//ArtCenter
//MEDIA DESIGN PRACTICES
//CREATIVE TECHNOLOGY 3

//P2: SIMULATION & DESIGN
//FALL 2021 WEEKS 4-6

Simulations are generated by models that mimic alternate conditions. Before the digital era, simulations were mostly associated with non-design fields, such as engineering, epidemiology, astronomy, meteorology, psychology, and economics. These models were typically used to predict or infer performance or events in possible, or future, or otherwise unknowable states.

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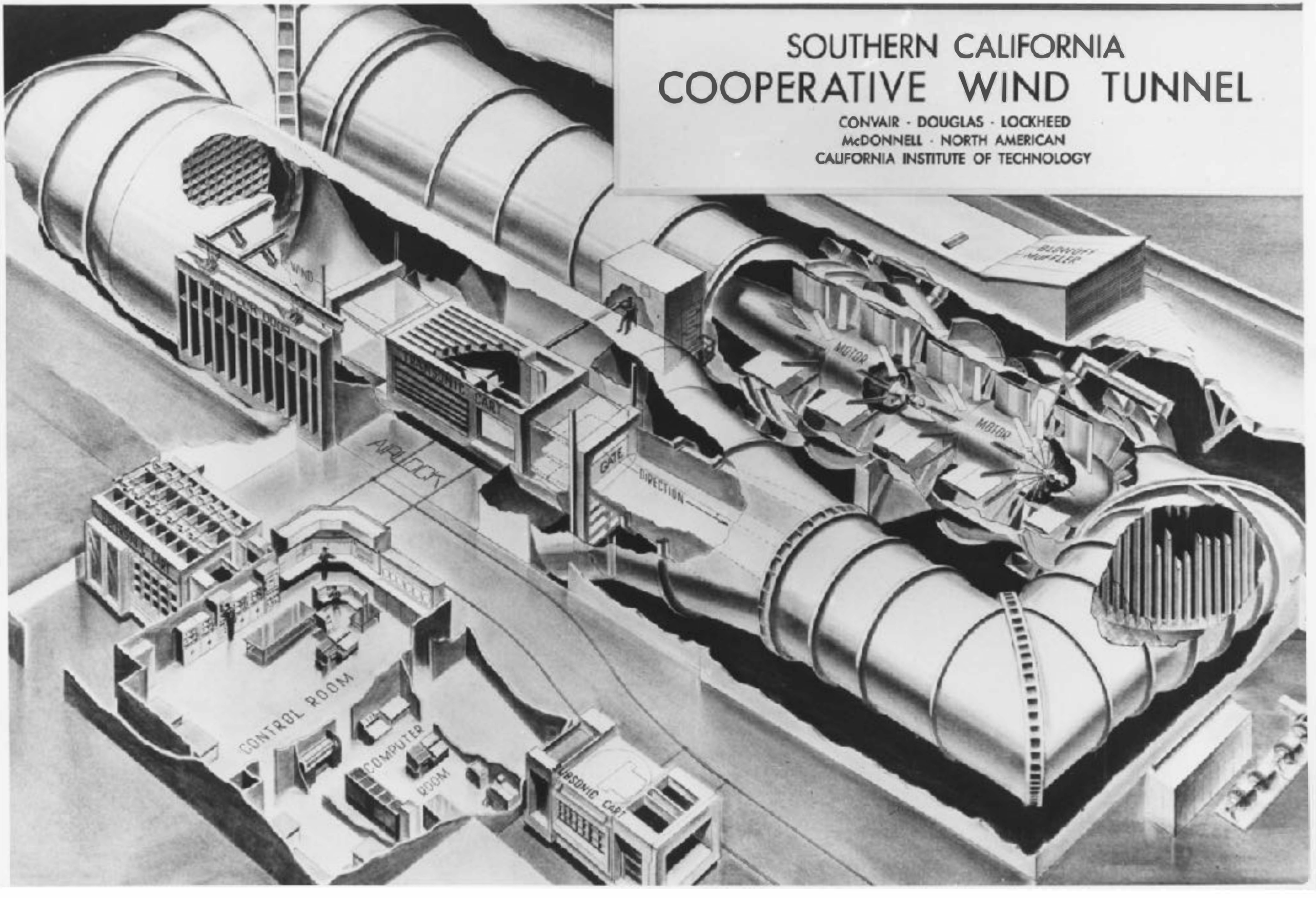
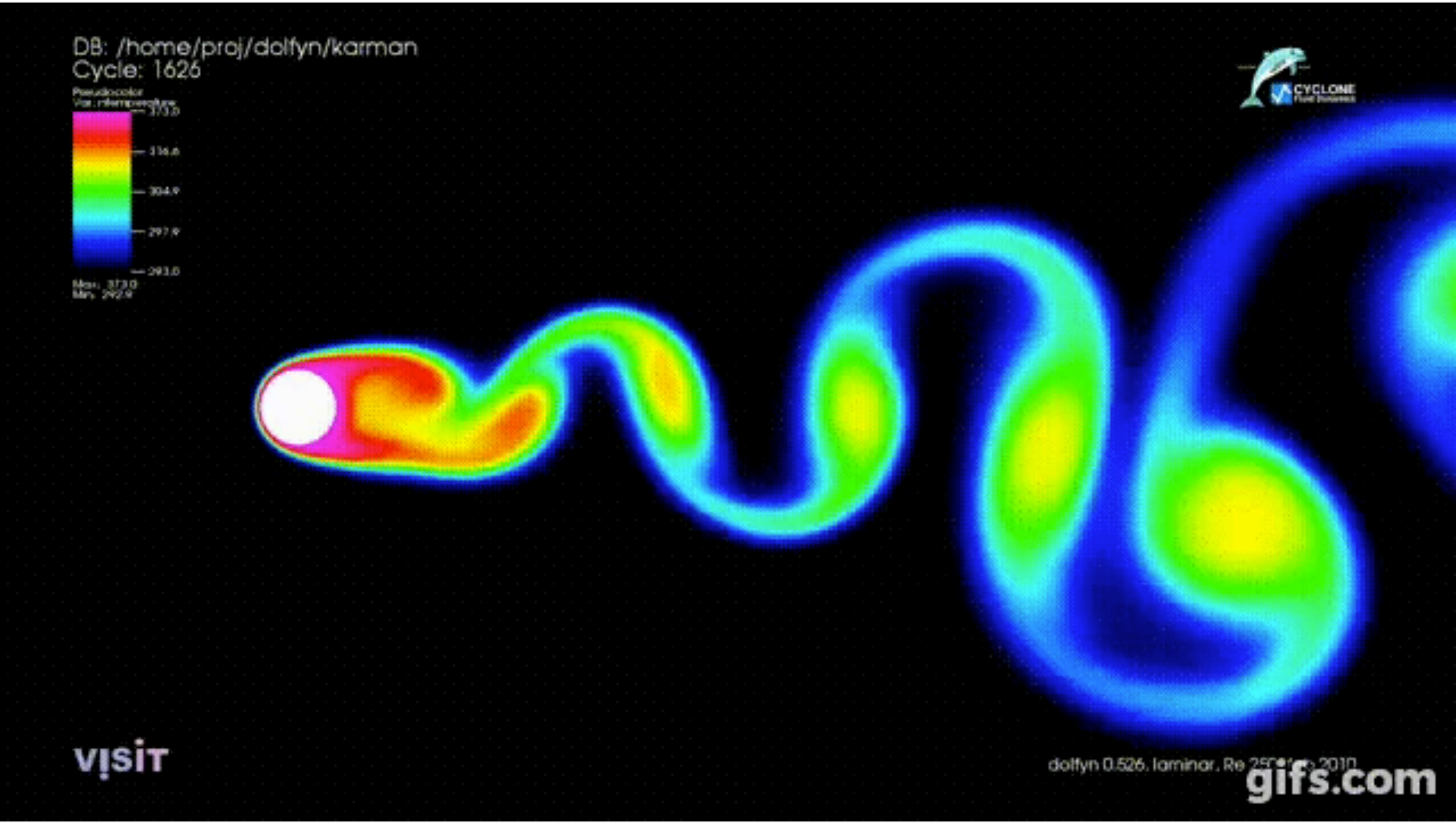


When software-enabled simulation eventually emerged, it evolved rapidly in non-research domains such as gaming and visual effects for cinema, with echoes in the art world from the very beginning. From there, crossovers continued into architecture and countless media applications. Today, sophisticated simulations are ubiquitous: in VR, AR, games, movies, GUIs (not to mention the simulations of disasters - like pandemics, fires, and hurricanes - we consume daily through the media.)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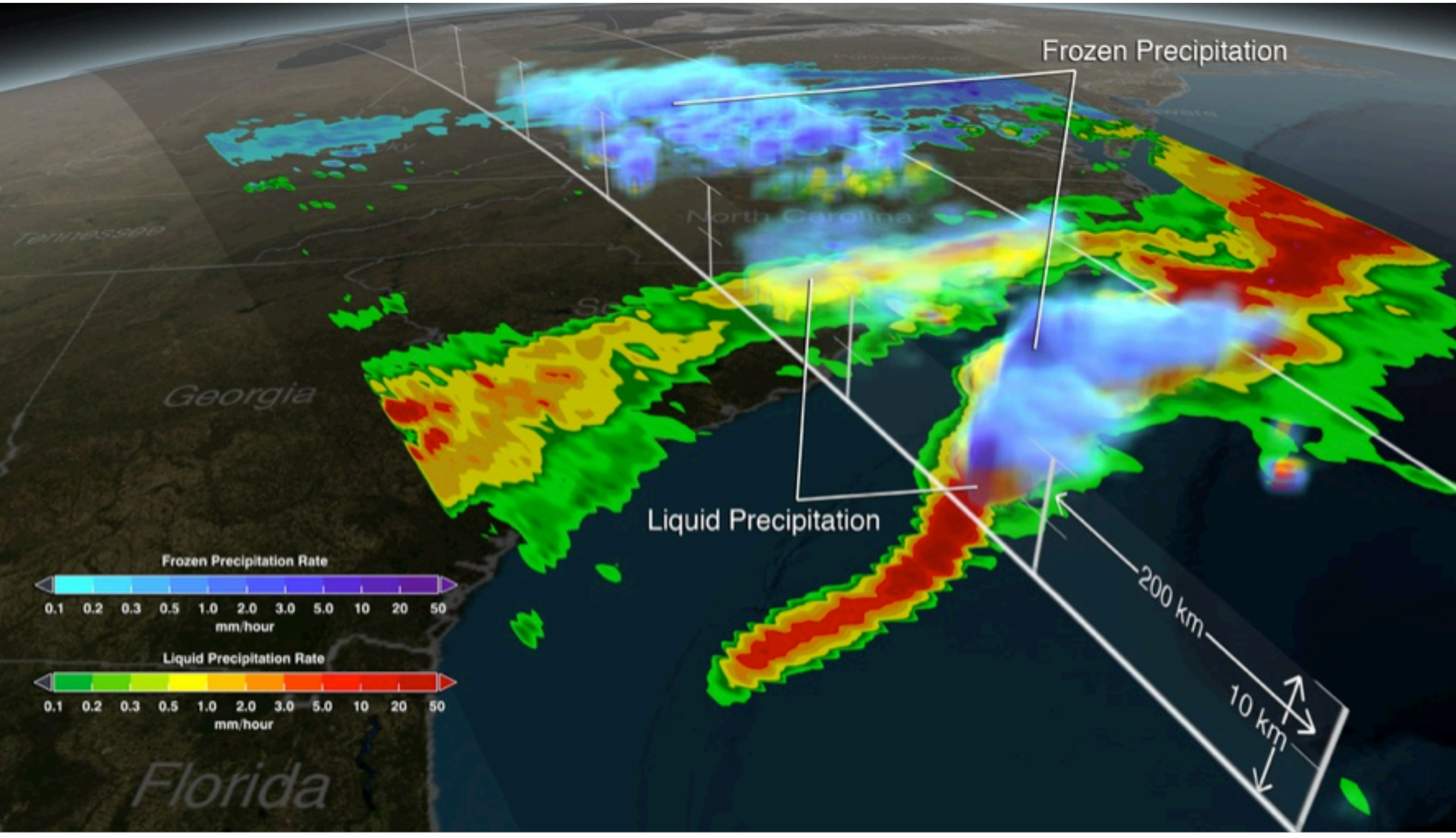
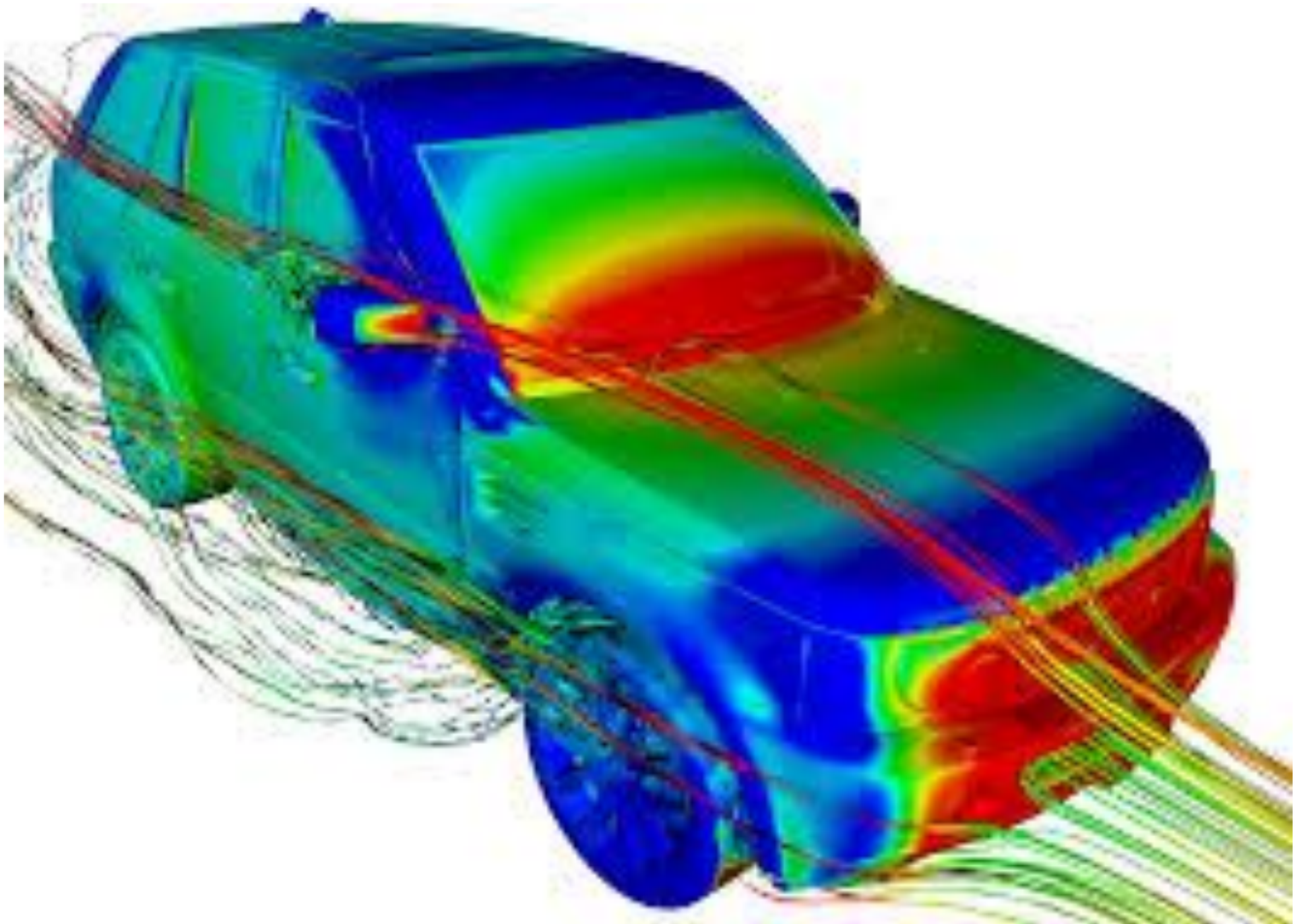

Frozen Precipitation
Liquid Precipitation
200 km
10 km
Tennessee
North Carolina
Georgia
Florida
Frozen Precipitation Rate
0.1 0.2 0.3 0.5 1.0 2.0 3.0 5.0 10 20 50
mm/hour
Liquid Precipitation Rate
0.1 0.2 0.3 0.5 1.0 2.0 3.0 5.0 10 20 50
mm/hour

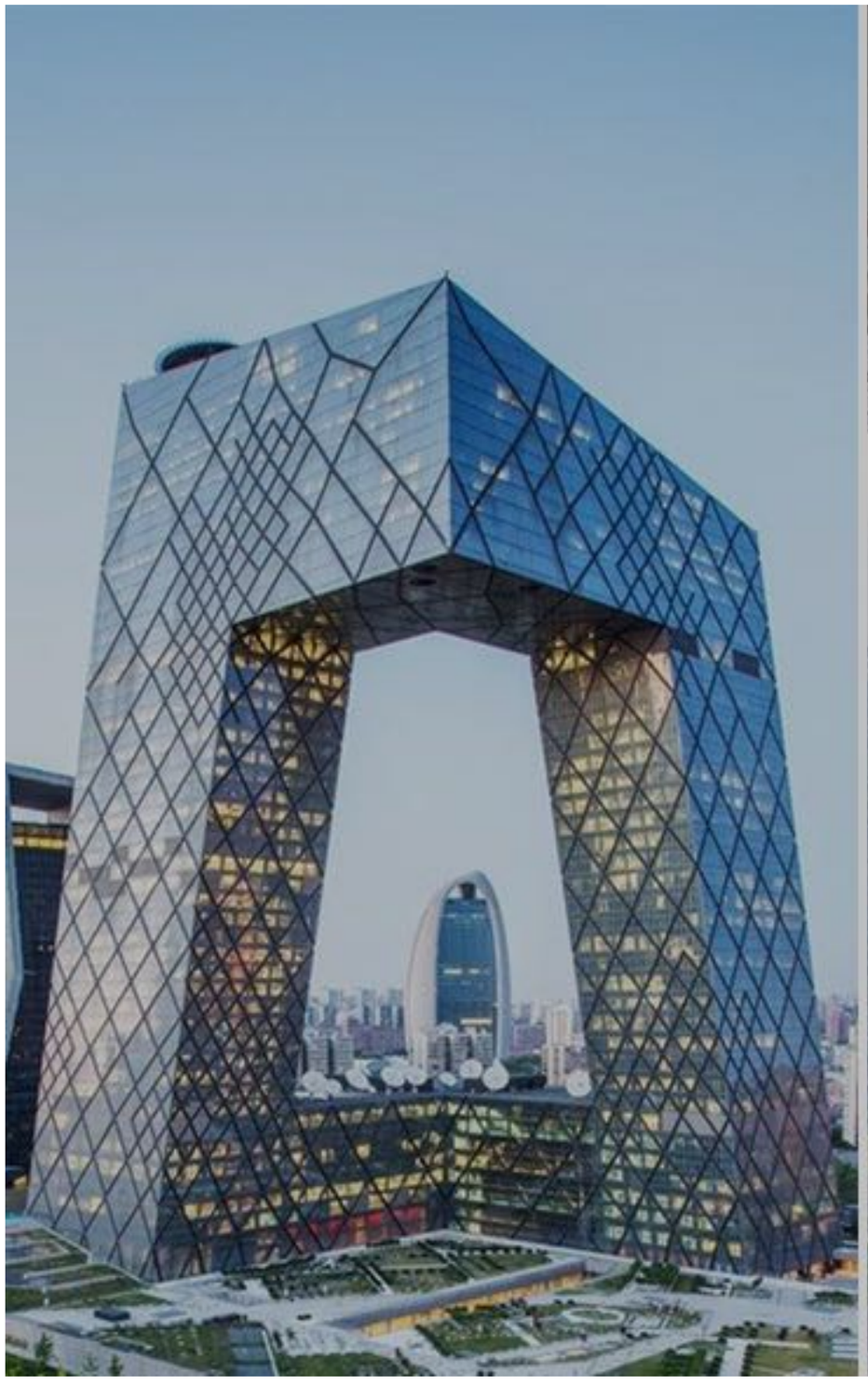
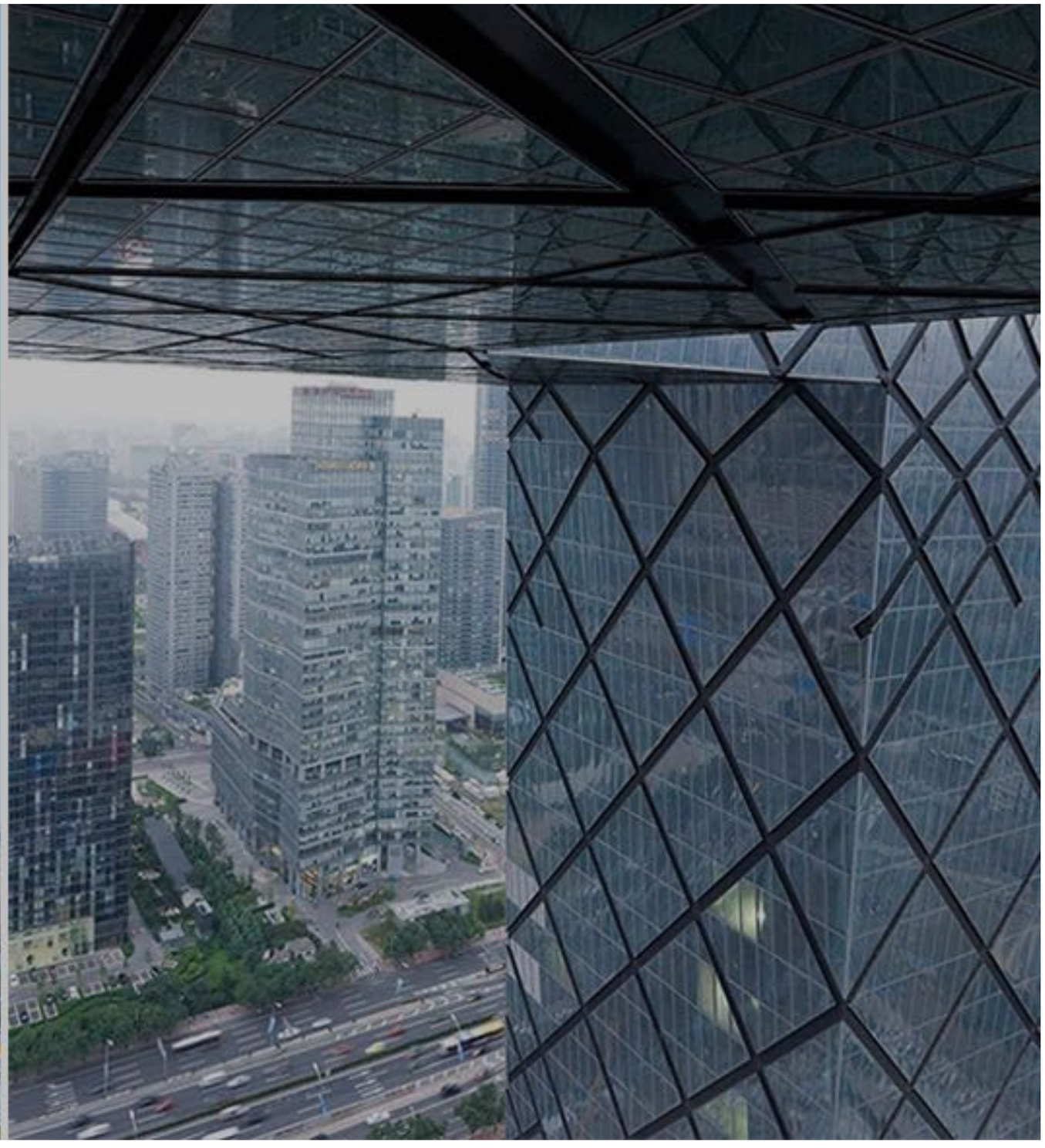


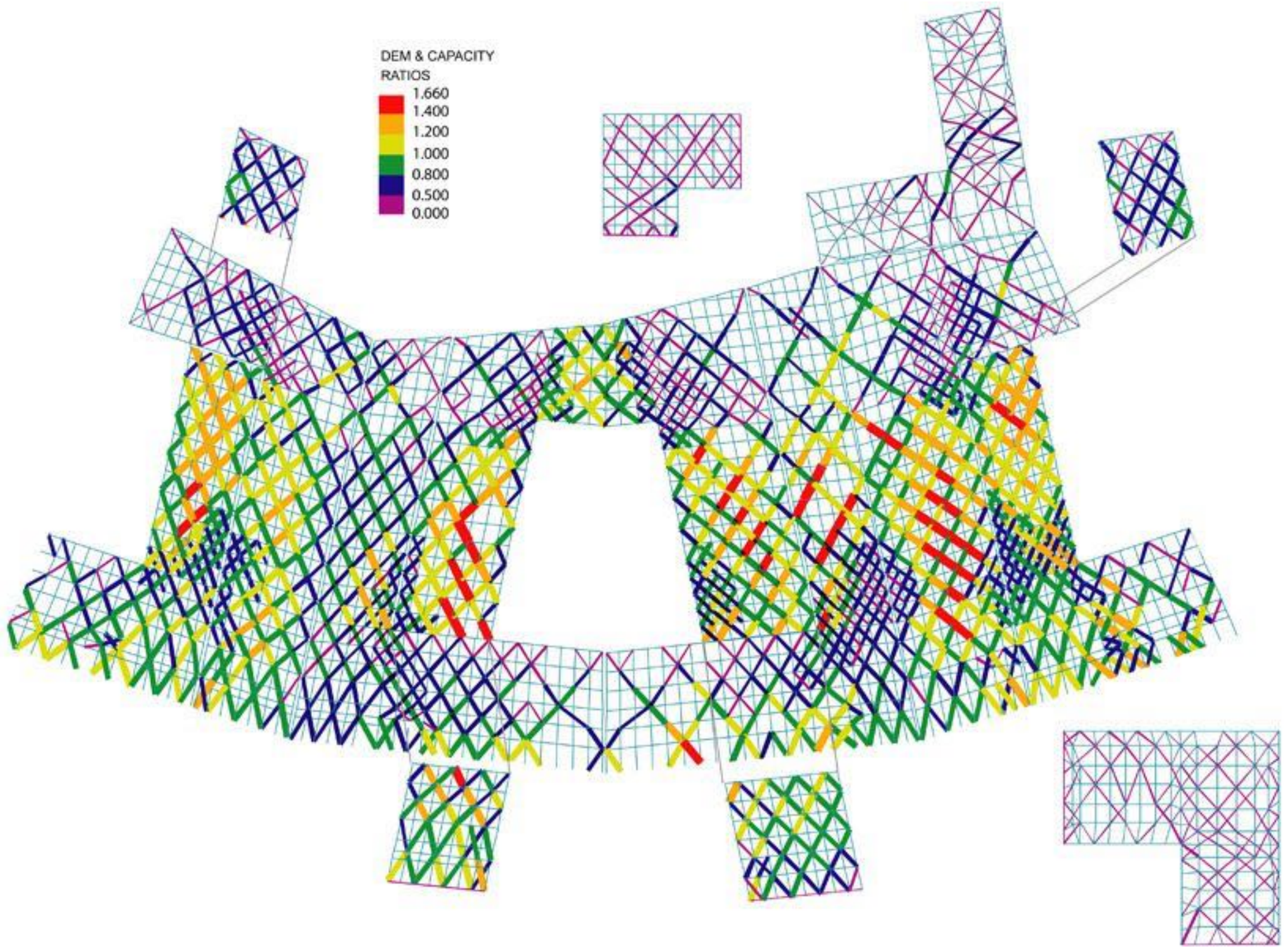
AR, VR, gaming, and animation all employ tools that could be classified as simulations of one type or another, and in this workshop will be experimenting with these fundamentals using a game engine to apply behaviors and conditions into a digital environment.

Alongside this technical exposure, however, we will consider - in our projects and conversation - the influence of tools for simulation on design and art.

Unlike simulation, representation has long been the realm of the designer: illustrating the world for the purposes of communication or as a form of instrumentalized image-making for developing texts, media, objects, and places to be produced.

Is this significant? Is it merely a distinction without a difference?


DEM & CAPACITY
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1.200
1.000
0.800
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        google.setOnLoadCallback(drawChart);
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          var categories = ['Western Restaurant', 'Khmer Restaurant', 'Hotels', 'Resort'];
          var values = [100, 40, 120, 30];

          for (var i = 0, len = categories.length; i < len; i ++){
            data.addColumn('number', categories[i]);
          }

          data.addRows(1);

          for (var j = 0, jlen = values.length; j < jlen; j ++){
            data.setValue(0, j, values[j]);
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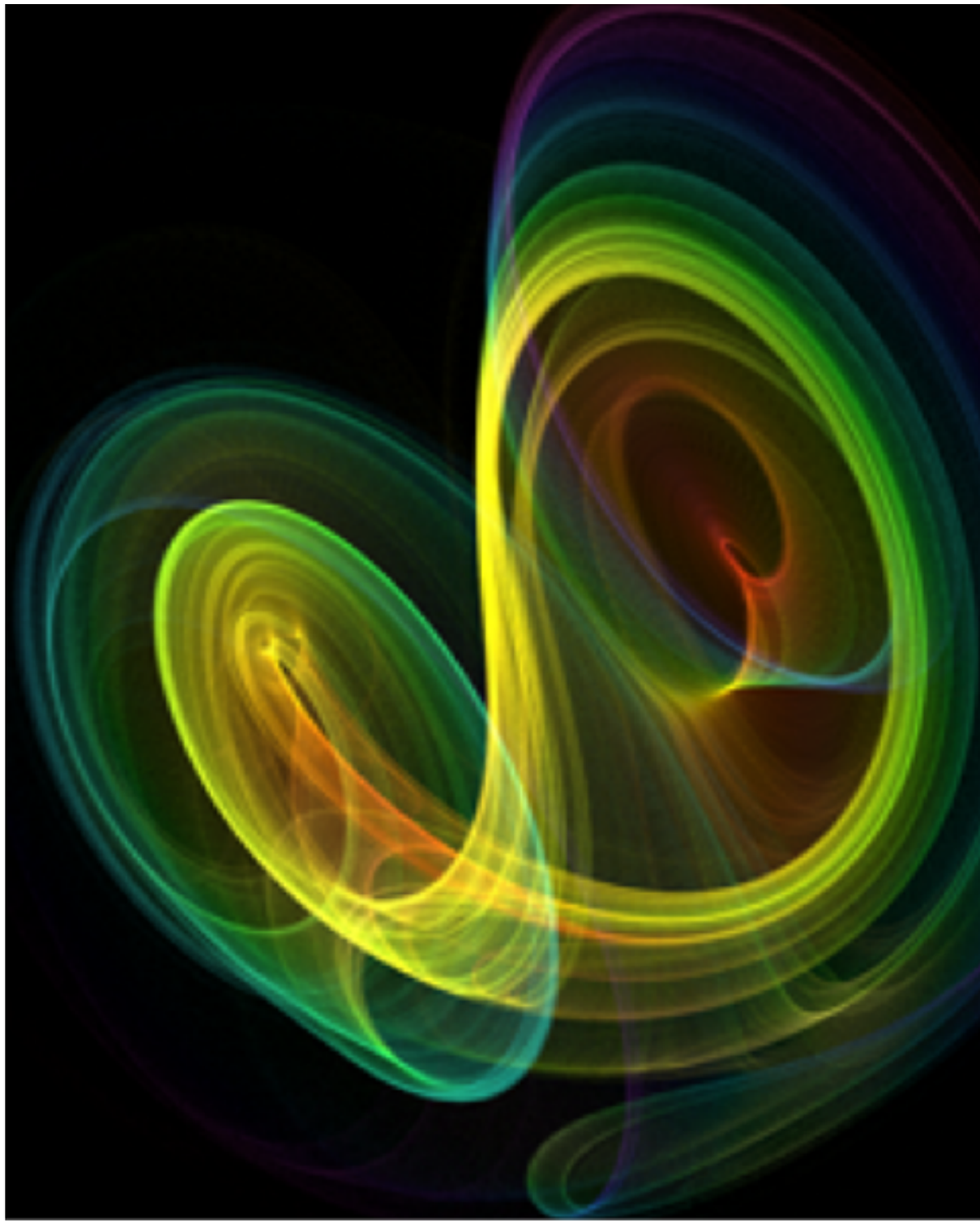
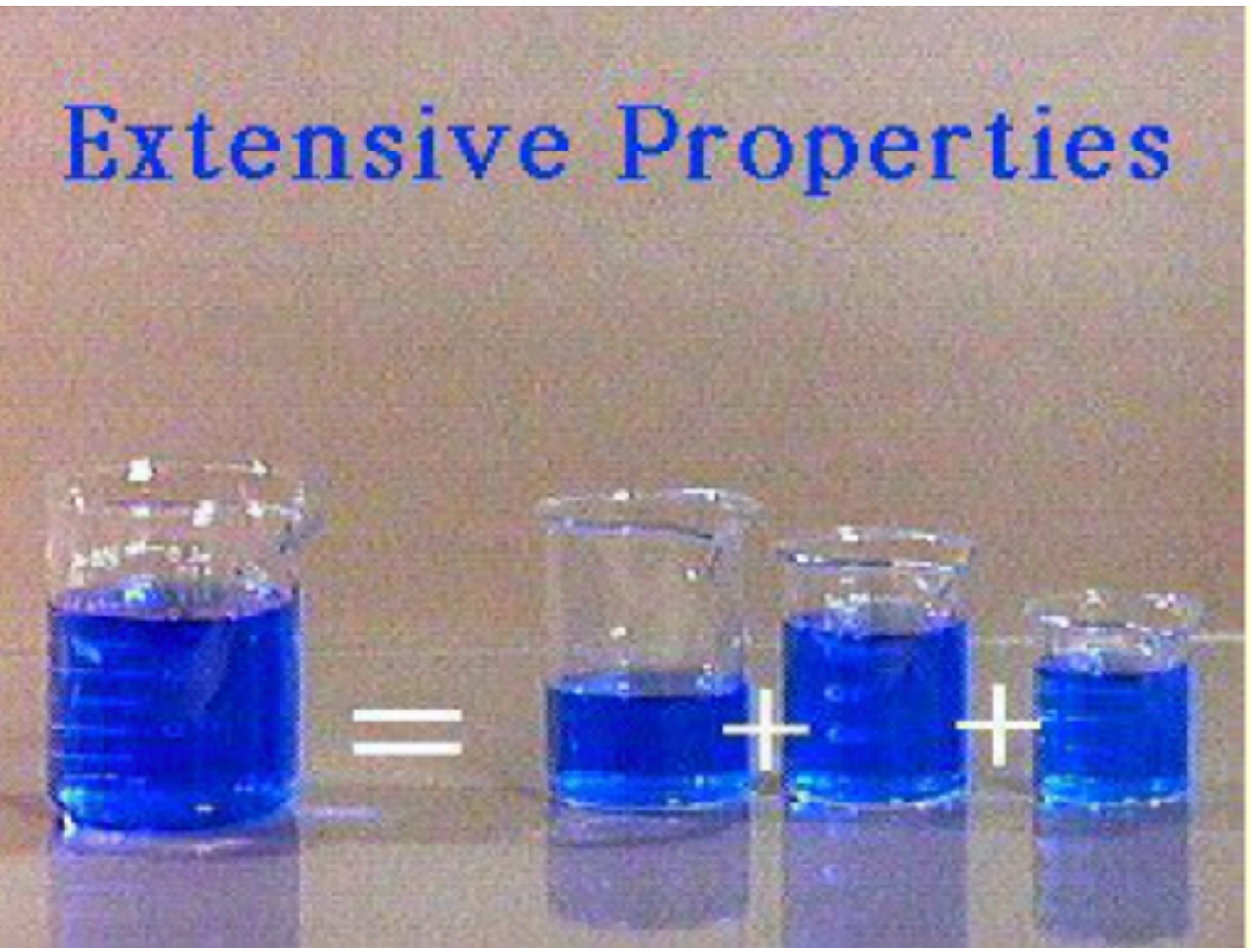


Berndnaut Smilde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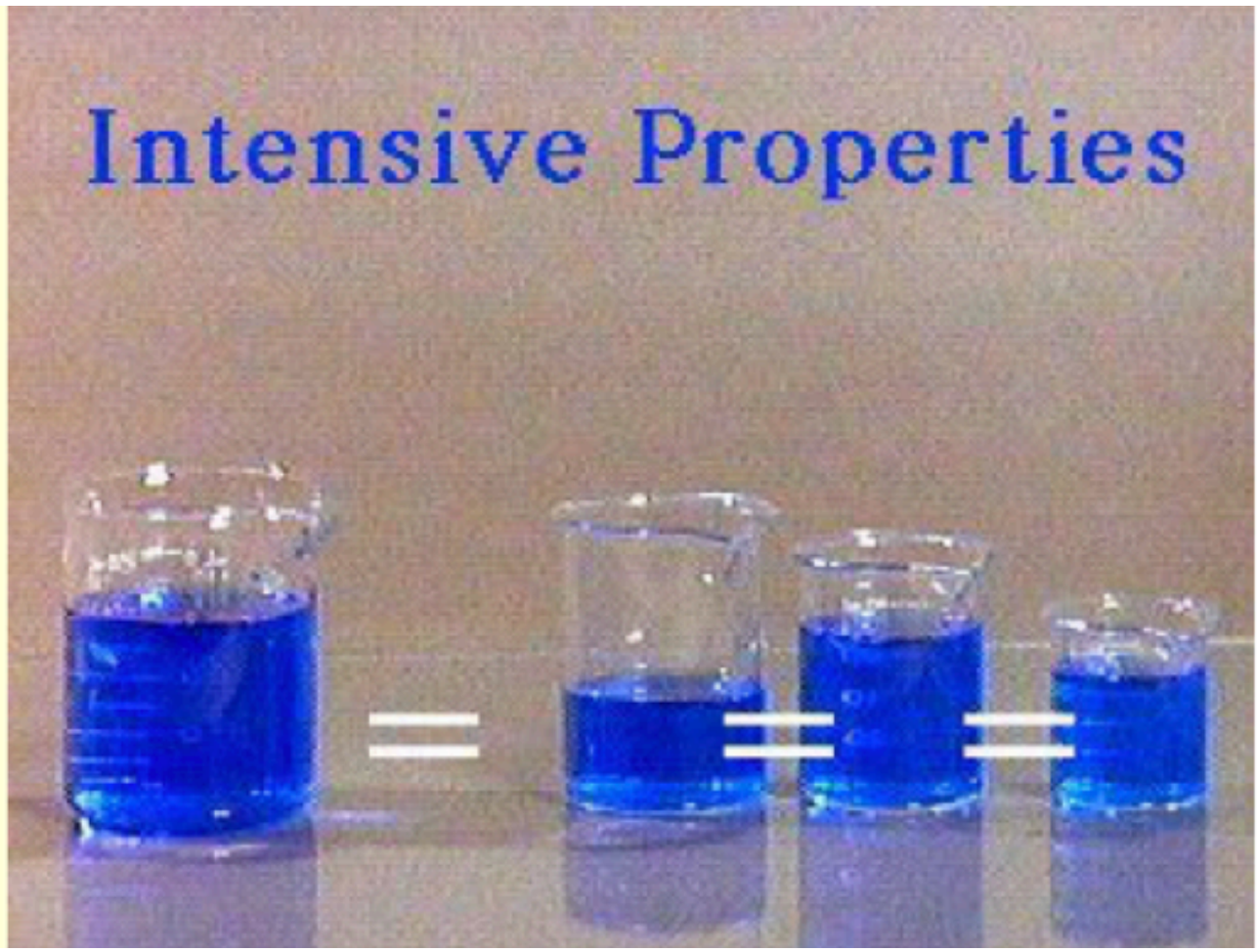
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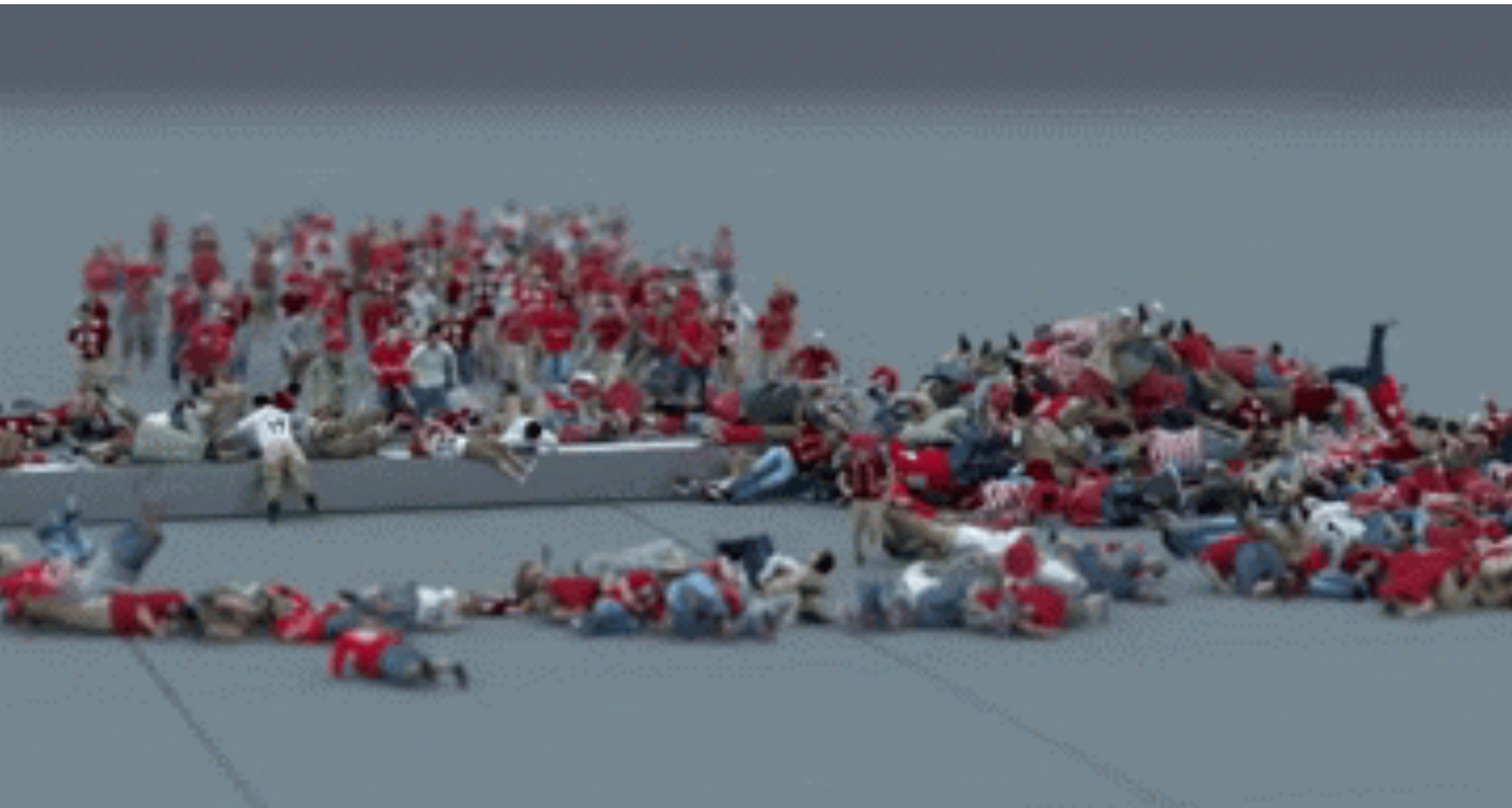


How can the designer/artist use simulation critically, productively, originally? How does one shift their attention from questions of form to questions of behavior and performance (or are they the same thing)? When using tools developed for specific industries (namely, gaming and visual effects) does one intervene to have the results serve the values of the project, rather than the default qualities of the expected use? Does the capability of creating digital models capable of self-generating and simulating outcomes alter one's perceptions as a maker in general?

//PROJECT: **VIVARIUM**

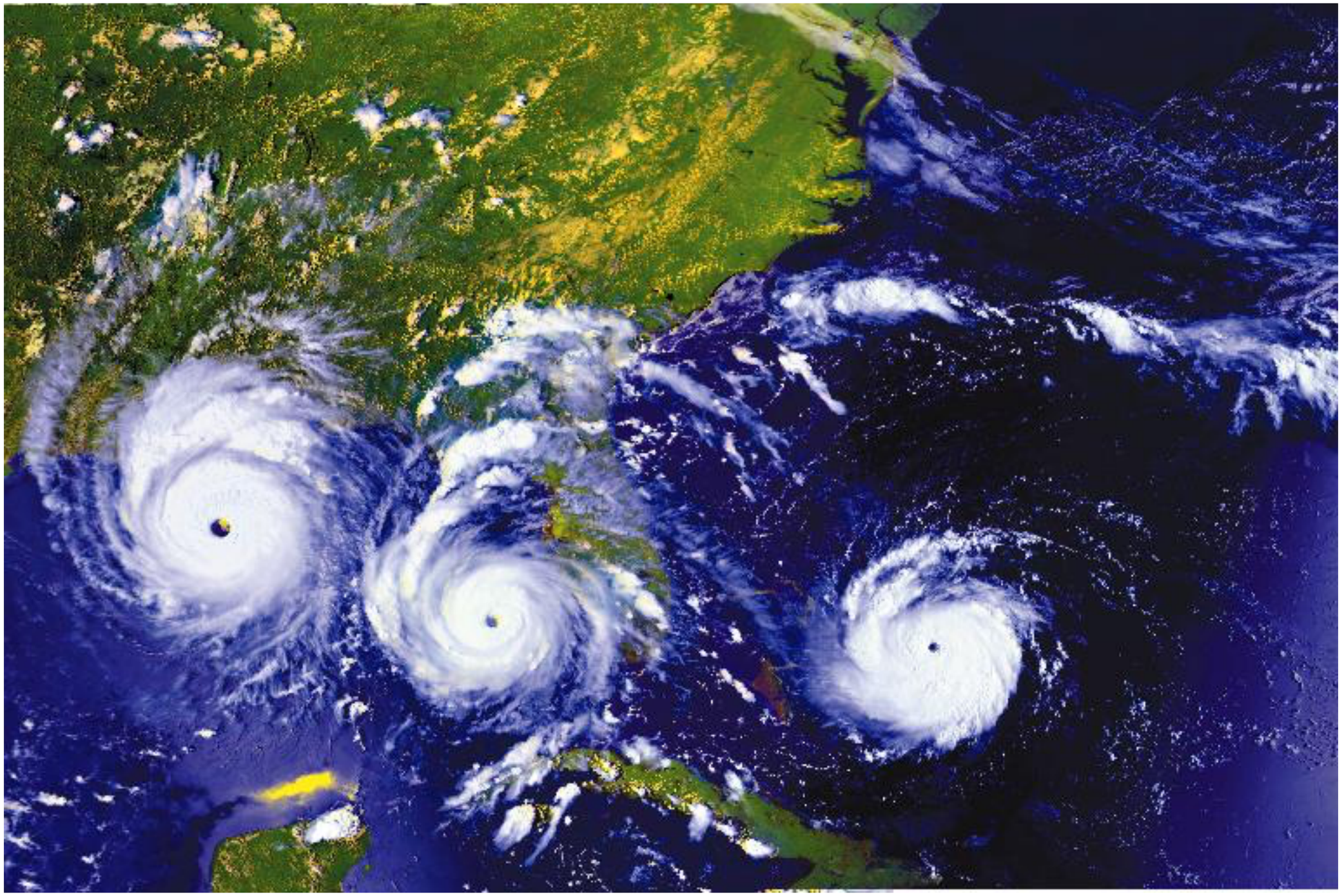
Climatological, social, and technological changes are occurring increasingly at a global, rather than regional, scale. While addressing issues of this complexity has always required the collaboration of multiple forms of scientific expertise, inexpensive super-computation and accessible software allows designers to engage with topics long considered strictly the purview of these scientific researchers and engineers.

For this project, you will create a vivarium: a micro-world where a defined set of properties and behaviors are placed and developed.

You will be randomly assigned one of the following verbs, each based on a current global crisis, nearing a tipping point: a condition where a controlling system is overwhelmed, sometimes beyond potential return or repair.

Flooding (rising sea levels)
Melting (dissolving glaciers)
Blowing (powerful hurricanes)
Burning (stronger wildfires)
Migrating (mass movements of people and wildlife)
Spreading (pandemics, epidemics)
Colliding (space junk)
Drying (drought)
Accreting (garbage/pollution)
Clouding (air/water pollution)
Densifying (urban growth)
Growing (super blooms)

Breaking Points
Tipping Points
Boiling Points



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NEW YORK
The City and the Storm
Starting on p.17

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WASHINGTON DC
11:37 AM
»» BREAKING NEWS
HUNDREDS OF THOUSANDS RALLY IN D.C.
LIVE
MSNBC

Maximalism

an appreciation of too much

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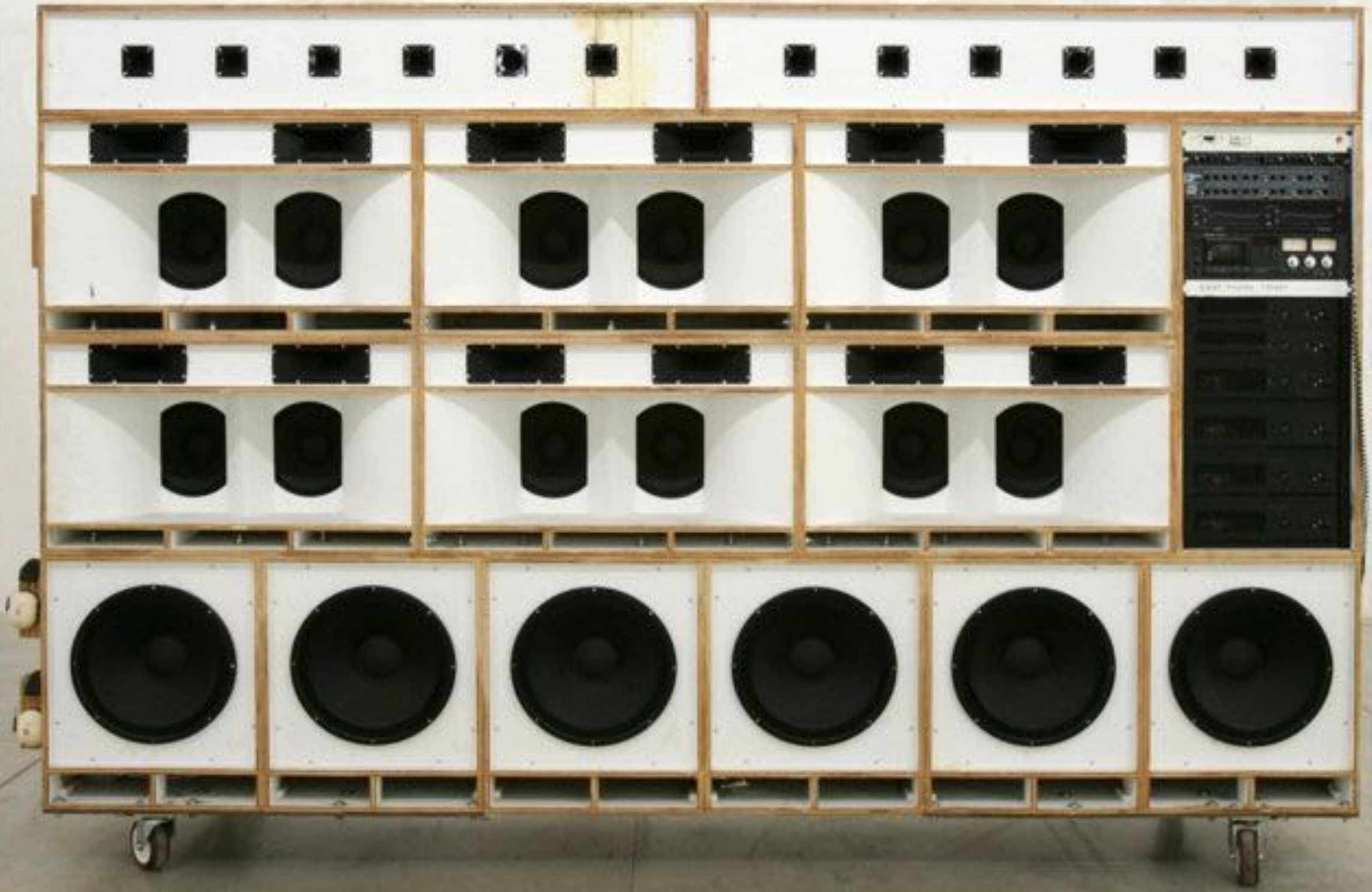

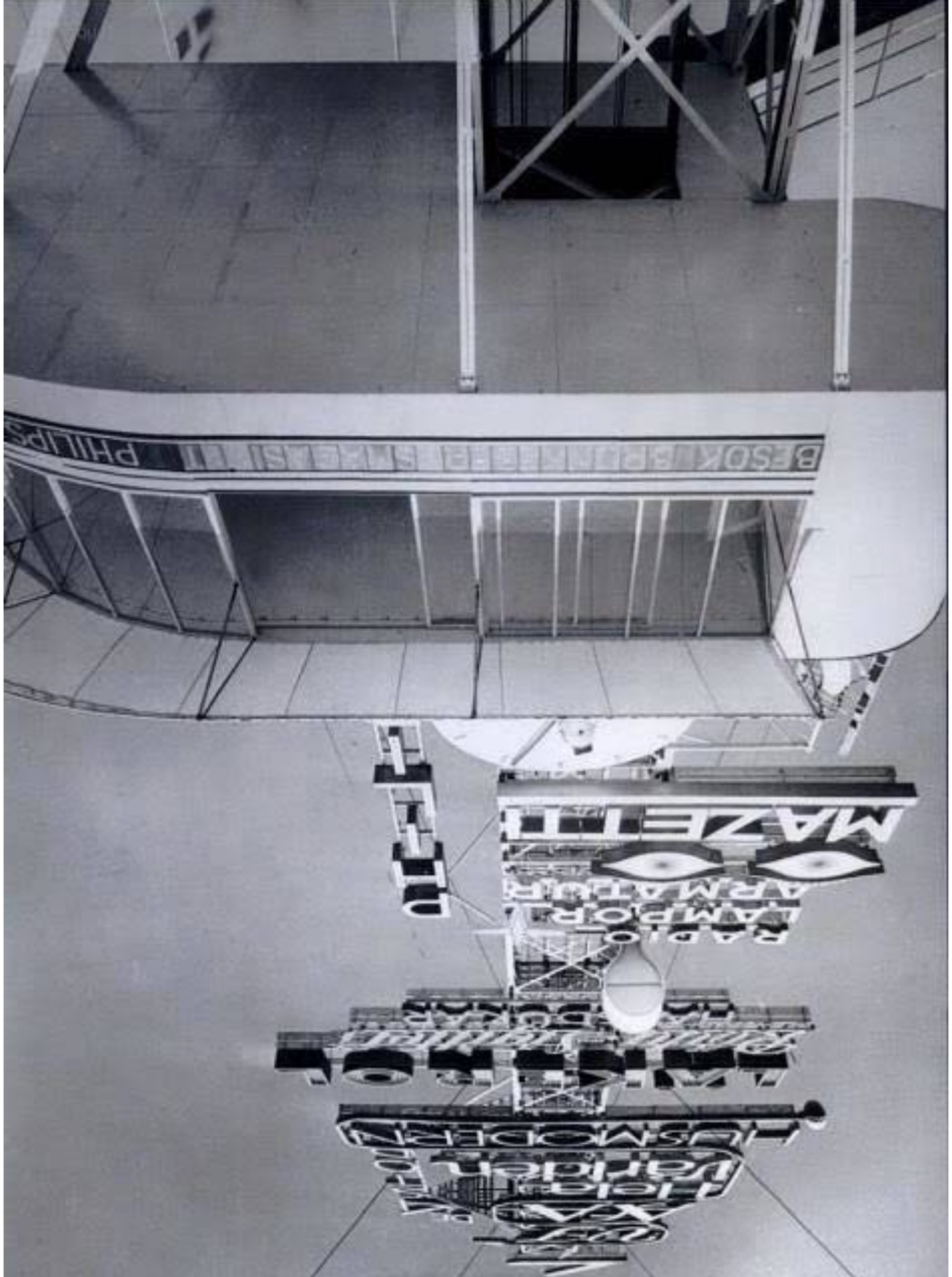
PHILIPS
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RADIO

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HOT
Ok
Tell
the kitten
what
every
kitten
wanted
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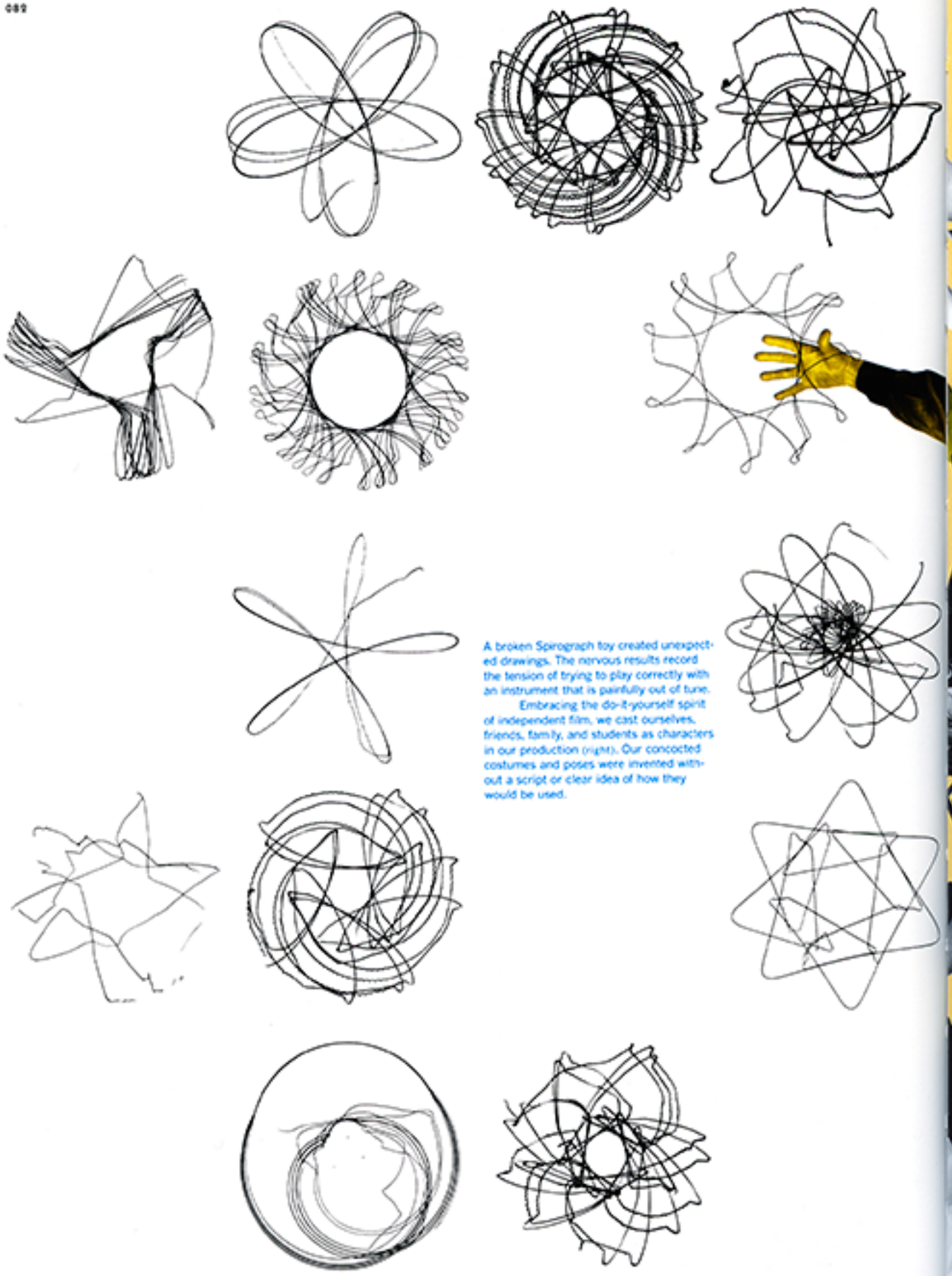
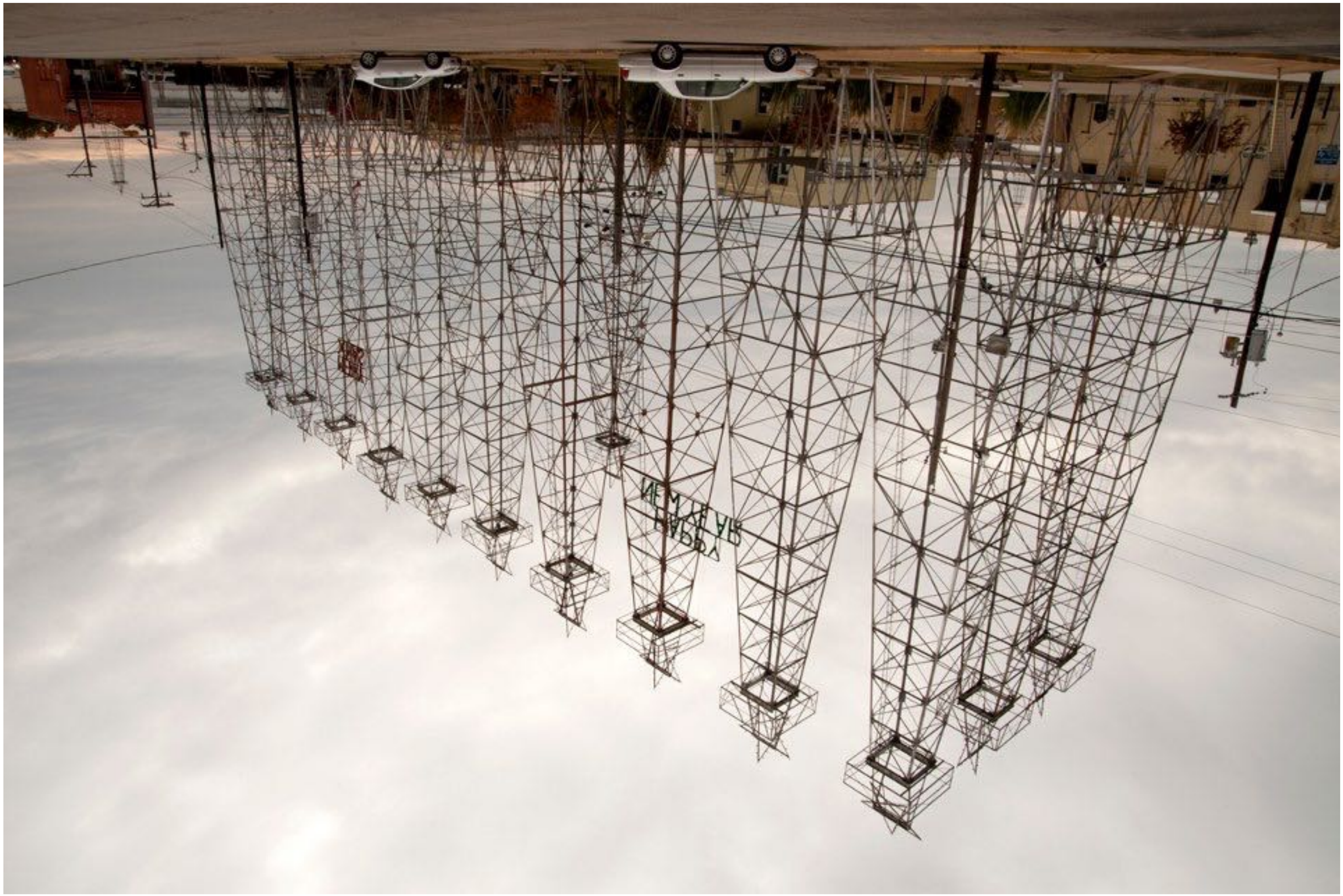
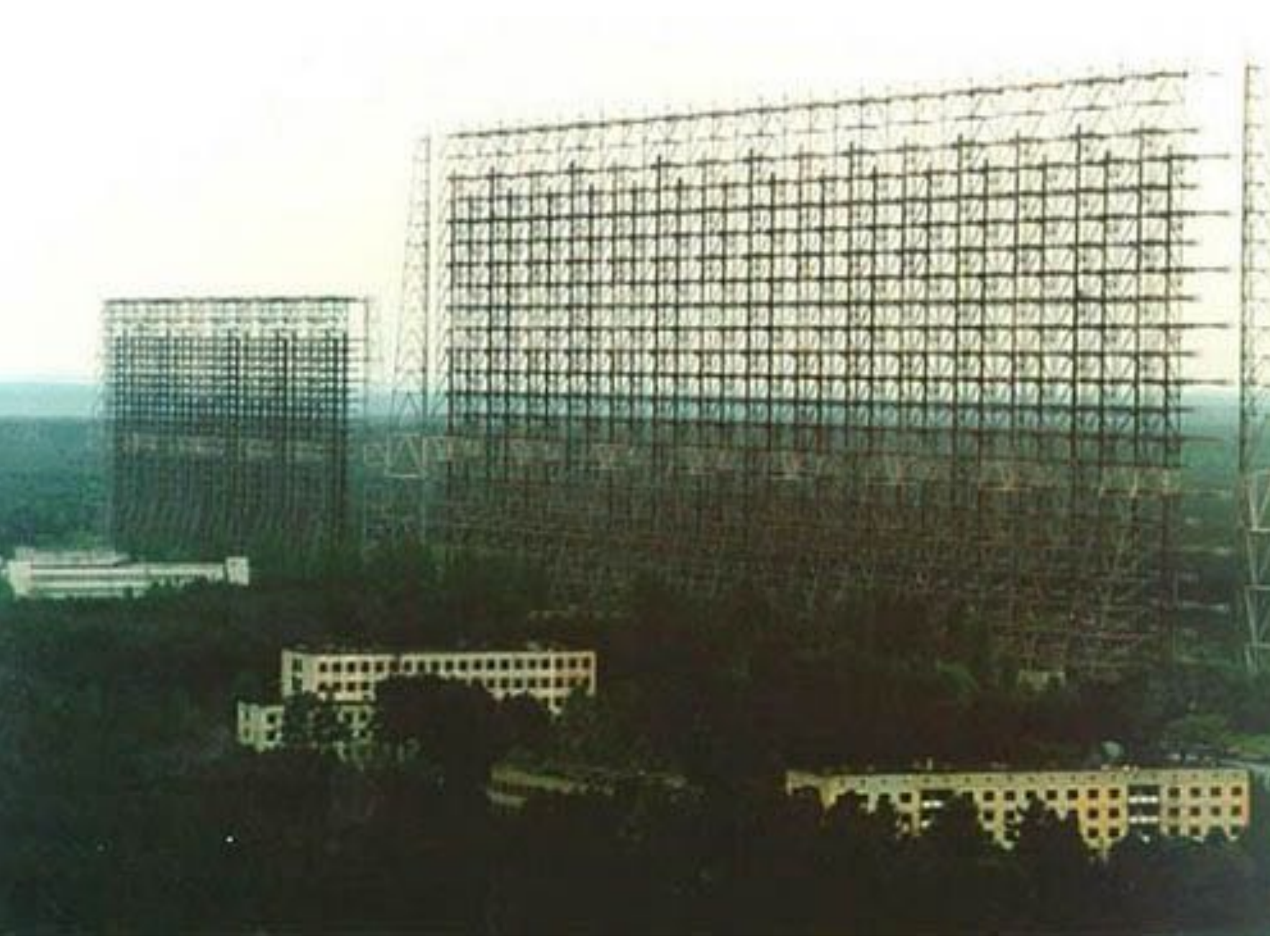
X
NO



A broken Spirograph toy created unexpected drawings. The nervous results record the tension of trying to play correctly with an instrument that is painfully out of tune.

Embracing the do-it-yourself spirit of independent film, we cast ourselves, friends, family, and students as characters in our production (right). Our concocted costumes and poses were invented without a script or clear idea of how they would be used.