



CENTER FOR THE
STUDY OF THE

FORCE
MAJEURE

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335 Linden Street
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Center for Force Majeure Studies

Established on the UC Santa Cruz campus

The Center for Force Majeure Studies will enable artists and scientists to develop new collaborative insights, disciplines and methods to create, design and execute projects that elaborate the research and work of internationally acclaimed eco-artists Helen Mayer Harrison and Newton Harrison. The mission of the Center for Force Majeure Studies (“the Center”) is to generate long-term research projects that address the emerging stresses of the Earth’s largest ecosystems by co-joining the processes of art-making and the Sciences within the uniquely and specifically-framed perspective of work by Helen Mayer Harrison and Newton Harrison, understood as the Harrison Studio. The scope of mission of the Center includes work beyond typical categories and is in support of an evolving Art/Science hybrid form. The central theme is adaptation to climate change at scale, asking such questions as: Are there ecologically available responses that will, in good part, replace the constant flow of waters to river systems endangered by disappearing glaciers? The Center will reach out to cultural and educational institutions and execute on-the-ground projects that will engage scientists, artists, lawmakers and the public with the urgent complexity of humanity’s essential participation in the stress that the Earth’s ecology is experiencing. The Center’s work intends to enrich public discourse concerning ecology and inform policy development. More importantly, the center intends to add new information to the intense discourse on adaptation now taking place in scientific institutions and at government policy level.

The Concept of Force Majeure

The Harrison Studio applies the legal term Force Majeure to designate the co-evolving set of circumstances that work against the well being of both the human cultures and the ecosystems as we now know them, thereby imperiling the survival of both. The inclusion of the wording Force Majeure in the Center’s title references the nature of the global environmental stresses imposed by humanity’s overuse of planetary resources and the resultant contribution to climate change. The Force Majeure, when framed ecologically, delineates human-accelerated global warming acting in transaction with the vast industrial processes of extraction and CO₂ production. These processes have resulted in destroyed forests, depleted topsoil, a severe lessening of ocean productivity and a vast chemical outpouring into the atmosphere, the earth and the water.

A number of tipping points have already been passed. For instance, least well understood is the long-term impact of the vast over production of nitrates. The most obvious example is the rising atmospheric CO₂ level, which is now above 390 ppm; 450 ppm atmospheric CO₂ looks likely to be reached well before the end of this century. We will be lucky if atmospheric CO₂ levels stop rising at 600ppm. Ocean rise, drought, and erratic weather are inevitable; temperature increase— particularly in the high grounds — is happening as this document is written.

Complexity theory suggests that multidimensional problems do not yield or find resolution with simple cause-and-effect solutions, such as putting iron filings in the ocean, encouraging algae upwelling

systems, burying CO₂ underground, substituting atomic energy for coal, and the like. We have come to believe that problems of the kind that humanity now faces, such as the reformatting of the global weather systems from the predictable Holocene to the unpredictable Anthropocene, must be met by a whole-systems approach. We believe that human well being in our shared and uncertain future will require adaptation on a vast scale, both ecologically and culturally. The formation of the Center will manifest this belief in physical terms.

The Center will engage in studies of “adaptation at scale,” a core aspect of the Force Majeure project. This large-scale perspective will be maintained in examining the likely outcomes from glacial melt on the Sierra Nevada, the Tibetan Plateau and the trans-European mountain ranges. As the value of “adaptation at scale” becomes accepted and supported at policy levels, the Center will continue to study the complex interplay of art, science, regional planning and ecostructural design.

The Center believes that ecologically available responses can be discovered that will, in good part, replace the value provided to both ecosystems and cultures by the disappearing glaciers. For instance, as erratic river flow and drought, brought on by glacial melt and loss of snow pack, negatively affects a predicted 25% of Europe’s ability to produce its own food while its population increases over the next 50-75 years, then the probability of civil strife is high unless Ecostructures at great scale are invented.¹

In the course of addressing these questions, the work of the Center will include:

1. Identifying specific sites in mountain ranges where receding glacial melt will, in the near future, negatively impact the consistency of water flow into rivers. The research at these sites will focus on the identification and selection of combinations of indigenous plant species that are likely to adapt to the new climate conditions. In turn, these selections will be biased toward creating plant communities that accelerate topsoil formation and enhance the “Sponge phenomenon” in the local soil structures.
2. Paleo-botanical research that will locate species that lived in the affected region prior to glaciation at a time when the climates were equivalent to those projected. This research focus has two intentions.
 - a. To locate species in the region that might not have been considered as part of a viable plant palette.
 - b. To suggest close botanic relatives that might now exist in nearby locations that, after appropriate testing, would niche into the new environmental conditions beneficially; that is to say, without behaving as exotics.
3. An examination of newly revealed glacial earths and to investigation into what a first species

¹ This proposal avoids such terms as “inter-disciplinary”, “inter-disciplinarity”, “trans-disciplinary”, and “multi-disciplinary,” because all of the Center’s work will set out to engage with problems that spring from questions that no single disciplinary format can adequately frame. The Center will actively encourage the education of inspired generalists.

succession might look like.

4. A more careful exploration of the hydrology reflected in carbon sponge dynamics, with the intention of adding value to the system.
5. Analysis of the potential for carbon sequestration over great scale, e.g., how much carbon would be sequestered were the Tibetan Plateau to be significantly regenerated by using the evolving principles of the Harrison Studio.