

OVERLOOKED / investigation into speculative scenarios where nature reversed biomimicry / situated action

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ABSTRACT

In response to the “Participation(s) otherwise” theme of the conference and the *Local/global – place/territory* anchor points, the authors will use a model of symbiotic relationships found in nature to investigate possible intersections of design with other disciplines. The OVERLOOKED project will be presented in two parts 1) *Overlooked Structures*—a hands-on biomimicry display/ interactive exhibition. This can include live instructions and educational materials such as nature walks (or similar if place permits) and an interactive display for directed participation. 2) *Overlooked Species Zoo*—an immersive *roleplay* situation that can run alongside the interactive exhibition allowing participants to act out, bodystorm, and prototype speculative scenarios where biomimicry is reversed: nature borrows human tools of advertisement and marketing to perpetuate its own agenda. The tangible outcomes of both parts can be collages, drawings, and short writings that will be displayed in the space for the conference guests to see. The techniques explored will be beneficial for a wide audience and especially useful to non-designers. Participants can include educators, inventors, entrepreneurs, design students, designers, engineers, UX developers, artists, and anyone curious about collaborating with other disciplines.

Author Keywords

Biomimicry, Speculative Scenarios, Interdisciplinary Approach to Design, Ecology, Interconnectivity, Participatory Design.

CSS Concepts

Applied computing~Education~Collaborative learning

INTERACTIVE EXHIBITION / situated action

The proposed exhibition includes two parts; however, the authors can do either one or both parts depending on the space and time limitations. 1) *Overlooked Structures* invites participants to study natural artifacts and identify how humans have employed similar structures in everyday objects: honeycomb could have inspired corrugated cardboard; mesh could have been inspired by the structures of polypore fungi. The interactive exhibition/situated action during the PDC 2020 will allow participants to interact with the natural world, slow down, use their senses, and scientific tools such as a small electronic microscope and magnifying glass to observe and interpret natural structures. Informed by the methodology used by the Biomimicry Institute, [2] participants will analyze each organism’s function(s) and strategy(ies) to inform participant’s thinking and experiments. Principles of biomimicry are well documented and known in the design community, yet the dire situation of the global ecology requires more people to engage with the natural world and learn from it. If this exhibit is chosen, the authors will take a group on a short nature walk to identify local plants using a free app that is commonly used for Bio Blitz events. Authors are also interested in possible connections with a local naturalist to collaborate on this component of the exhibit. Please see (Figure 1) for an example of the similar exhibit by one of the authors.



Figure 1. Overlooked Structures in the gallery setting.

Here is the proposed sequence of actions of the *Overlooked Structures*:

1. Individually or in small groups participants choose an artifact from the display, i.e. an acorn. 2. Participants study the organism and identify the function and strategy of the organism using pre-made cards with pictures of the organism. The description on the card helps participants to identify one or more functions and strategies. 3. The experimental part allows participants to compare their chosen organism to a small collection of the man-made materials to help them brainstorm more ideas. Participation will be initiated by the open-ended prompts “How might we learn from an organism’s function and strategy?” Additional prompts will invite participants to formulate their own How Might We questions.

4. If time and space allow, the authors will use bodystorming techniques, props, and body movement to immerse the user in the organism’s function and strategy. Here is an example of a collective somatic exercise informed by symbiotic relationship of lichen organism: participants observe specimens, using a magnifying glass, pictures, etc. = Participants come up with active words stimulated from observation and discussion, i.e. *twist, fold, peel, thin, spread, skin, grasp, morph, resist*, followed by a guided embodied practice using the words as impetus for movement. The session will conclude with a shared reflection on the following prompts:= What can the embodiment of nature teach us? = How might moving through a structure found in nature inform our perspective of it? This portion of the situated action is inspired by the works of Dana Reitz and Jennifer Monson of iLAND whose work is situated in the relationship between movement and environment [5].

- 2) In the second part of the situated action, authors propose mini workshops *Overlooked Species Zoo* where participants get to visualize speculative and absurd situations where nature has borrowed humans’ tools of advertisement and marketing to promote its agenda. Example: An acorn has many functions and it uses different strategies to help the future plant. What would be an everyday object that carries similar functions for people? What strategies can we borrow from an acorn? A shell for protection in a form that can roll away to better places? A strategy of sharing resources with other life forms to promote community and insure pest control and fertilization? What if nature deployed tools of marketing such as advertisements to communicate the value of each species to humans? Many companies deploy “greenwash” — a marketing technique in which companies pretend to be green or good for the environment. It takes knowledge, critical thinking, and time to navigate the man-made world if you hope to have a positive impact. What would it take to get people to pay attention to the natural world? Perhaps if one day we saw an absurd magazine ad for an acorn as a precious jewel or as a storage unit of valuable information, it would challenge us to look at the world differently? As Anthony Dunne and Fiona Raby mention in the book *Speculative Everything*, “speculative design proposals challenge narrow assumptions, preconceptions, and givens about the role products play in everyday life” [3].

This absurd and humorous approach will encourage participants to think critically. According to the Biomimicry Institute, designers need to understand systems in order to come up with true innovation. “Since the world is full of complex systems, taking a systems view can be a very effective means to understand a design challenge at a deeper level” [2]. Participants can juxtapose an organism with everyday objects in an unexpected way to create a surreal scenario in which nature has borrowed human ideas and environments. The example (Figure 2) is a broadleaf plantain, which is both a common lawn weed and is used throughout the world as a medicinal plant, presented in the form of healing first aid antiseptic bandages. A collage technique can provide structure for participants to be creative in the limited time/space. If time and space permits, authors would like to use more immersive techniques such as bodystorming and other somatic exercises.



Figure 2. PLANTAID — Broadleaf plantain (*Plantago major*) “acts” as antiseptic and natural bandage brand.

The goal of the proposal is to stimulate exploration through interaction with the exhibit and the participants, to investigate, fail, and explore different intersecting points of view. This proposal is influenced and informed by the work of other interdisciplinary designers such as: “Thinking Wrong” by Project M where John Bielenberg [1] talks about the problem with designers “boxed in familiar way of doing things” and IDEO nature cards [4] where biomimicry examples and strategies are used for solving complex problems.

Looking at the natural world where everything constantly evolves and adapts, designers not only evolve and adapt their practice to human and societal needs, they become the connective tissue between different disciplines. The authors hope that by participating in these situated actions that people will step outside of their comfort zone, become an acorn or a lichen for a moment, and learn through experiencing.

Materials and Setting

Proposed ideas can be adopted to a variety of spaces. Some wall space with a means to mount posters, prompts and artifacts will be necessary. A table and several chairs and an access to a scanner and the printer can be useful. Some floor space needed for the body movement exercise or that part can be performed outdoors. We are interested in collaborating with organizers to see what is possible and productive. Please see more information about similar project at this link: <https://designawards.core77.com/Design-Education-Initiative/82424/OVERLOOKED>. Some interactive parts of this proposal are currently tested in more depth by the authors and is an ongoing experiment.

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