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Deconstructing human-nature relationship in games: analysis and tests on *My Spot of Sea*

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CONTEXT

- The dominant dualistic paradigm of thoughts in Western societies acts as an unconscious conceptual prison as we face ecological crises
- Relationships to nature are complex and experiential and can be challenged by serious game

How can individuals transcend their relationship with nature through a serious game?

THIS POSTER'S OBJECTIVES

This poster focuses on how game design elements shape and reinforce players' worldview. To achieve this, it **analyzes iteratively**:

- 1a the conceptual dimensions composing **relationship with nature**
- 1b the elements of the **game design** reinforcing these dimensions

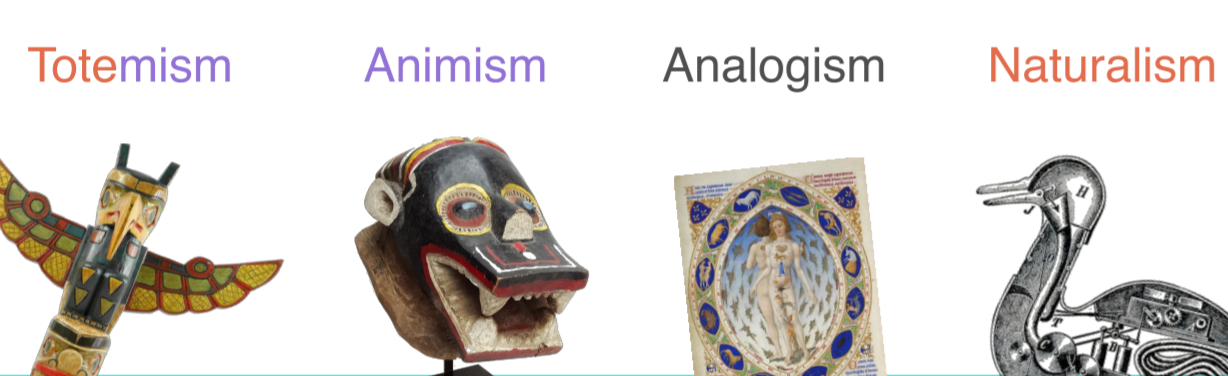
1a Western & modern relationship with nature

KEY LITERATURE

Various types of relationship with nature exist. Ours is an exception. Here are some key notions on this relationship with nature, which have helped characterizing the main dimensions described in the box below.

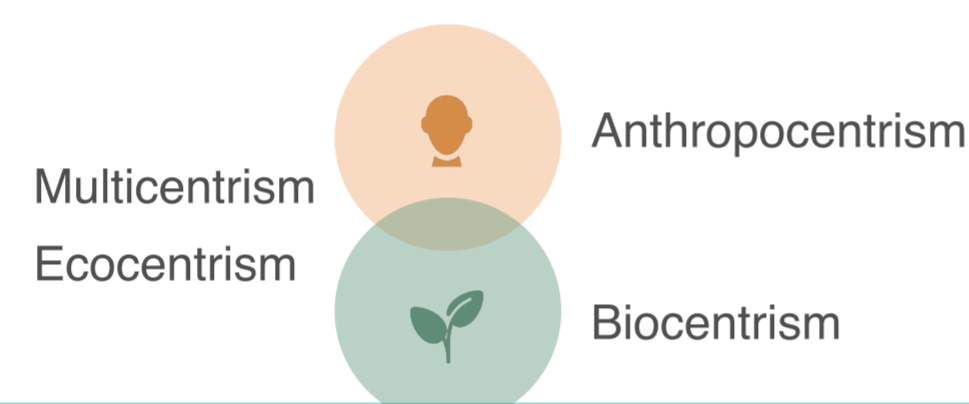
Descola's 4 ontologies

Types of relationship to the world, depending on whether humans consider other living beings as resembling them or not in their **physicality** or **interiority**:



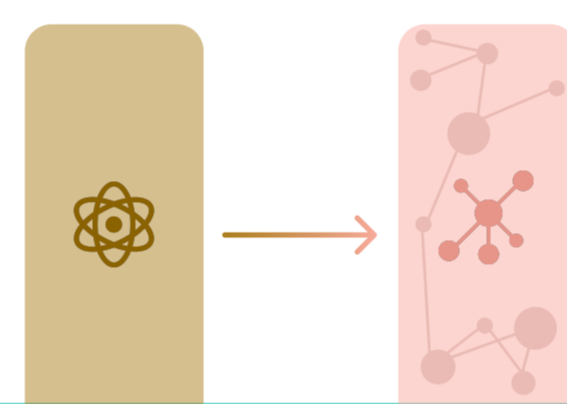
Environmental ethics

Relationship of **humans** with **nature** according to moral principles and the values granted to nature by humans:



Berque's mesology

New paradigm in which an individual's existence is essentially relational. It aims at transcending the **current paradigm**.



MAIN DIMENSIONS

For an individual to transcend his relationship with nature, this research hypothesizes that he must **deconstruct** it (Derrida). To this end and to help evaluating **game design effects**, different dimensions of the relationship of modern Western humans are extracted here:

Apathy

Emotional indifference, loss of affect towards other living beings – Detached posture – Disconnection with the experience of nature

Categorization

Sorting natural elements into siloed categories – Standardization and substitutability of the elements contained in the same categories

Human extraction

Clear distinction between society and nature – Humans extracted from the "nature" – Feeling of independence between human and nature

Prioritization

Classification of living beings according to a value judgment – Sensation of human supremacy (by his intellect) on other species

Instrumentalization

Use, management of nature to meet human needs – Nature is valued for its material or physical benefits

Pure substance

No spiritual aspect taken into account – Spirituality is often taboo and devalued

Objectification

Other living beings regarded as passive "things" without agentivity – Their responses are only mechanical – They are abstracted

Reality uniformity

Belief in one and unique reality – It's physical, uniform and measurable by modern science – Prioritization of substances and objectivity



THE STUDIED GAME

The research is articulated around the simulation game *My Spot of Sea* (*Mon lopin de mer*, in French) :

- designed by the LIENSs laboratory and Ifremer
- for education on littoral social-ecological system
- for pupils and students
- part of a larger educational program

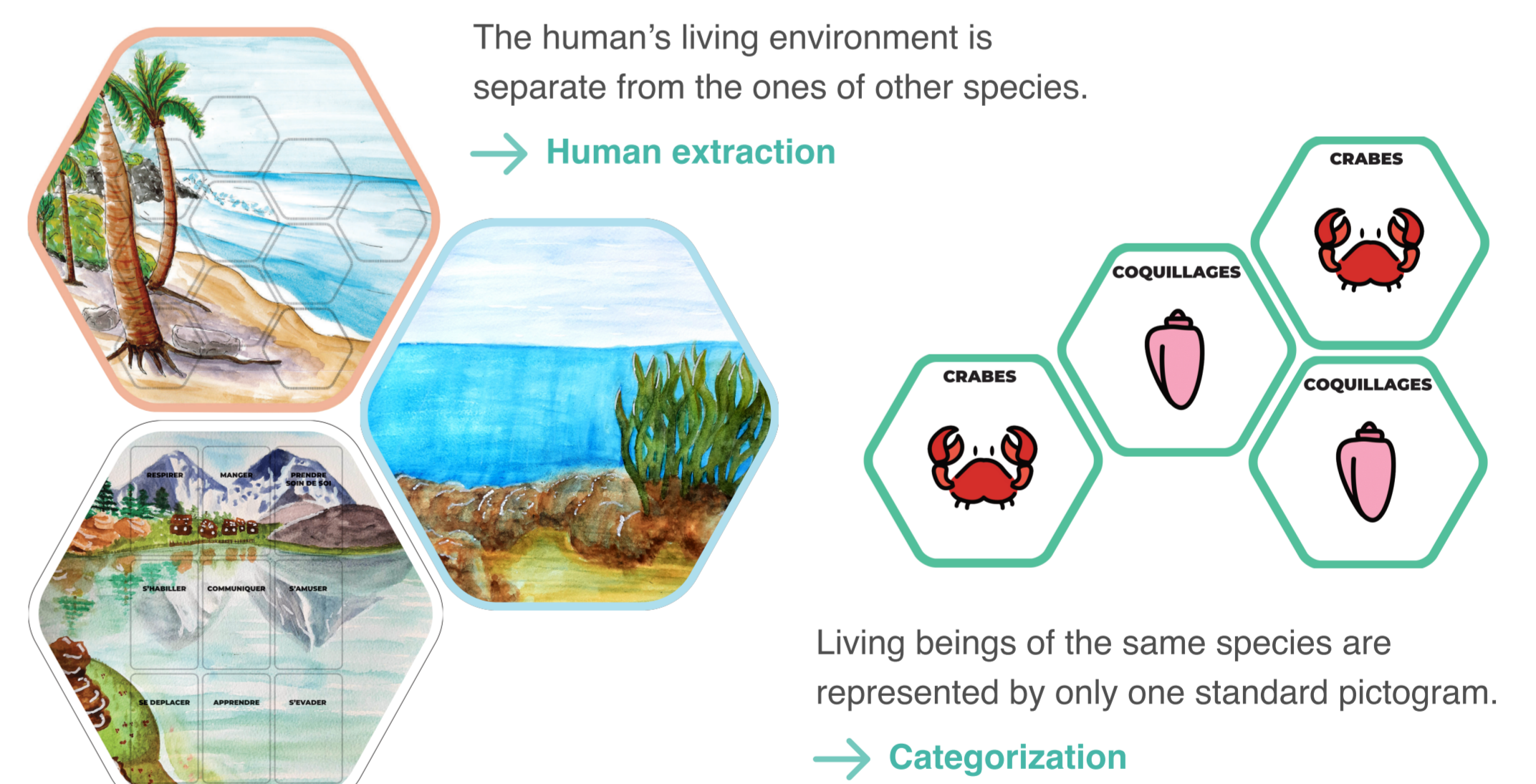


This sustainability game is typical of games seeking to **represent other visions of nature** (as this research aims to).

GAME DESIGN EFFECTS

One of the hypothesis of this research posits that some mechanisms and game design elements in *My Spot of Sea* **reinforce some dimensions of the modern Western relationship with nature**.

Through which elements of game design in *My Spot of Sea* are the players' relationship with nature and their awareness of it influenced (and how)?



2 Experimentations: game design effects on dimensions

2 experimentation types:

- 2a tests in full game session
- 2b tests focused on specific game design effects



Test in full game session (2a): here with 9th grade students in La Rochelle



Test in full game session (2a): here with 6th grade students in La Rochelle



Test (2b): focusing on the Instrumentalization dimension and a related game design effect

Questions evaluated:

- Are dimensions relevant for the game's analysis?
- Are the suspected game design effects actually happening?
- Are game session data more relevant than debriefing data?

CONCLUSION, PERSPECTIVES AND OPEN QUESTIONS

- Data from both types of experiment are currently being analyzed
- Starting October 2023, the game itself will be transformed
- Some game design effects will certainly not be removable

Have you ever wondered what effects could have those elements?

Game board? Pictograms? Reversibility mechanism? Zoning?

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