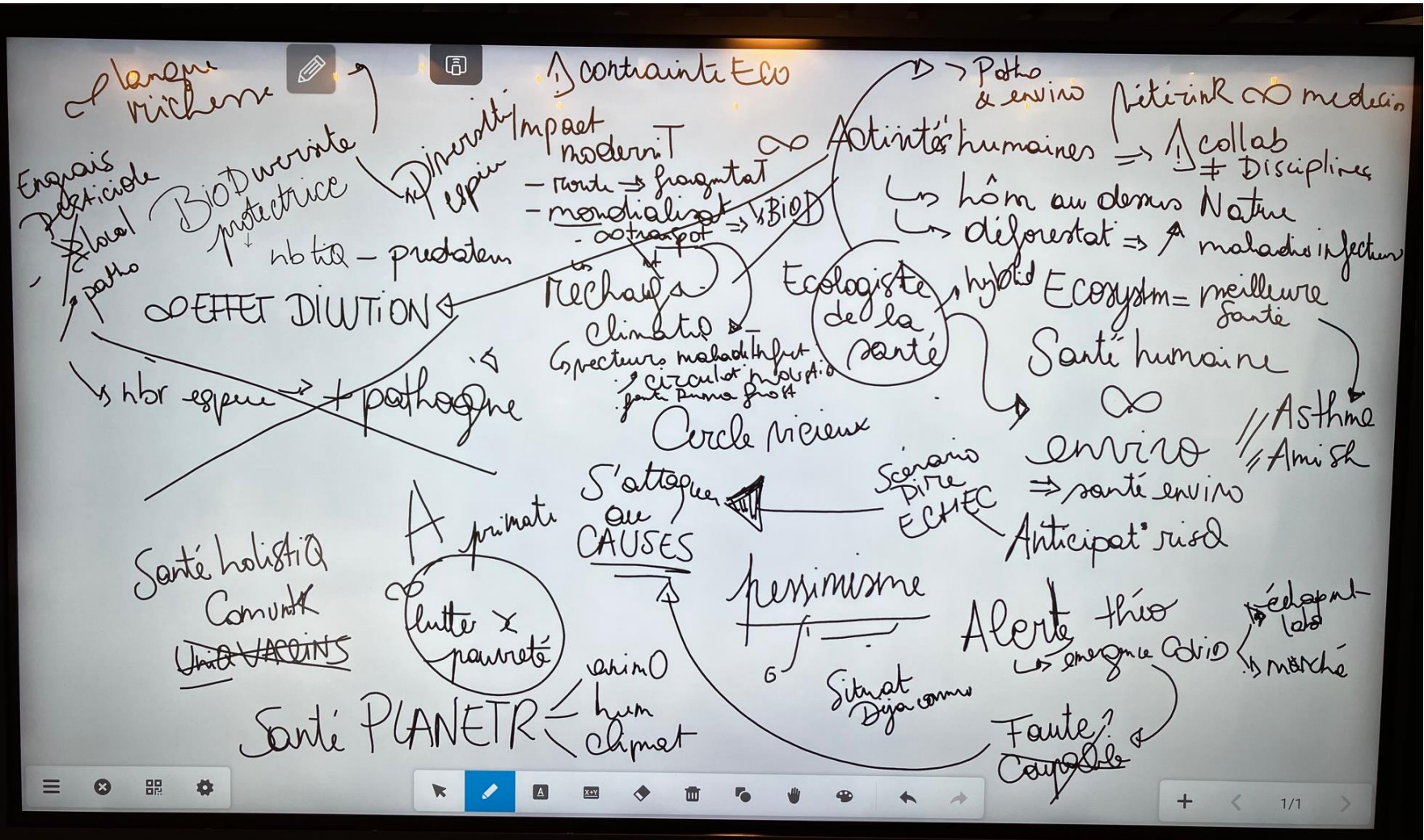


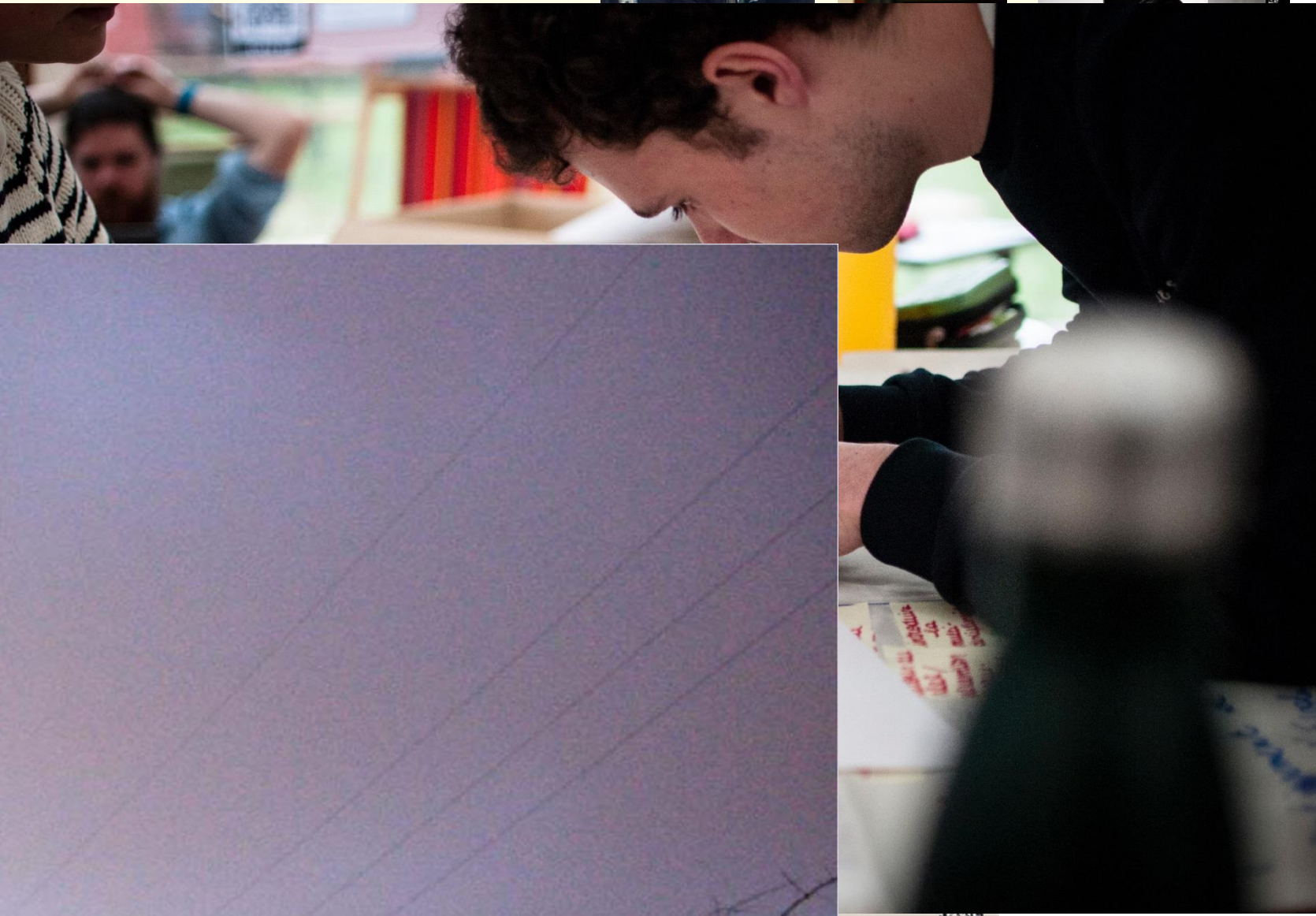
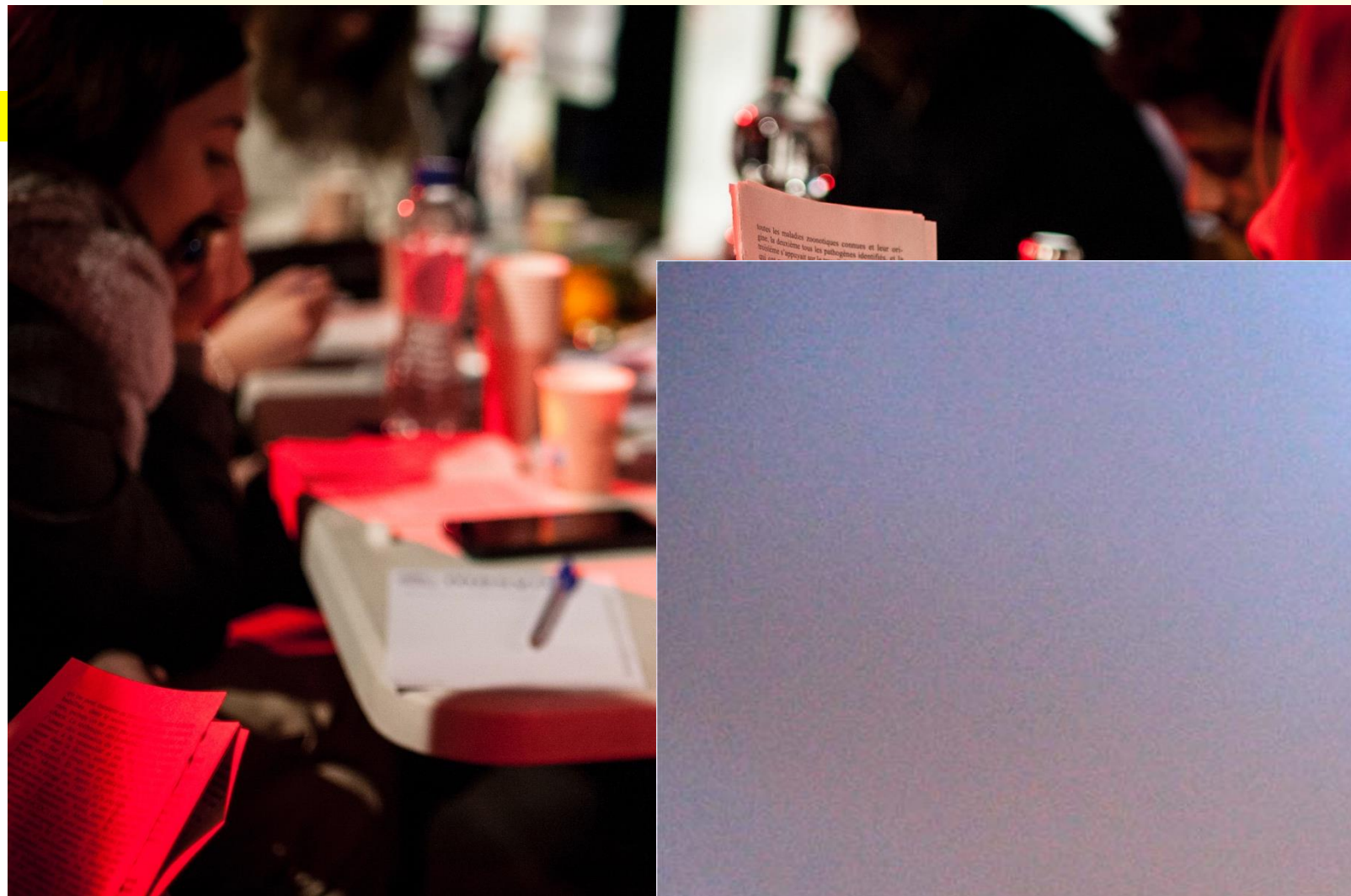
QUANTITATIVE DATA



RESULTS IN IMAGES

DOES IT WORK?





RESULTS IN IMAGES

DOES IT WORK?



KEY MESSAGES

DOES IT WORK?

Participants could:

- Understand and apply inter- and **transdisciplinarity**
- Understand the importance of human and non-human **connections and interdependence**
- Understand the need to **see humans “in” nature** and not “with” nature
- Develop self and **active learning and critical thinking**



THANK YOU

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