Today we are launching the COLONY project. From now to the final review, you are going to be working with your studio group to design growth structures to support a collective species ecology within the structure of a Pittsburgh Bridge. First you will need to become acquainted with the bridge; the complex environs, the bridge material, its dimensional reality, its history, its engineering principals and the ghosts that now hang within it.

In each studio group you will be given a starting point for the research sources on the bridge in question. You will need to be resourceful and organized. You should be able to spread your efforts, build into the shared dossier folder in DRIVE and pursue as many avenues as you can. The library has subscriptions to numerous journals where you can find curious specialist histories and analysis.

In studio on Friday you will present a 10-minute coordinated slide presentation of your bridge research findings. These will be delivered to the entire studio. (Manuel, Sarah and Sinan studios will have to step in and out of this process.) We will have 10 minutes of questions and discussion following each presentation. **10/30 PRESENTATION times 2.00pm=Sara, 2.20pm=Sinan, 2.40=Annie, 3.00=Jinmo, 3.20=Manuel.**

Mechanical drawing of the bridge will be one part of this research. This task will use the historic engineering drawings of the bridge. The beginning of the shared measured drawing resource will be on Rhino. First make a plan, two cross sections and one side elevation of your bridge. Later the teams will take on a 3D model.

OVER THE WEEKEND you will need to plan a visit to the bridge and find a way to take your remote colleagues with you.

**DELIVERABLES**
Collective work to include;
- 10min presentation on google slides.
- Documentary research findings organized in drive folder.
- Rhino file plus pdfs with Bridge plan, side elevation, two cross sections.
You are building a shared resource as a broad physical/historical/ecological/interpretive collection of data of information on your bridge. Most importantly you are recording the sources of your research and making a clear bibliography/reference for each piece of the dossier. This referencing is a crucial part of a professional and scholarly methodology. As you move forward as a team having referenced data, (whether drawn, written or visual) allows you to be confident to use the information as a foundation for your proposals.

This weekend you will expand your research and documentation.
* Those of you who are visiting the site should capture the experiential and haptic qualities in photograph, film, drawing, recording, sample collecting, and notes.
* Those of you who are drawing/diagramming and refining the dossier of site information should take note of the comments from your instructors and from the presentations.

On Monday you should have a clear organized file structure to allow easy retrieval for the next stages of the project.

You are also each asked to make a small conceptual model. We will have a discussion in studio about this idea.
critical cyborg F20

your creatures

For the next stage of this project you need to understand the intellectual framework to the whole undertaking. Your bridge, its context and the creatures who are assigned are intended to be the material with which to speculate on a potential ecosystem. In the role of author, your studio has the room to discover and advocate for a ‘position’ with the intervention. Your project should be catalytic rather than monumental, the design should be rhizomic and generative. The results should produce a description of long, slow, unfolding action rather than a singular state of equilibrium. This workflow is more difficult to do but it represents a counter-practice to the destructive history of settler colonization.

You will be encouraged to think in novel ways about structures, materials, durability, fragility, populations, predation and symbiosis.

There are 13 species to choose from and each person in the studio will be designing for a different creature colony; 3 birds, 5 mammals; 2 reptiles, 2 insects, 1 bivalve mollusk. Consider the full range of species, including their size, reproduction, life expectancy, diets, habitats and social behavior. Invent a sociocratic method in your studio group and come to an agreement about who will be the advocate/designer for which creature.

In discussion you should begin to consider the possible positions that the design of your bridge ecosystem might take. This set of principals can evolve as you work through the research and iterative design process and become affected by the discoveries you make. For instance you might take a stance on the materials of construction and decide that only re-used waste material can utilized, or that only biological material is relevant. Use the time in the studio to question Joyce Hwang when she comes for her studio visit. The times will be approximately; Annie 2.25, Jinmo 2.45, Manuel 3.05, Sarah 3.30, Sinan 3.50pm.

On Wednesday in studio groups your collaborative species research will be presented and we will return to the discussion about the conceptual bridge models.

american crow (Corvus brachyrhynchos)
mourning dove (Zenaida macroura)
barn swallow (Hirundo rustica)
beaver (Castor canadensis)
brown rat (Rattus norvegicus)
raccoon (Procyon lotor)
northern flying squirrel (Glaucomys sabrinus)
brown bat (Myotis lucifugis)
western honey bee (Apis mellifera)
pavement ant (Tetramorium caespitum)
garter snake (Thamnophis sirtalis)
gray tree frog (Hyla versicolor)
clubshell mussel (Pleurobema clava)

Collective species research should ask; whether the species might be migratory, what climates does it thrive in and where are these found geographically and at what times of year? How does its breeding season differ behaviorally from other times of year? What locational and population changes have occurred as a result of pollution or climate changes over the last 30 years? What are their predators and what do they predate? Are there parasitic species that they rely on or for whom they are relied upon? What is their diet? What energy do they expend?

DETERMINABLES
Collective species research to include;
- 5min presentation on google slides.
- research findings organized in drive folder.

image Nick Veasey UK
**Integrated System**

The exercise for Friday is one of mapping time and understanding relationships between climate, creatures and territory. There are many diagrammatic methods you might use to combine life processes, space, time, material, growth, and decomposition. It is most common to tether the relationships to spatial location but it is not the only way. For example, two ecologist cartographers in France, Alexandra Arènes, Sonia Levy and Axelle Grégoire, in a beautiful book called Terra Forma, have been working on a small field in France and connecting the evidence and phenomena to terrestrial systems.

You have the beginning of an understanding of the creatures as separate classified species. Now the task within the studio is to connect the dynamic life forms together, through, space, environment, diurnal, seasonal and epochal time. We are considering the bridge and all the life forms as a critical zone.

Together you will make a new place in your studio MIRO board for a sequence of your 10-12 creatures in order of adult lifespan. Then in groups of 3 investigate using alternate symbiosis and predator overarching lens, add an organizational structure with a last theme of your choice (eg migration, colony organization, gestation etc).

**NOTES from Sarosh Aklesaria’s lecture**

Humanism, post humanism ecological realism and deep time.  
Finite planet, dying planet, synanthroposim and doughnut economics  
Aline McArthur institute, circular economy  
Interboro in London, mobile market  
Harrison Atelier, wall panels  
TerraForm1, insect farm, New York City  
Bau Botanique, use living tree as a building system  
Think about the experience of the animal, the view of the world, how might a raccoon draw?  
Section of the spaces, time and participatory self build.  
Do we have to build, what about de-growth and use of existing spaces.  
The shift from human centric happens through imagining and talking about it.
BIG PICTURE
The collective observation is beginning to reveal a conceptual framework for the creatures as vectors in their context. Your network diagrams, your drawings and your thinking are together revealing a complex web of dependency, synergy and antipathy. It might be a surprise to you but, instability, contradiction and transition are qualities that we are asking you to court in your design process. The primary aim of this assignment is to find an architectural response that embeds the contradictions of a dynamic and unpredictable speculation. You are going to weave conditions for all the creatures to potentially act upon the bridge, its life forms, and its surround.

METHODOLOGY
The collection of 10-12 creature colonies will need a narrative. Your story arc, that will develop over time, should guard against a neat circular simplicity. You can project long and radical upsets (push and pull) to the conditions you find. Thus you are looking for an excitement in a system with multiple readings and outcomes.

LOCATION
As a first application of creature to territory we suggest that you take a look at the thresholds; day/night, winter/summer, structure/air, stone/steel, steel/plant, stone/earth, earth/plant, earth/air, earth/water, stone/water, water/ice, water/air, air/stomach.

Insinuate your creature colony’s behaviour across as many of these thresholds as you can. In this way you can begin to find the sphere of operation for your creature colony, around the bridge and its environs. (ranges vary; 2miles for a bee, thousands of miles for a swallow).

BRIDGE CONCEPT
Your conceptual model of the bridge explored a facet of its nature, ephemeral or structural. We want to discuss with you how that idea of the structure might have shifted, since you have now added the layer of creatures to its possibility. See below a quote from Helene Frichot which talks about our imaginary in conceptual realms;

‘There is no concept-tool if there is not a thinkable that has aroused us, shocked us into thinking for once, or else made us swoon as though in ecstatic realization of our embeddedness in a local environment-world. There is no concept-tool if there is no history of consciousness and a traffic in ideas that is both discipline-specific and at the same time shooting out along transversal trajectories traversing other disciplinary domains. We suffer or enjoy a profound encounter with thought, a thought that has come before us, but which was not ready-made. For a thinkable to survive and propagate it must work, and be able to form allegiances; thoughts ‘survive if they work, if they propagate, if they find an appropriate milieu, a welcoming territory … They will only maintain their appeal if they can form some kind of alliance with what we do’ (Goodchild quoted in Thrift 1999: 31). Concepts are things for thinking with, they offer aids and prompts to thought, they are like tools, they are what I call: concept-tools (Frichot 2016). Perhaps it is unnecessary to distinguish a concept-tool from a thinkable, except that the concept-tool persists and maintains some durability; where the thinkable, the shock it arouses may never resolve itself into a concept, but can remain something fleeting, often proving impossible to catch hold of. Thinkables are always escaping us, leaking, vanishing and plunging back into the unthinkable. We can rarely grasp hold of a thought.’

Helene Frichot, p179, Creative Ecologies 2019
There will only be three more assignments this semester, one for each of the remaining weeks before the FINAL REVIEW on 12/9/20. So this assignment sheet describes the scope of work that you will complete by next Monday, 11/16. This gives you a different agency as a designer. Your progress should be directed by your instructor and the results can be evolving and iterative. You are engaged in an unconventional role as designer of a process rather than a product. As Helene Frichot describes this potentiality:

‘...the field of the frame of reference would be conceived as a continuum, considering human, animal, other life, organic+inorganic parts, a continuous variation, conjoining both thought and material conjunctions, the wet and the dry side of all variety of bodies.’

The studio will now have agreed upon a provisional collective narrative, your creature colony will have an arc of its establishment around the bridge, and a location for its settlement. Your task this week is to engage your knowledge of the creature to draw the intimate spaces that it inhabits. These nests will be drawn to scale and enable the comparative presence of each colony within the bridge and its curtilage.

In this design process, you are proposing a methodology for space making for a creature collective. This architectural initiative should act as a generator or evolving framework. The creatures can use this design as an armature, for their shelter, for breeding or for sustaining food supply. You are to experiment with as many ideas as you can, sketching, modeling and projecting the development over time as the colony is established or dis-established. Your material of construction could be anything from flood water to resin cast steel bolts. Be inventive!

The bridge elevations/plans and sections will need to be referred to constantly. The studio should work to improve these base drawings this week. Later you will develop a 3D Rhino model as a basis for the collective work to be done in the last week.

**DELIVERABLES**

- Sketches, models and drawn iterations of an evolving structural system for the support of a creature colony.
- Scale drawings (plan section elevation) of the bridge.
- Nest drawn to scale in the bridge context.


Helene Frichot, 2015

Images: studio RODRIGUEZ, ecosystem, nocturnal-diurnal, climate,
What is design development?
Progress through this stage of invention and design evolution is not necessarily straightforward, you might go forward (pushing and elaborating an idea until it reveals its potential) and backwards, (returning to pick up a quality from an early sketch drawing or model). Always check with others regularly to see what they understand from the representations that you are producing.
Design development needs time, needs questioning and is most revealing with multiple versions. Change scale, look minutely and then look at the impact on the collected colony and on the bridge. For each version you might change the precept, and a flexible imaginary is useful to you at this stage. Try not to allow the ideas to become too rigid.

Prepare for 11/23 workshop
On Monday 11/23 you will be spending from 12.00-3.00pm with your instructor and a visiting critic in a workshop discussion about the studio narrative and about each creature proposal. You need to refine and rehearse the narrative for quick presentation. The individual creature colony work needs to be easily explicable through multiple drawings, models, material proposal and a description of its development through time.
The visitors will be; Nida Rehman - RANTTILA, Azadeh Sawyer - RAFSON, Omar Khan - GORAL, Matt Huber - RODRIGUEZ, Mary-Lou Arscott - RHEE.
In this workshop you will be advised how best to proceed with the work to represent the proposals in final review.

Final Review 12/9 1.30-5.30pm
In the discussion at the final review we are planning to have five outside reviewers including a bird scientist, 2# practicing architects, architectural historian, and a British scholar from the Barlett UCL. There will be three parts to the review;
1. Entire studio. Each bridge will present a film of their narrative and a general theoretical discussion will be held, comparing strategies and ideological underpinning.
2. Split groups. The reviewers will follow different paths through a sequence of two studios.
3. Entire studio. Discussion of the strategies by creature and of the potential impact of this assignment on the discipline and practice of architecture.
critical cyborg F20 transformer

We are asking you to make a pop-up book/sculpture/magic trick which tells us something remarkable about the nature or behavior of your creature. This should be a simple piece of intense fun. As it sequentially folds or unfolds it should reveal the action of your creature’s lifecycle, its colony structure, its movement or its body form. Photograph its stages of opening and upload to Miro board.

Use simple materials (eg paper/card/string), add colour, texture, transparency, text, layers, and folds to tell the story as it transforms. The size when at its smallest should no larger than 6”x4”x6”.

HAVE AN ENJOYABLE TIME OVER THE BREAK.

DELIVERABLES
Photographs of the transformer should be taken in its stages of opening and these uploaded to Miro.

images
Top left BEE by Shenyuan Li.
Top right BAT by Gabrielle Benson,
Bottom right GULL by Jerry Zhang,
Bottom left SNAKE by Justina Yoo
This is an exciting home run for you all. We have one week to final review on 12/9. Our review is between 1.30-5.10pm and will be split into four parts. Links to register for the zoom event will be on SoA website.

1. NARRATIVE 1.30-2.25 First we will have a project description from ML. Then each studio office will show a 90-240 seconds animation/film to describe the bridge narrative. This will be in an entire studio zoom. Our guests will hear and see the film narratives and we will discuss them all as speculations and we will look at your bridge drawings on the new CC_REVIEW Miro Board. This board will be open to you on Thursday 12/4 @10pm EST

2. STUDIOS RHEE + RANTTILA 2.30-3.25 In separate studio zoom rooms we will have two parallel sessions. The critics and faculty will be divided, all students who are not being reviewed should be in one review or the other.

3. STUDIOS RAFSON, GORAL + RODRIGUEZ 3.30-4.25 In separate studio zoom rooms we will have three parallel sessions. The critics and faculty will be divided, all students who are not being reviewed should be in one review or the other.

In these parallel studio reviews each person will make a 90sec presentation of their creature. You are to explain your interpretation of the significance of the species and your proposal for its evolving physical structure. Your presentation can be organized by speaking over a pre-established Miro sequence, or as a recorded filmed presentation. Do write and refine the texts of these presentations. You are making a platform for the reviewers to direct their conversation, so give them an idea of what you consider important about your process and your view of the results. Do not forget your readings, you can refer to the deep thinking you have been doing with the texts. You have limited time to present but you can leave other text, other animations and drawings on the CC_REVIEW Miro Board for discussion time.

4. OVERVIEW + CONCLUSIONS 4.30-5.20 in an entire studio zoom meeting we will make some more general points about the combination of narrative and detail and talk across all the bridges with gathered reviewers. We hope that this is a critical part of the event as you should also be able to pose questions and make comment.

NOTE
We are serious about the deadline as we would like you to be rested and alert for the review.

image
Bats at Congress Av Bridge, Austin TX