

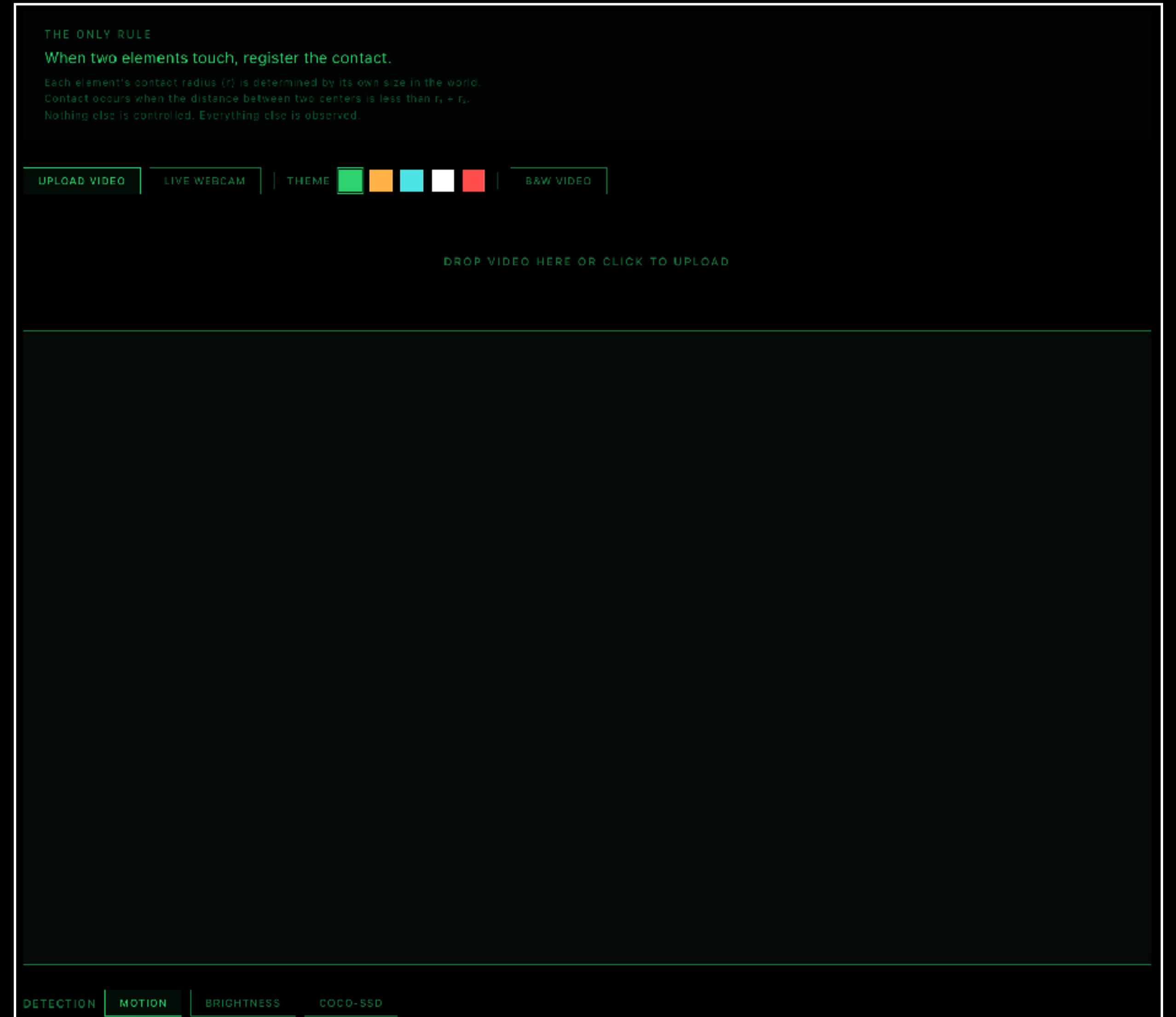
# Positions

I am not trying to observe contact.

I am trying to understand what the act of observing contact does to the thing being observed.

What I am exploring is not contact itself, but what happens to contact — and to the things being observed

Each detection mode — Motion, Brightness, COCO-SSD — is a different way of deciding what counts as an element. Each produces a different world for the same rule to act upon.



Screenshot

### Element 1

F1: Circle

B1: Move in a straight line

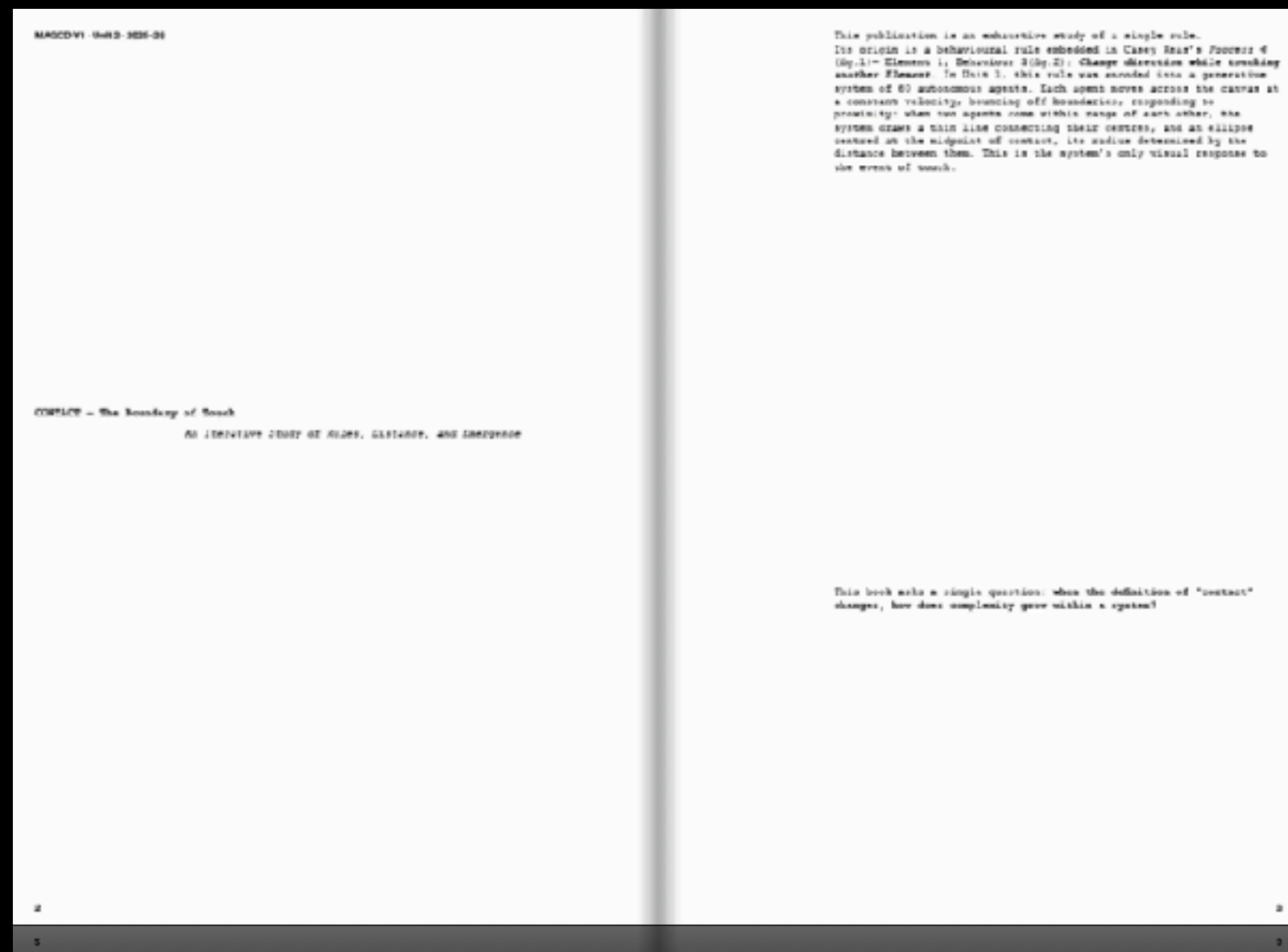
B2: Constrain to surface

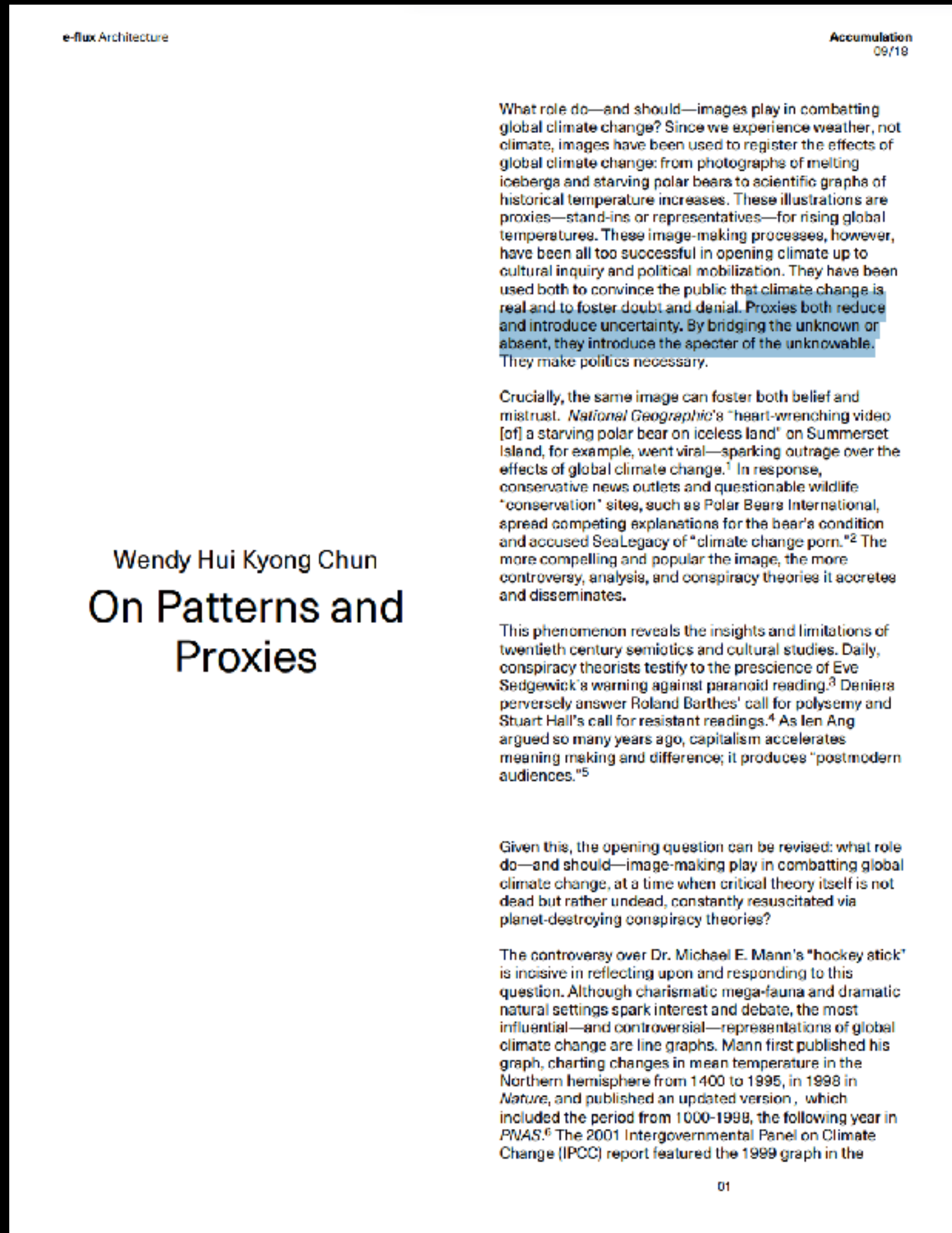
B3: Change direction while touching  
another Element

B4: Move away from an overlapping Element

Pure code.

B3 rule ran on circles I had written into existence. Contact and rule were indistinguishable.





Wendy Hui Kyong Chun  
On Patterns and Proxies

*Proxies both reduce and introduce uncertainty. By bridging the unknown or absent, they introduce the specter of the unknowable.*

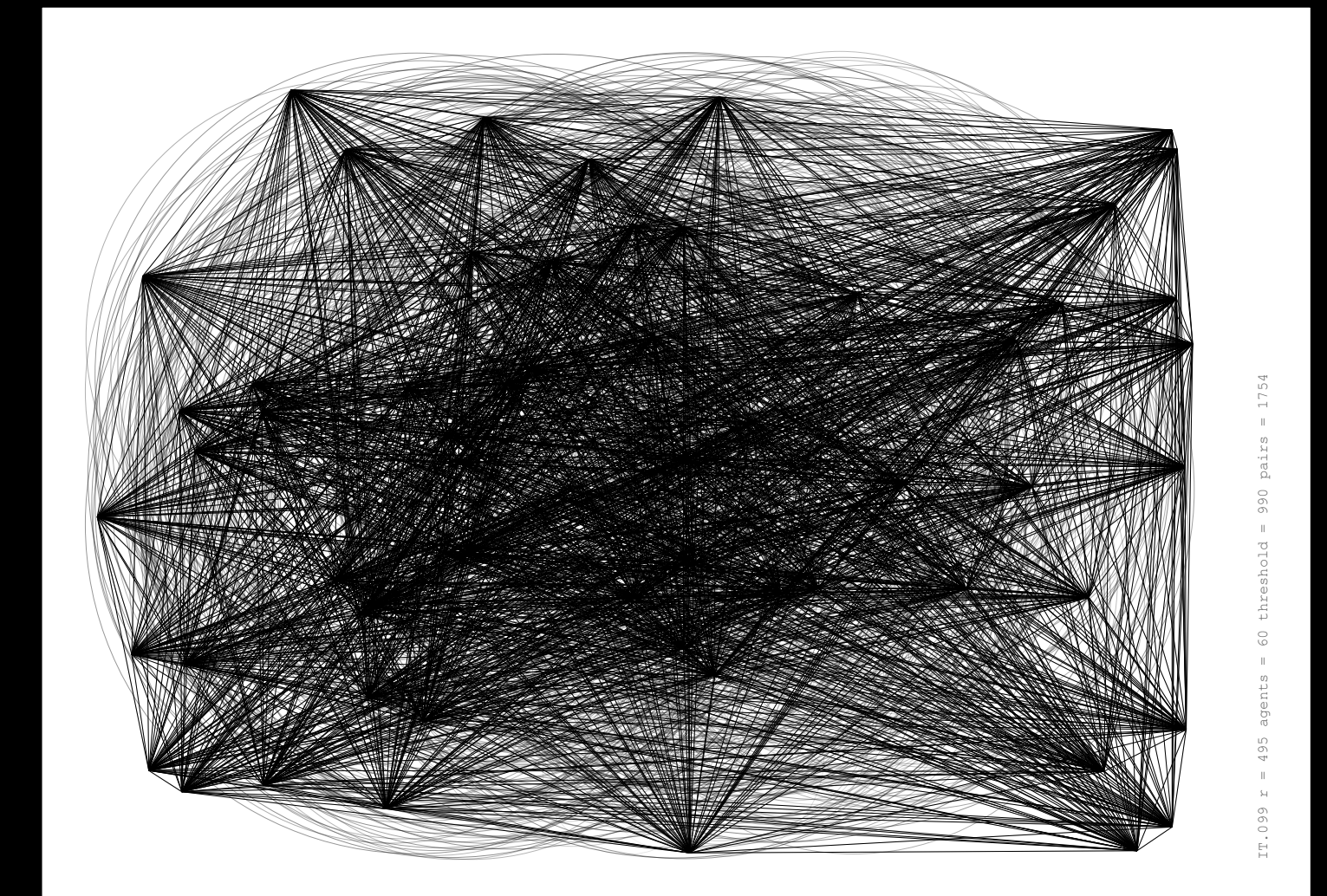
— CHUN, 2018

The system gained a 'there' — a real-world outside the code.

Detection algorithms became the proxies that translate footage into circles the rule can act on.

Bringing in proxies was what let the rule become something a viewer could begin to see.

Week 1: code → circles → rule

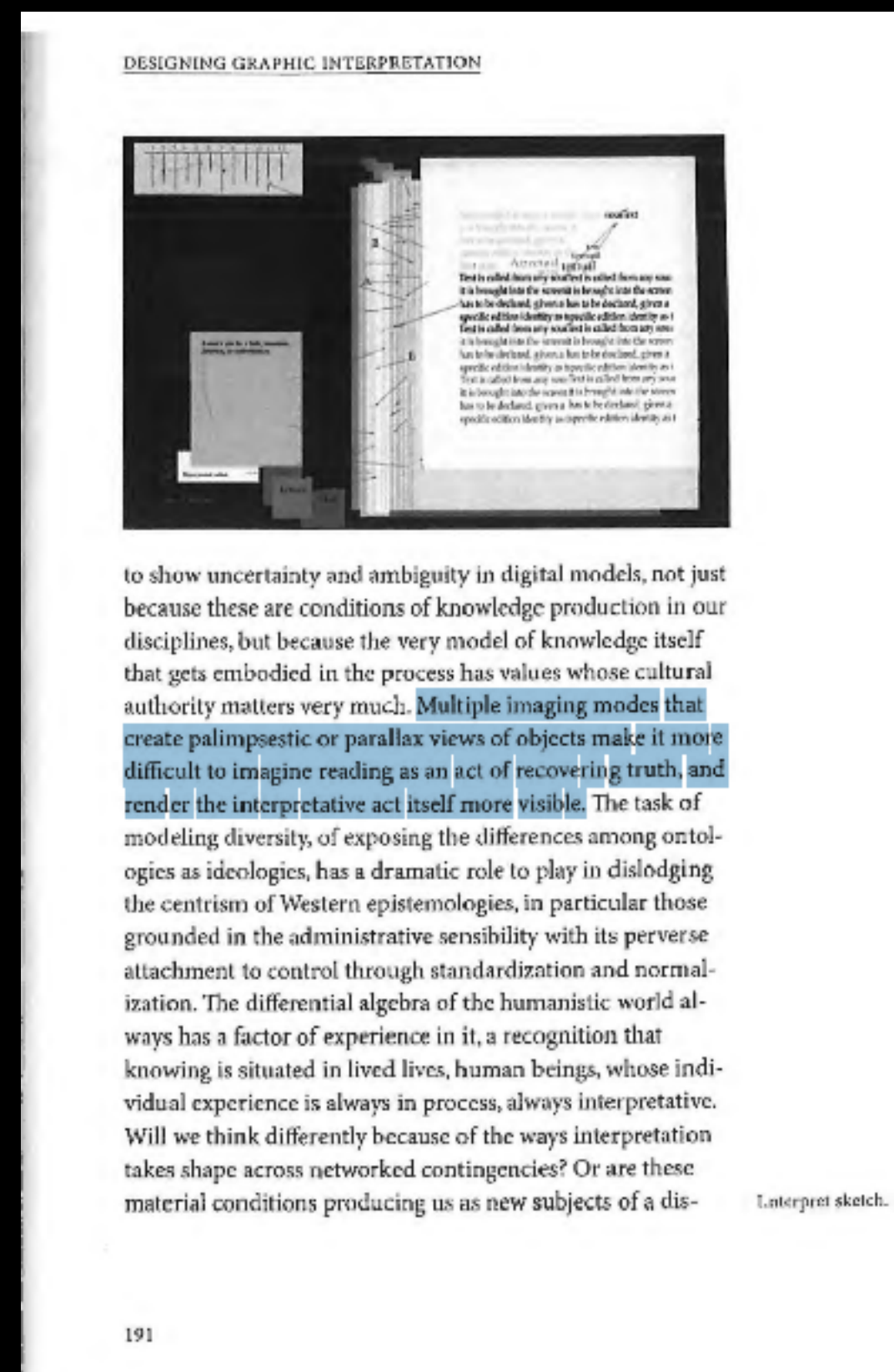


Week 2: world → camera → proxy → rule

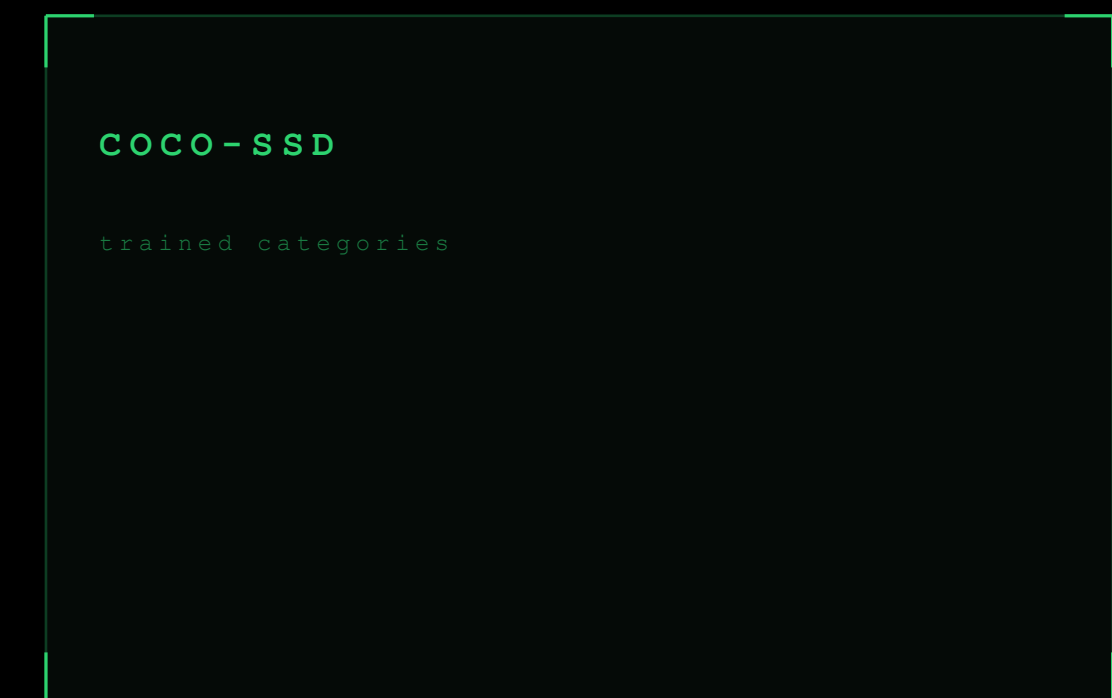
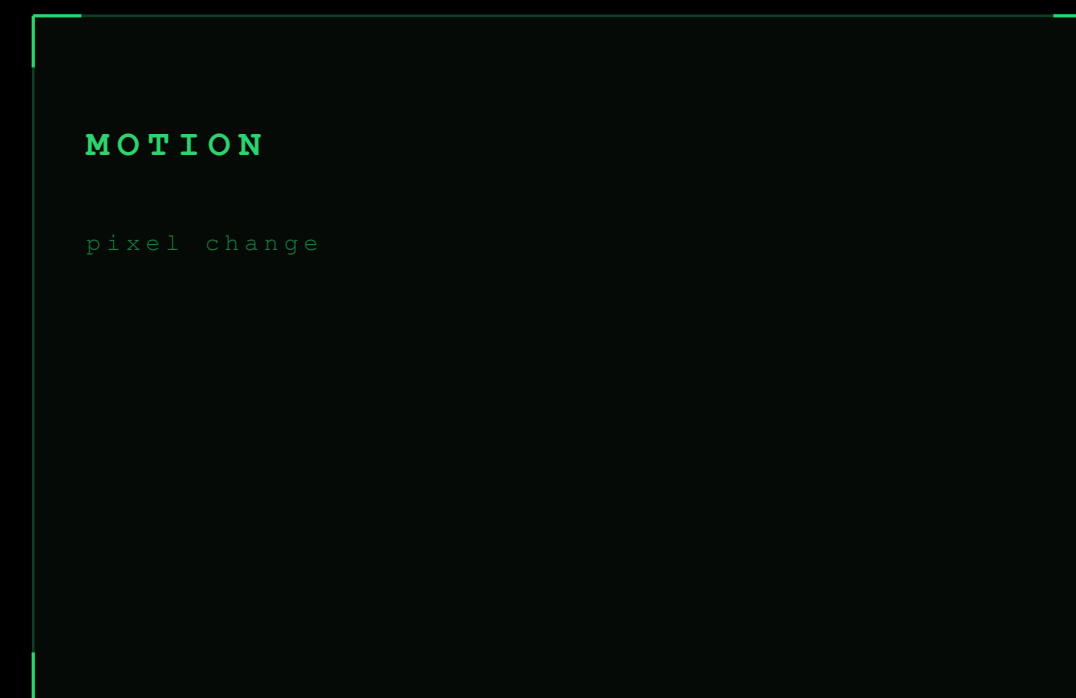


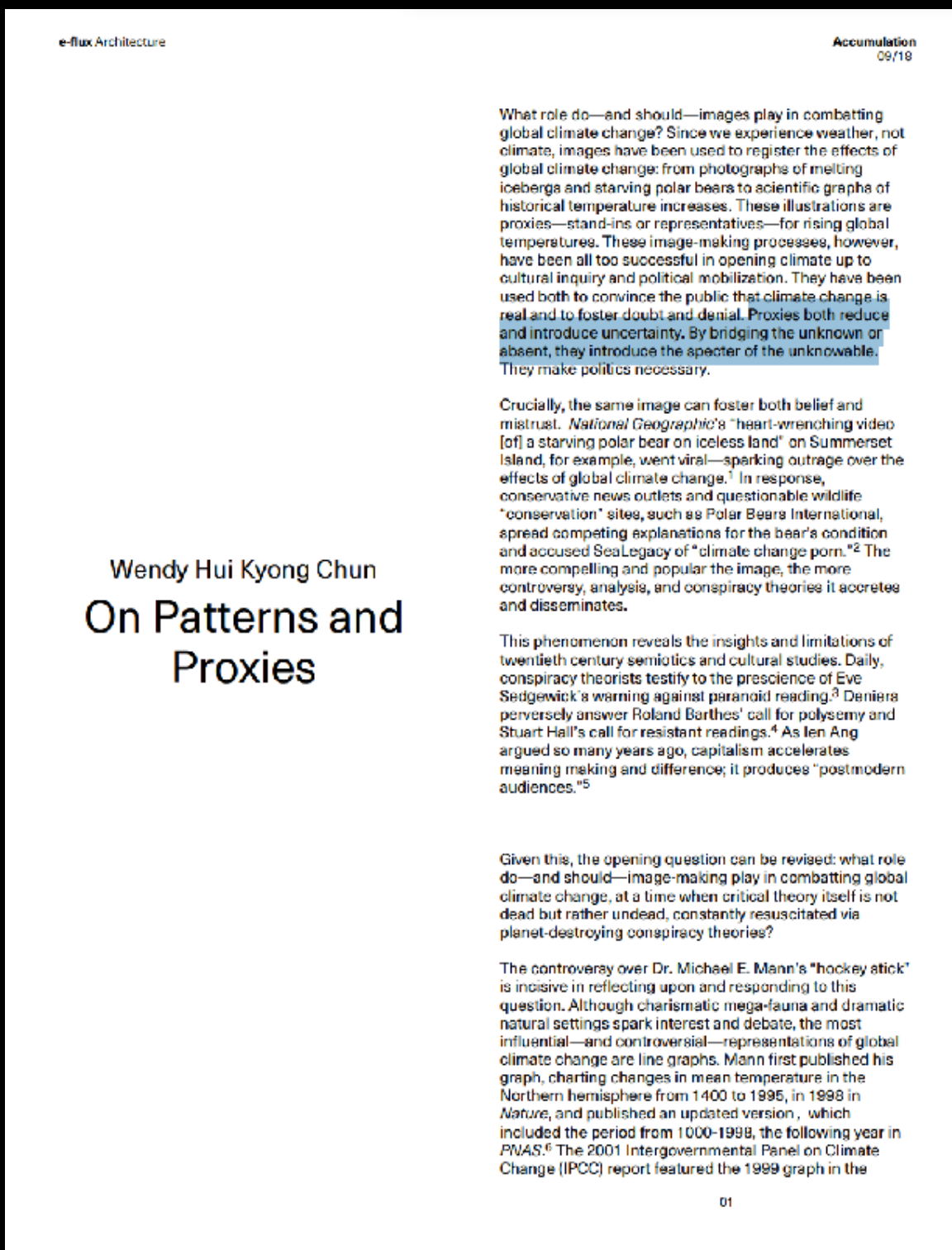
*Multiple imaging modes that create palimpsestic or parallax views of objects make it more difficult to imagine reading as an act of recovering truth, and render the interpretative act itself more visible.*

— DRUCKER, 2014, p. 191



Three modes preserved side-by-side, not reduced to one 'best' result

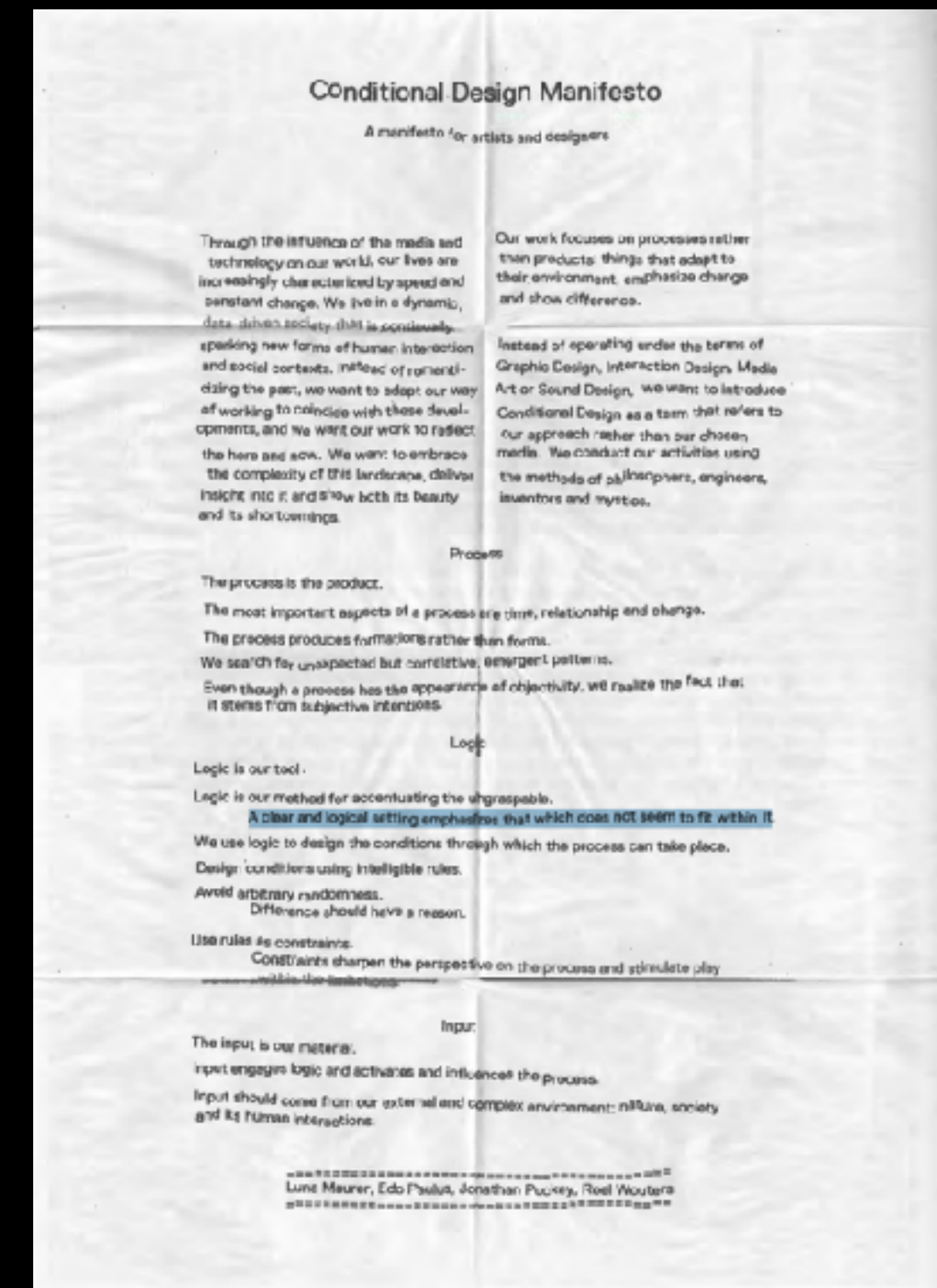




Wendy Hui Kyong Chun  
On Patterns and Proxies

"introduce the specter of the unknowable."

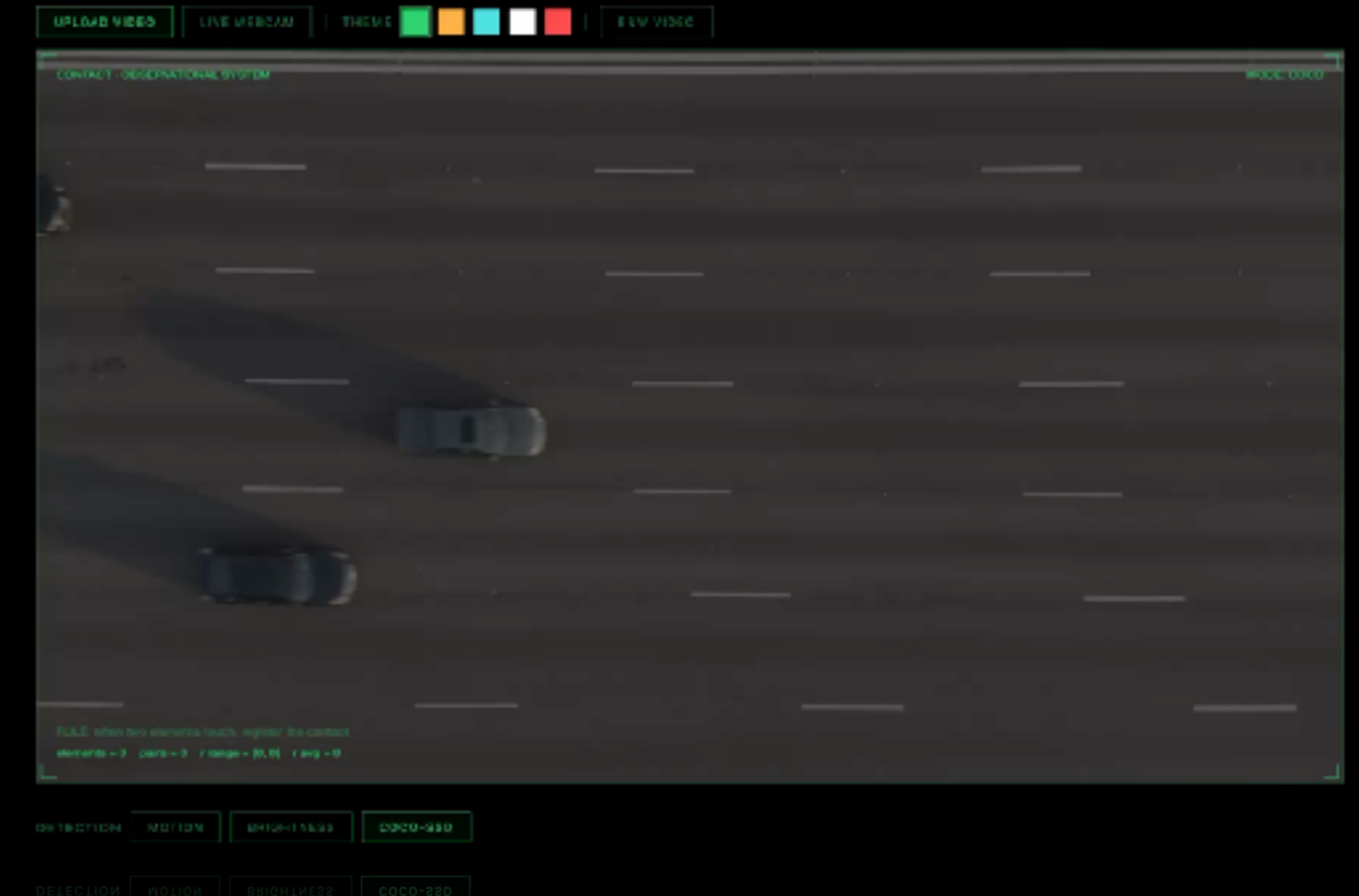
— CHUN, 2018



"A clear and logical setting emphasizes that which does not seem to fit within it."

— CONDITIONAL DESIGN MANIFESTO, 2013

# Where The Proxy Fails — And Why That Is The Work



Not bugs. These are the moments rule meets reality.

The training data determines the full life experience of the network and ultimately shapes its worldview. When the trained network looks out into the world via the camera, it can only see what it already knows.

— AKTEN, FIEBRINK & GRIERSON, 2019

**Learning to See: You Are What You See**  
 Memo Akten, Rebecca Fiebrink and Mick Grierson

**ABSTRACT**  
 The authors present a visual instrument, developed as part of the creation of the artwork *Learning to See*. The artwork explores bias in artificial neural networks and provides mechanisms for the manipulation of specifically trained-for real-world representations. The exploration of these representations acts as a metaphor for the process of developing a visual understanding and/or visual vocabulary of the world. These representations can be explored and manipulated in real time, and have been published in 2019 to allow us to witness specific, conscious perspectives that exist into question the relationship between how both artificial neural networks and humans may construct meaning.

**Summary**  
 The visual instrument has been used to create a specific work that consists of a real-time, interactive system based on an artificial neural network making predictions on a live camera input. The work can be presented as both an interactive installation and a number of video works made using the same system. We use a novel training system and camera software, facilitating playful interaction and continuous, meaningful human control [1] in ways that offer a range of potential creative affordances not available in any other system. We present examples of the work realized through the instrument, and discuss how some of the various creative affordances operate for the potential development of a range of similar works.

The instrument aspect is part of ongoing research into enabling continuous, meaningful human control of generative deep neural networks, specifically for creative expression. As opposed to exclusively developing one single instrument, we prefer to investigate many different methods and develop each method enough to demonstrate its potential to the extent that it can ideally provide a foundation for future research. We believe that this may potentially have more impact and encourage more research in that particular field of continuous, meaningful human control of deep neural networks for creative expression.

Our instrument can be described as an image-based artificial neural network trained on a number of different custom datasets, making predictions on live camera input at real time. Our system processes the live camera image and reconstructs a new image that resembles the input in composition and overall shape and structure, but is of a particular nature and aesthetic as determined by the different datasets, e.g. the ocean, flames, clouds, flowers, etc. We also use the same system to create and present a video artwork (this can be viewed in the accompanying video at <https://vimeo.com/32185556> at 00:00-03:02). Figures 1 and 2 show example frames.

**Motivation: Bias**  
 We have two primary motivations behind this work. One is a conceptual motivation related to bias. The work exposes and amplifies the latent bias in artificial neural networks, demonstrating how critical the training data is to the predictions that the model will make. This is particularly obvious when different models using the same architecture (but trained on different datasets), produce radically different outputs for the same input. Metaphorically speaking, the training data determines the full life experience of the network and ultimately shapes its worldview. When the trained network looks out into the world via the camera, it can only see what it already knows.

DOI: 10.1145/3306211.3320143 | SOCFAPPH1019 SHIF: Art, Pixels | © 2019 MEMO AKTEN, REBECCA FIEBRINK AND MICK GRIERSON



ALGORITHMIC LOGIC

MOTION + BRIGHTNESS

Rule-based.  
 No training data.  
 No worldview.

Pixel change. Luminance threshold.  
 Mathematical operations, nothing more.

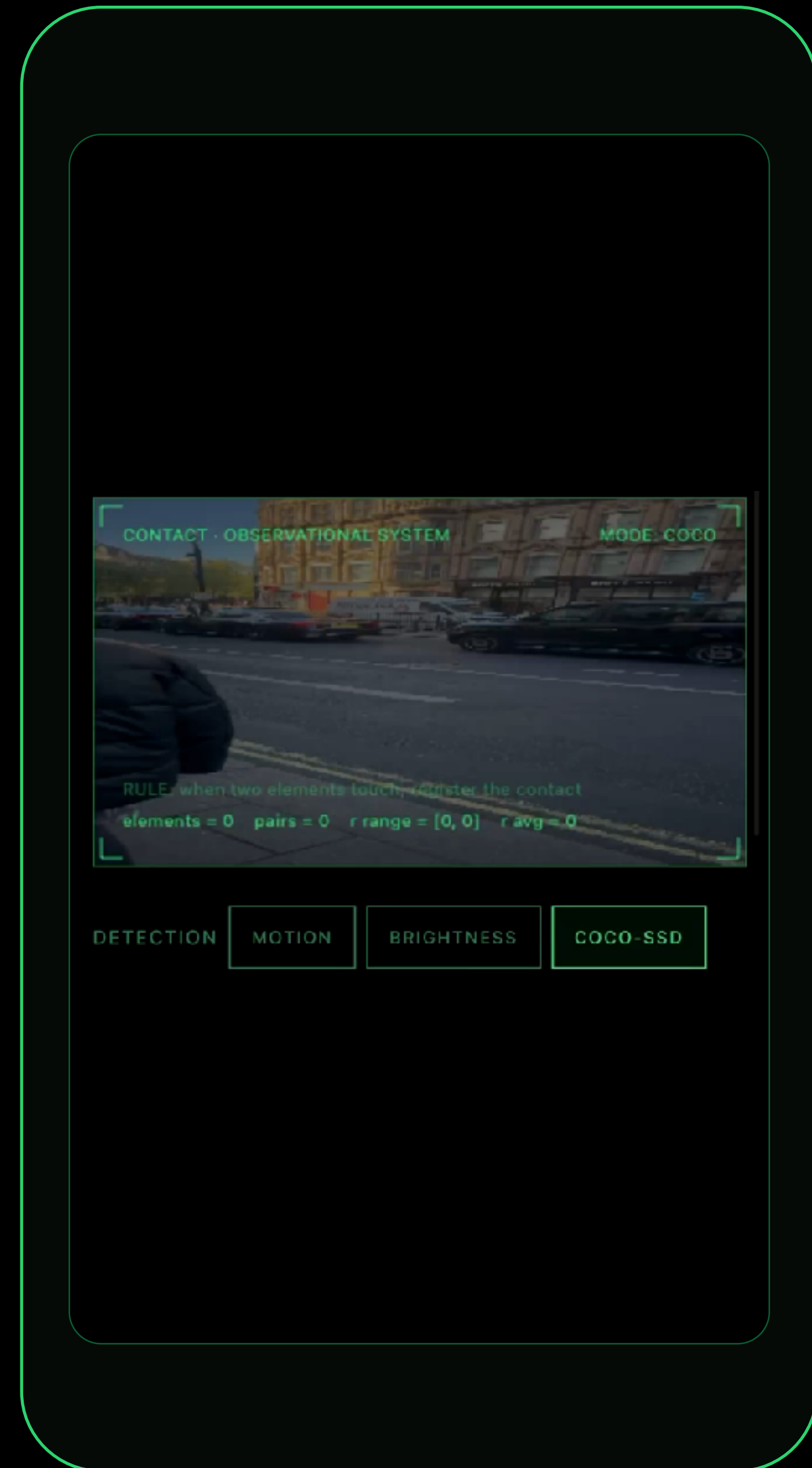
TRAINED WORLDVIEW

COCO-SSD

80 trained categories = its life experience.

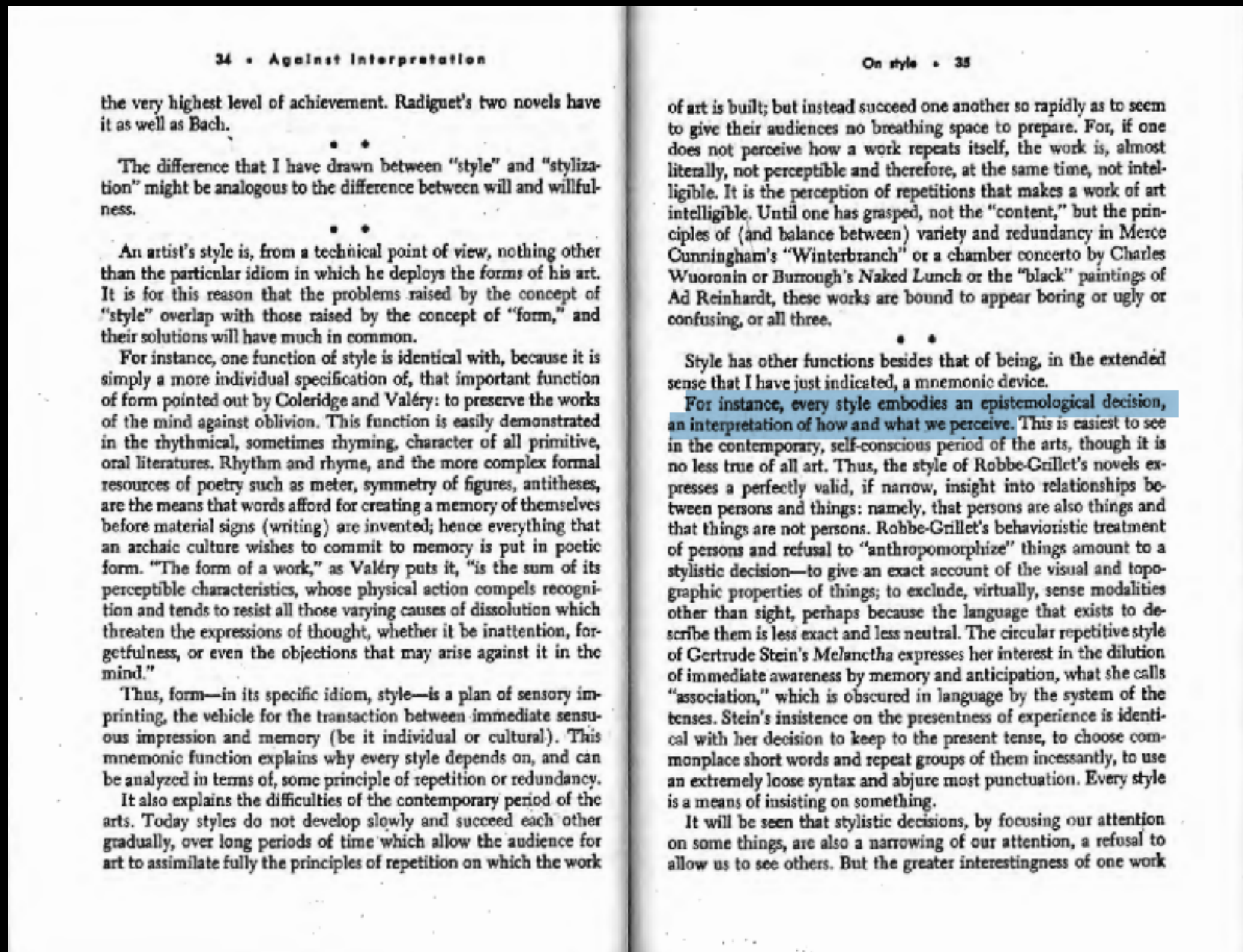
Sees a person, a car, a cup.  
 Silent before a jellyfish, a raindrop.

The tool runs in a browser, on a phone, in the user's hand. The observation apparatus moves with the body that uses it.



*Every style embodies an epistemological decision, an interpretation of how and what we perceive.*

— SONTAG, 1965

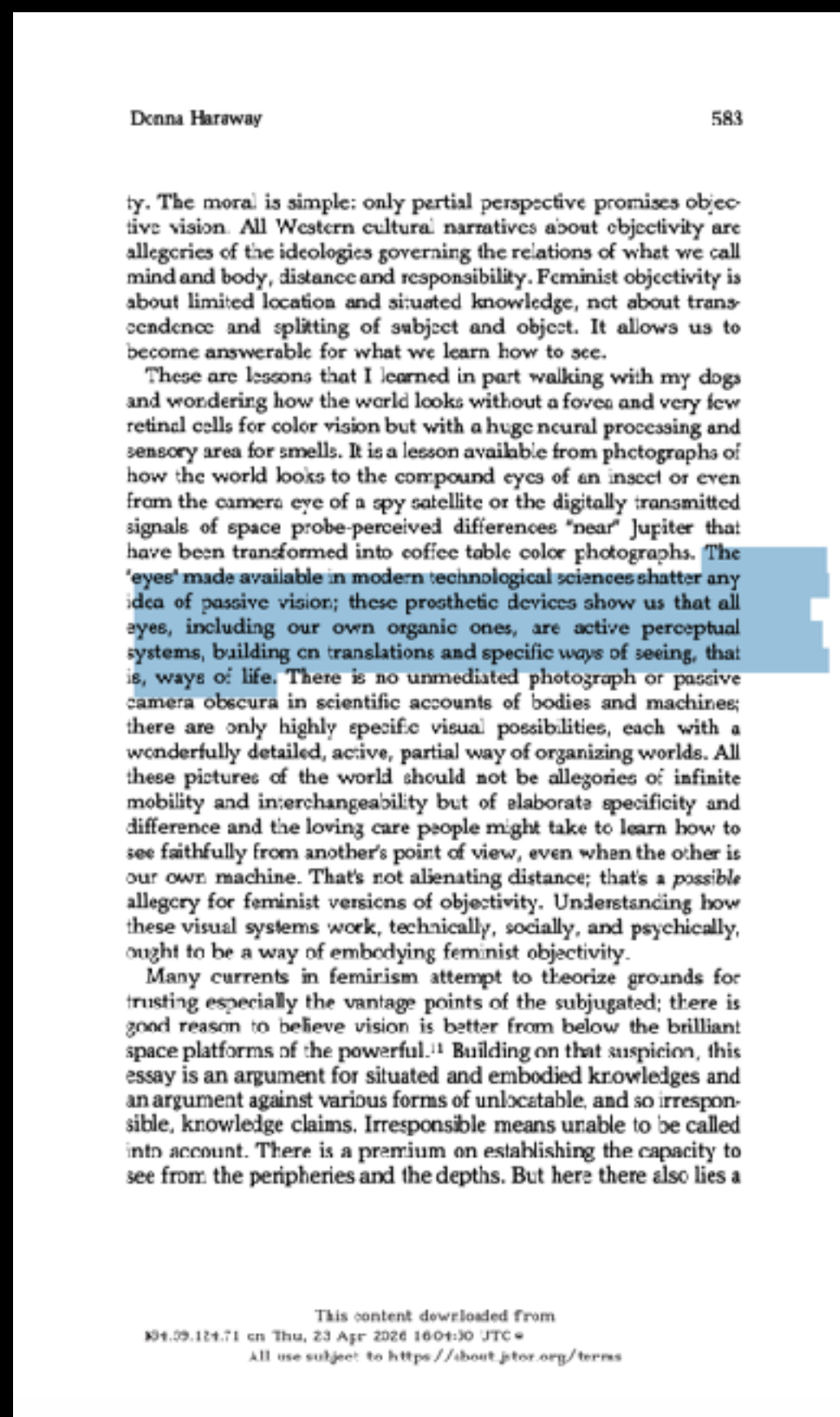


The first-week system was monochrome, geometric, symmetrical — a style I had read as 'no style'.

This is a reflection, not a visible iteration. The question she opens stays open.

*eyes, including our own organic ones, are active perceptual systems, building on translations and specific ways of seeing, that is, ways of life.*

— HARAWAY, 1988, p. 583



## The Tool Is Not A Neutral Instrument.

It is itself a specific way of observing — a particular camera, a particular rule, a particular set of algorithms, in a particular body.

*"allows us to become answerable for what we learn how to see."*



DETECTION

MOTION

BRIGHTNESS

COCO-SSD

# All Iterations

