

Creative Coding & Creative Computing Frameworks

Week 5: Randomness/Noise + Inputs/Interaction

Through technical examples and theory we explore concepts of randomness, noise, the unpredictability of tech and the problematics of datacapture.

Hour 1:

Git and code-along exercise JavaScript and HTML.

Hours 2 & 3 (lecturers swap rooms between hours):

Room One: 1 hour - Theory + Q&A.

Room Two: 1 hour - p5 code along covering for loops, random, noise and mouse input.

Hour four:

A coding exercise to play with and take away - incorporating randomness/noise+Inputs/Interaction.



Resources

- Git examples: <https://github.com/IrtizaNasar/CCI-Diploma22-CreativeCoding>
- Cheat sheet:
Online: <https://acidic-salamander-f97.notion.site/Creative-Coding-Cheat-Sheet-936001b2c19e4a3fa94b4e8a46bdad55>
- Offline: [https://github.com/IrtizaNasar/CCI-Diploma22-CreativeCoding/raw/main/Creative Coding Cheat Sheet.pdf](https://github.com/IrtizaNasar/CCI-Diploma22-CreativeCoding/raw/main/Creative%20Coding%20Cheat%20Sheet.pdf)
- Worksheet for building for the JavaScript example:
<http://resources.theanthillsocial.co.uk/experiments/infinite-regen/Worksheet.pdf>



Hour 1: Git

1. Create a repository on git.arts.ac.uk.
2. Setup an authentication token: <https://git.arts.ac.uk/settings/tokens>

For token instructions see the CCI Wiki:

<https://wiki.cci.arts.ac.uk/books/creative-code/page/how-to-set-up-vs-code-with-gitartsacuk>

Alternatively, for ssh key instructions:

<https://wiki.cci.arts.ac.uk/books/creative-code/page/versioning-code-with-git>

3. Clone the repository using GitHub Desktop or the commandline:

\$ git clone [link to repository]

4. Make changes to your local files.

5. Upload changes using VScode OR using the commandline:

```
$ git add -A  
$ git commit -m "Commit message"  
$ git push origin main
```

```
# Add changes to staging area  
# Commit changes to local repository  
# Upload to remote repository
```

Hour 1: Infinite Regeneration

A JavaScript and HTML example incorporating randomness, mouse events, and a form element.

View online version of the worksheet for building this example:

<https://acidic-salamander-f97.notion.site/Infinite-Regeneration-d1578bf610944d8d9eda1cec05601b8c>

PDF version of the worksheet:

<http://resources.theanthillsocial.co.uk/experiments/infinite-regen/Worksheet.pdf>

Working example of the code:

<http://resources.theanthillsocial.co.uk/experiments/infinite-regen/>

```
<script>

let stayPut = true;
let time = 1;
let checkTime = "";

while(stayPut){
    checkTime = "hour "+time;
    if(checkTime=="hour 1"){
        console.log(checkTime);
    }else if(checkTime=="hour 2"){
        console.log(checkTime);
    }else if(checkTime=="hour 3"){
        console.log(checkTime+" -> Swap Rooms!!");
        stayPut = false;
    }
    time++;
}

</script>
```

Hours 2 & 3 (lecturers swap rooms between hours)

Room One:

Refresher of theories and histories

Room Two:

Introduced to the technical exercise and play with code.

Hour 2 & 3: p5.js

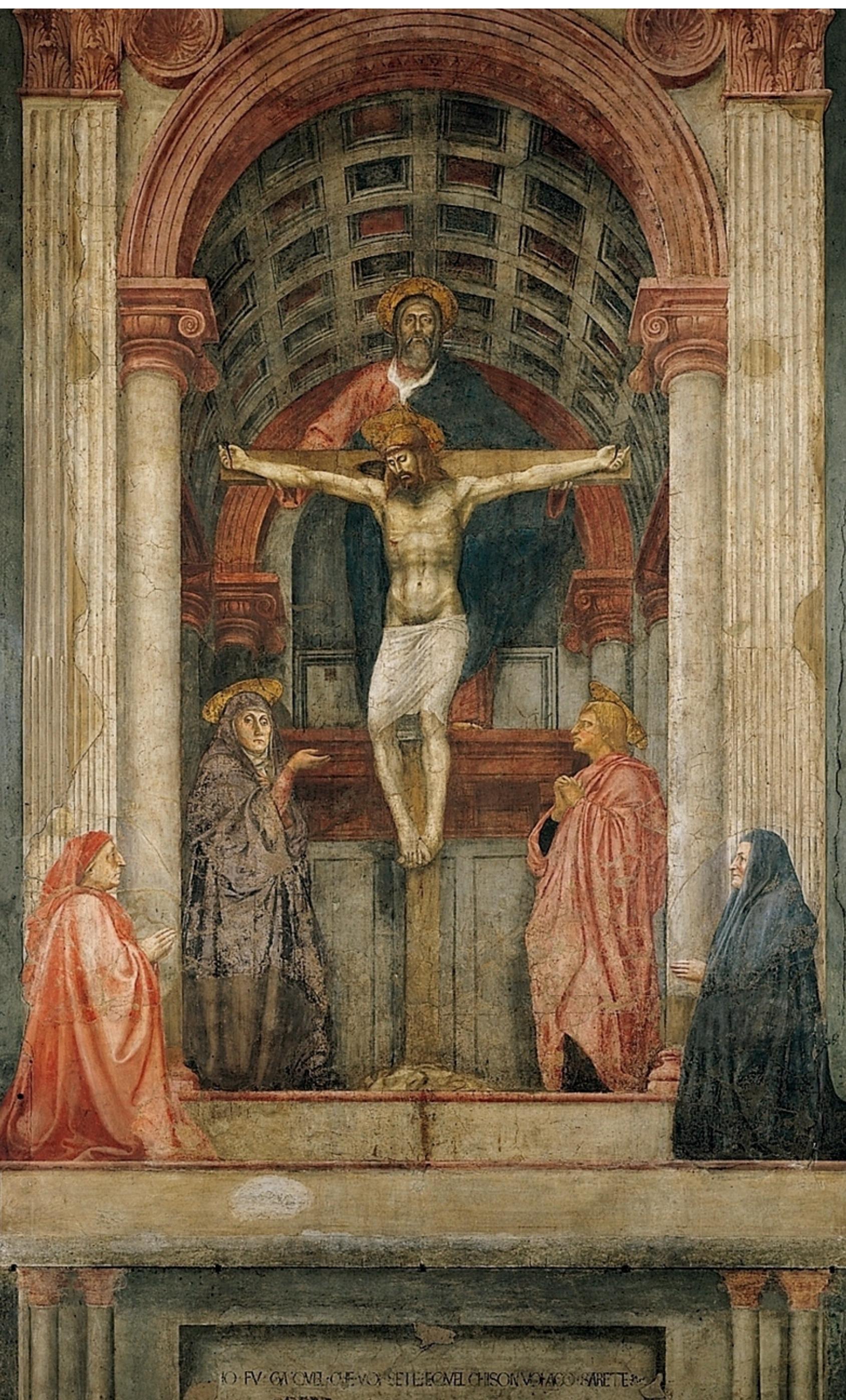


This weeks p5 example will recap on for loops, randomness and introducing noise and mouse input.

The worksheet can be found here:
<https://locrian-felidae-971.notion.site/Week-5-Technical-Exercise-in-p5-70c81d97c49246f4a51d9d7fe82311de>

A PDF version can be found here:
[https://github.com/IrtizaNasar/CCI-Diploma22-CreativeCoding/blob/main/week5-inputs/p5-example/Week 5 - Technical Exercise in p5.pdf](https://github.com/IrtizaNasar/CCI-Diploma22-CreativeCoding/blob/main/week5-inputs/p5-example/Week%205%20-%20Technical%20Exercise%20in%20p5.pdf)

Code: <https://github.com/IrtizaNasar/CCI-Diploma22-CreativeCoding/tree/main/week5-inputs/p5-example/Noise%20and%20a%20for%20loop>

A detailed description of the image: This is a classical fresco by Masaccio. In the center, Jesus Christ is crucified on a cross, with a golden halo above his head. He is flanked by the Virgin Mary on the left and St. John the Evangelist on the right, both also with golden halos. The Virgin Mary is shown in a dark blue robe, holding a small child. St. John is in a red robe, gesturing towards the cross. The background features a large, arched niche with a decorative patterned ceiling. The foreground shows the stone floor and parts of the church architecture, including columns and a ledge where two donors are kneeling in prayer.

Creative Coding & Creative Computing Frameworks

Week 5: Theories and Histories: Noise, randomness, inputs

Cosmologies, ontologies, ideologies

What is the truth of the world? How do we learn to perceive and describe its phenomena – the exterior ones that we see, hear, touch, taste, and the interior ones that we feel (but also often can't, or don't, consciously register).

Does the complexity of the world, and our experience of it, hide an underlying order or pattern by which we might be guided, or has science and ideology critique done away with such schemas, exposing them as instruments of superstition, or the institutional and operational power of the state, corporations and capital?

Are we, then, engulfed in mere randomness and noise? How can we – and do we want to – separate out the so-called 'signal', or 'content', to which we ascribe meaning? Or are randomness and noise themselves that signal?

Which architectures do we devise to capture inputs from the world? What is the datum we are looking for? Do we know our own cosmologies?

Image: Masaccio, *The Holy Trinity with the Virgin and Saint John and donors* (1425-27)



Violence destroys meaning and shared understandings

Image: Paul Nash, *The Menin Road* (1919)

Week 5: Theories and Histories: Noise, randomness, inputs

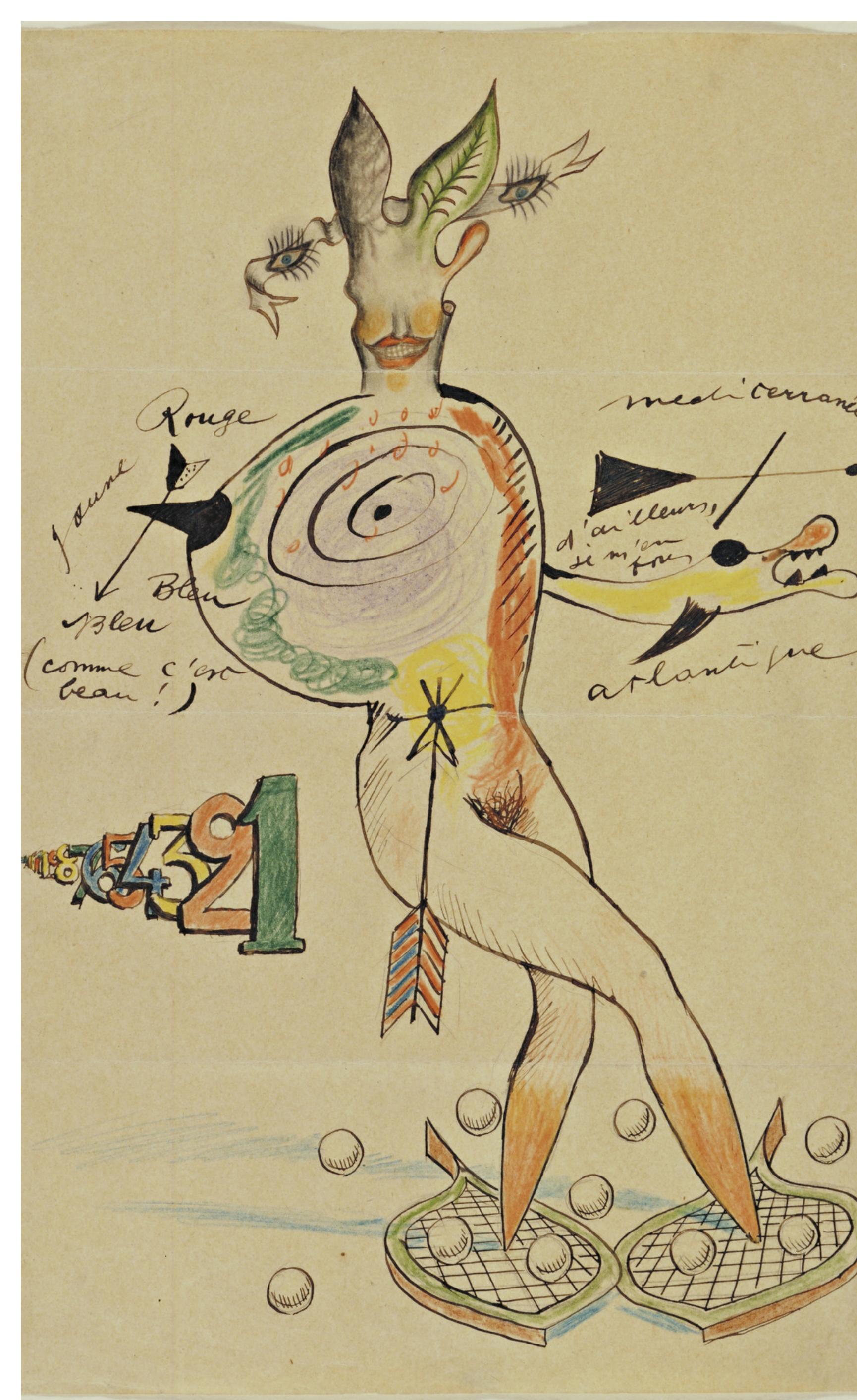
Precursors: Dada and Surrealism

To pursue the historical roots of ideas of randomness and noise, an obvious port of call would be Dada and Surrealism. Before post-modernism fixated on the problematics of constructing 'the author' and authorship, these movements had already performed a wide-ranging enquiry into how to expand the sense 'data' that a human being could annex to creative expression.

During and after a world war whose violence drenched all sense of collective meaning and rationality – WWI, 1914-18 – they used techniques such as automatic writing, the exquisite corpse, and dream-work to enlarge the sphere that was brought, both to perception and communication.

A deliberate courting and harnessing of the dynamics of 'chance' was a consistent feature, whose incorporation, they thought, would expand the definition of human life beyond what the status-quo had allowed. They wanted to let the 'world' in, in all its unpredictability, so that the powers of what we've called *the possible* would be enlarged.

Image: Nude (Cadavre Exquis with Yves Tanguy, Joan Miró, Max Morise, Man Ray (Emmanuel Radnitzky) (1927)



Precursors: Dada and Surrealism

- The interest in chance came out of a desire to go beyond the bounded, bourgeois self (integrally bound up with probity and private property, but also violence and death)
- Automatism was seen as more open to chance's dynamics, more directly porous to unconscious drives and imagery, the 'hidden' of the Western mind, society and civilisation
- Surrealists are said to have wanted to disrupt the status quo, to disturb everyday rationality with their 'irrationality', its 'order' with their 'disorder'. A better way to think of it may be to say they wanted to demonstrate that common sense had also, always already, been nonsensical. New understandings of sense and nonsense were needed

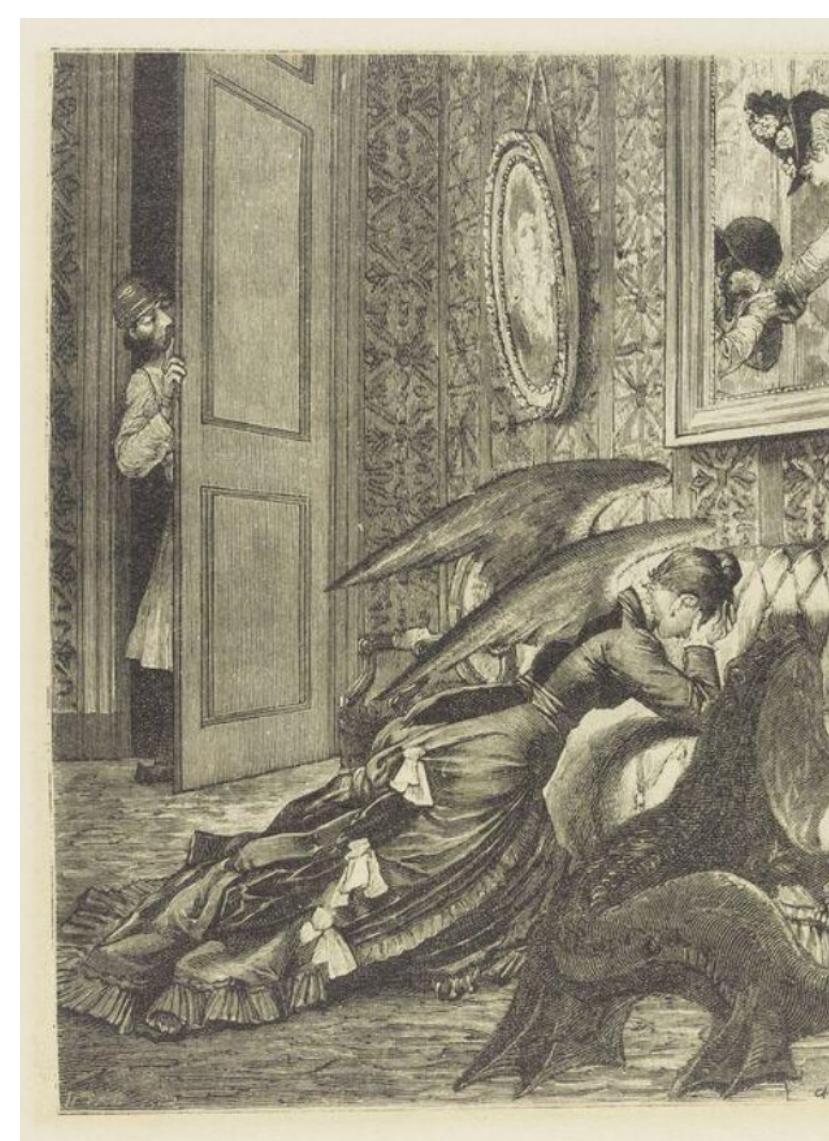
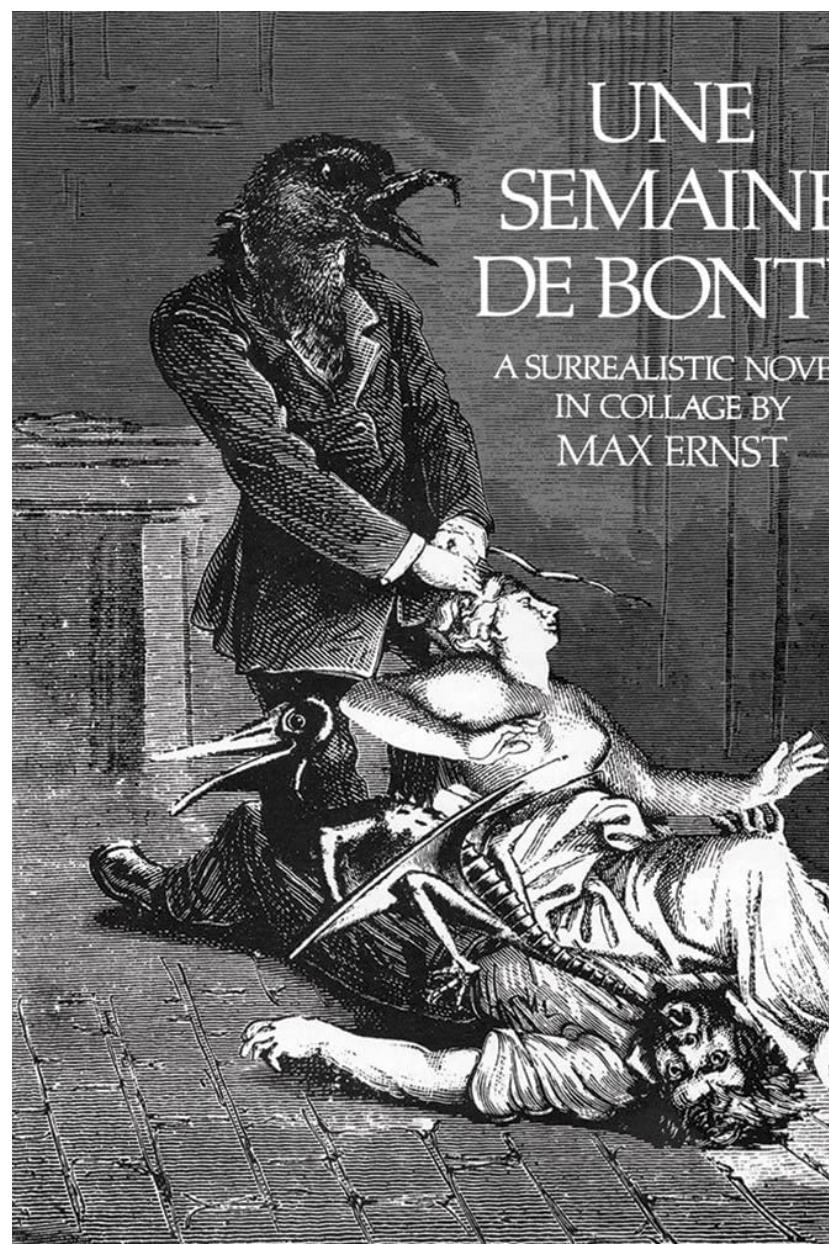
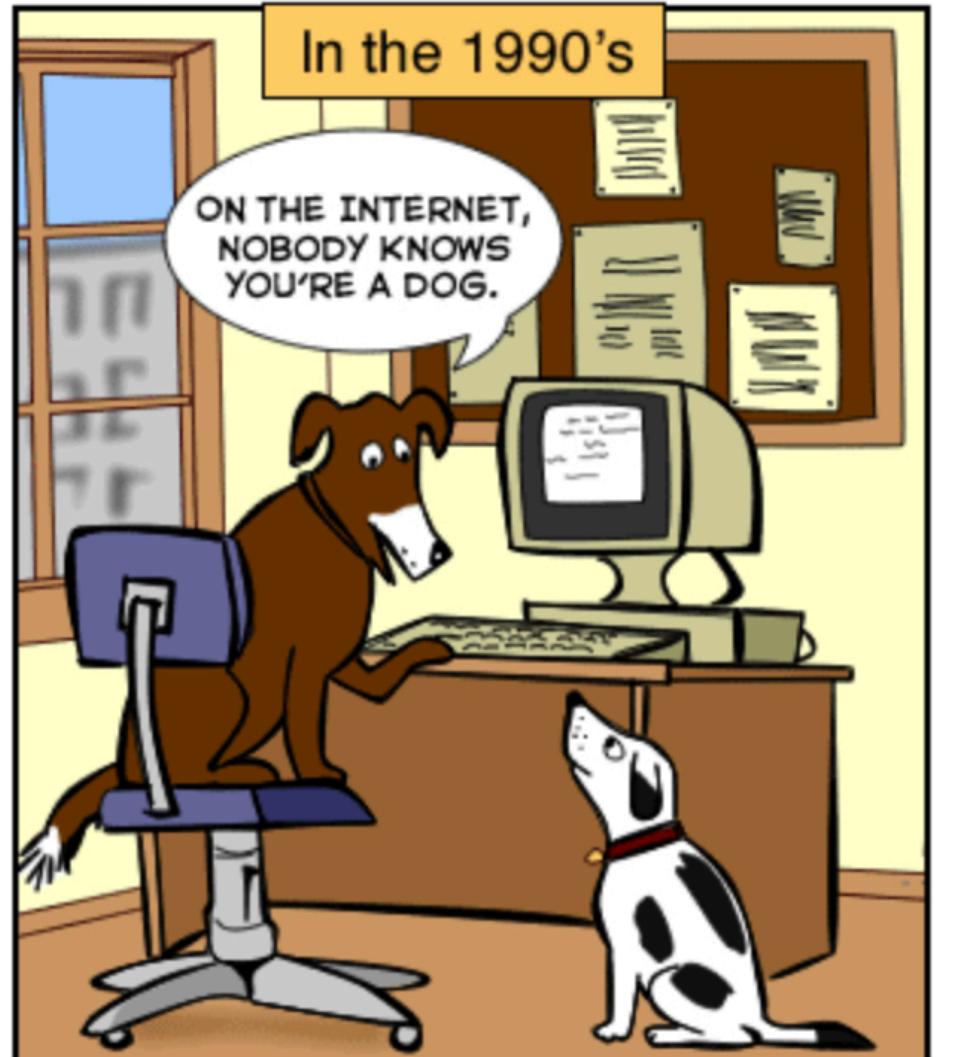


Image left: André Masson, *Automatic Drawing* (1925-26)
Images above / right: Max Ernst, cover and interior of *Une Semaine de Bonté* (A Week of Grace) (1925-26)

But what do Western artists experience as outside, or hidden from their view?



Image: André Breton's 'wall', a narrative history of Surrealism



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Week 5: Theories and Histories: Noise, randomness, inputs

The present: Randomness of the world, randomness of us?

The early internet was premised on the possibilities of anonymity (as the cartoon shows). While this was always something of a myth, in the mid 2000s the turn to user content-generation and a business model based on behavioural tracking upturned any shred of that reality that remained. Often unbeknownst to the user/browser, their every impulse was logged, meaning the unconscious drives so beloved of the Surrealists were being harnessed – but to the work of capture and economic instrumentalisation, not liberation.

Peak hype, in this respect, was reached when *Time* magazine made its person of the year 2006 'you', being instantly lambasted. But it wasn't until whistleblowers such as Julian Assange, Chelsea Manning, Christopher Wylie and Edward Snowden spilled their secrets that the gargantuan reality of everyday data capture of the global population became undeniable, and common knowledge.

There has resulted a nearly perfect inversion of the Surrealist principle: instead of courting the randomness of the world to loosen access to the human interior and environment (using dreams, popular media, or objects from everyday life as psychosocial 'prompts' or foils), we now submit our bodies and psyches to an apparatus of capture that only ever imprisons us further in our drives.



Week 5: Theories and Histories: Noise, randomness, inputs

Information transparency / Error & glitch

Digital culture has from the outset witnessed a struggle between a paradigm of 'information' as a realm to which we can offer access – transparently and with increasing perfection – and something more unpredictably embedded in the material and social world, which is perennially prone to error, mutation and surprise.

As discussed in past weeks, we see in the work of early net artists an insistence on the deconstruction or unmasking of the GUI's supposed transparency. While early CD-Roms mostly obeyed theatrical traditions of illusion, here too there were important counter-practices (e.g. in BlindRom and Antirom).

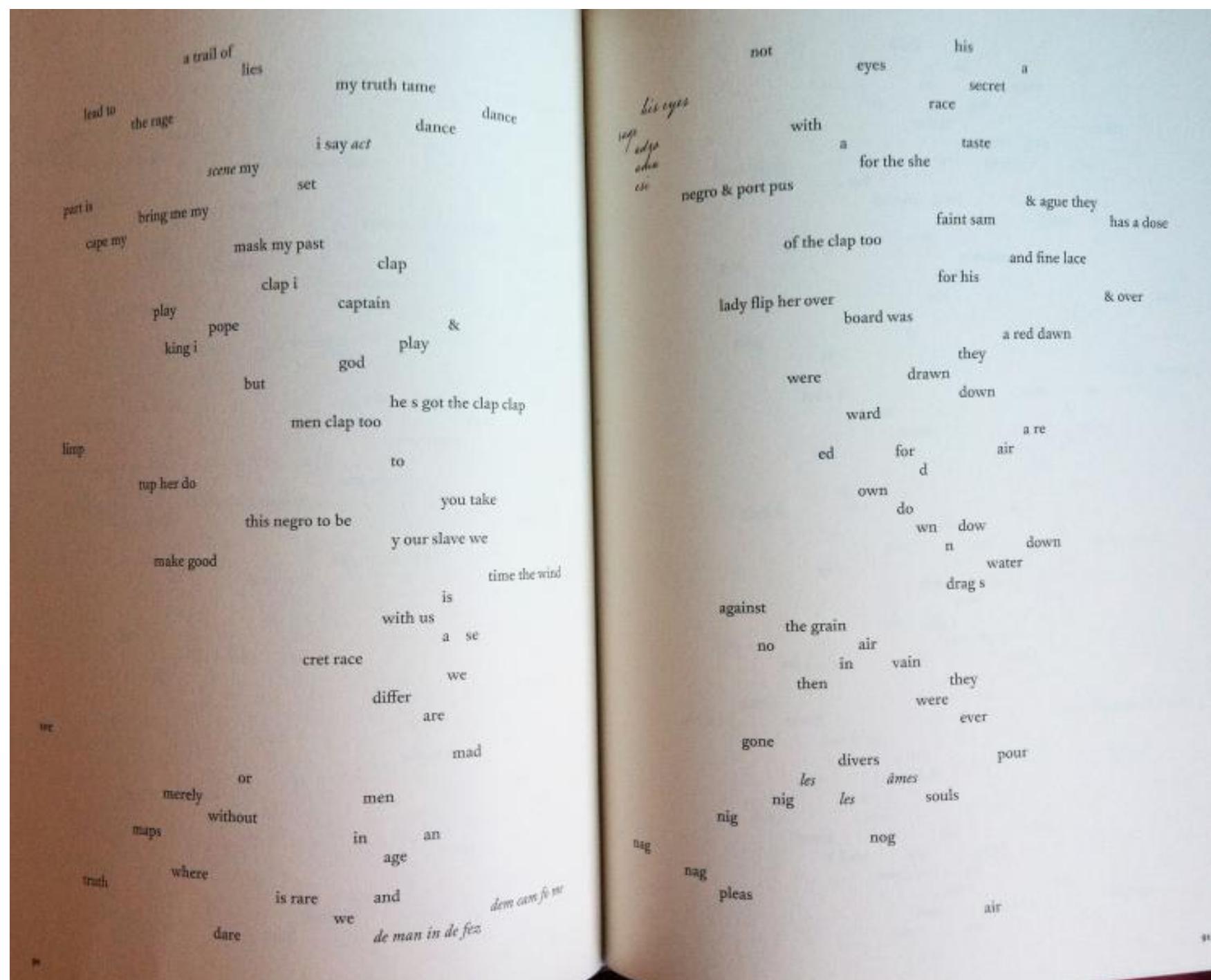
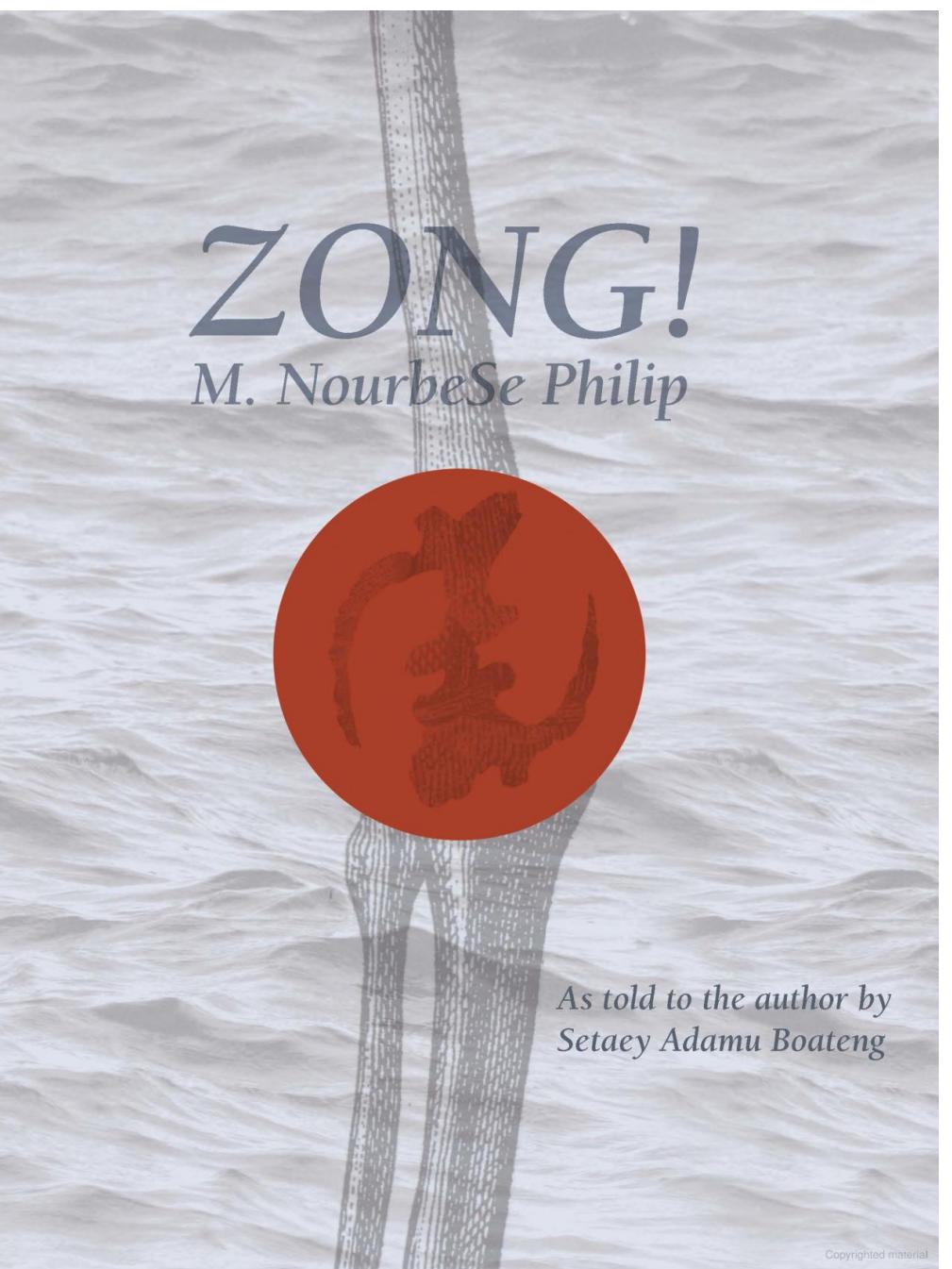
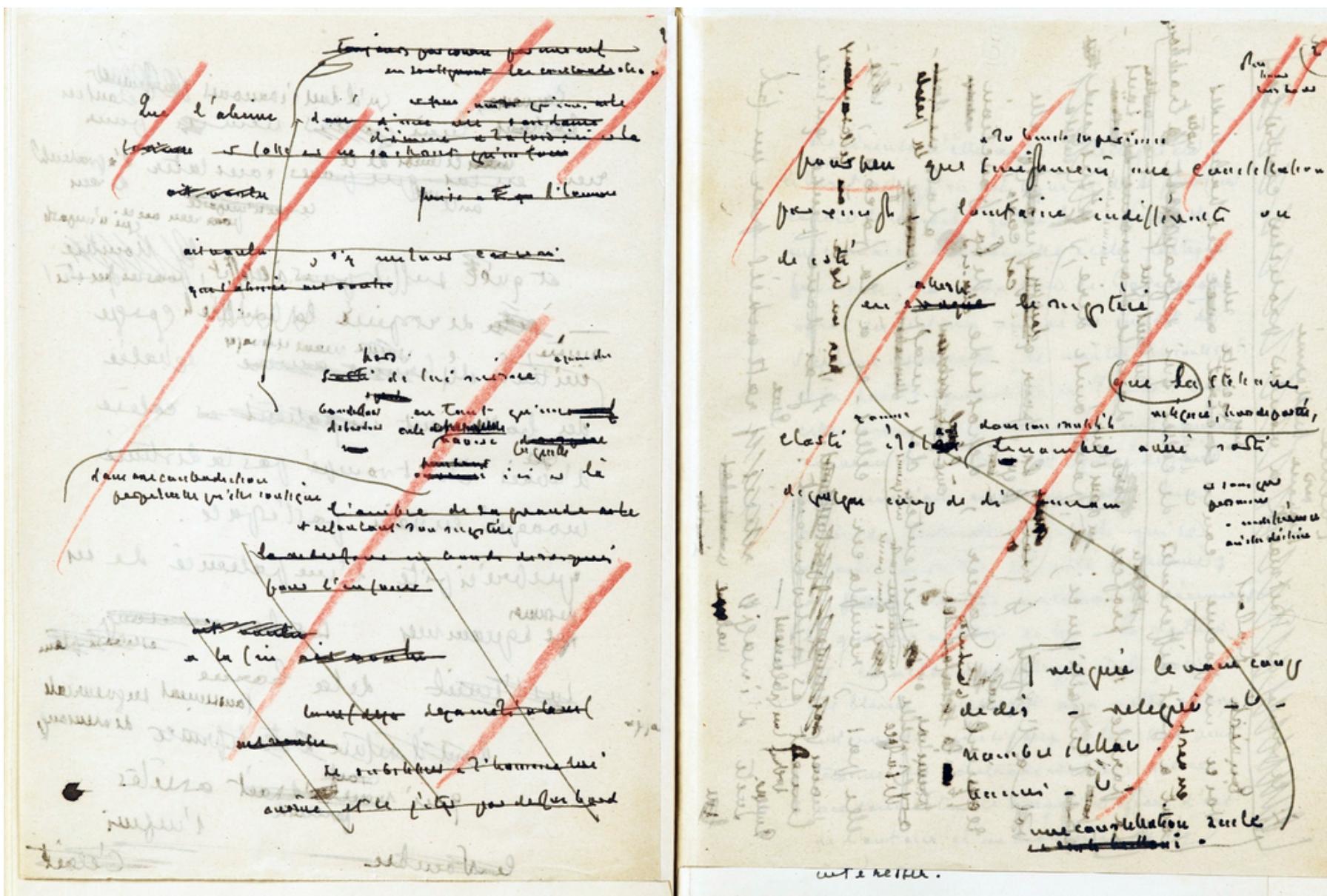
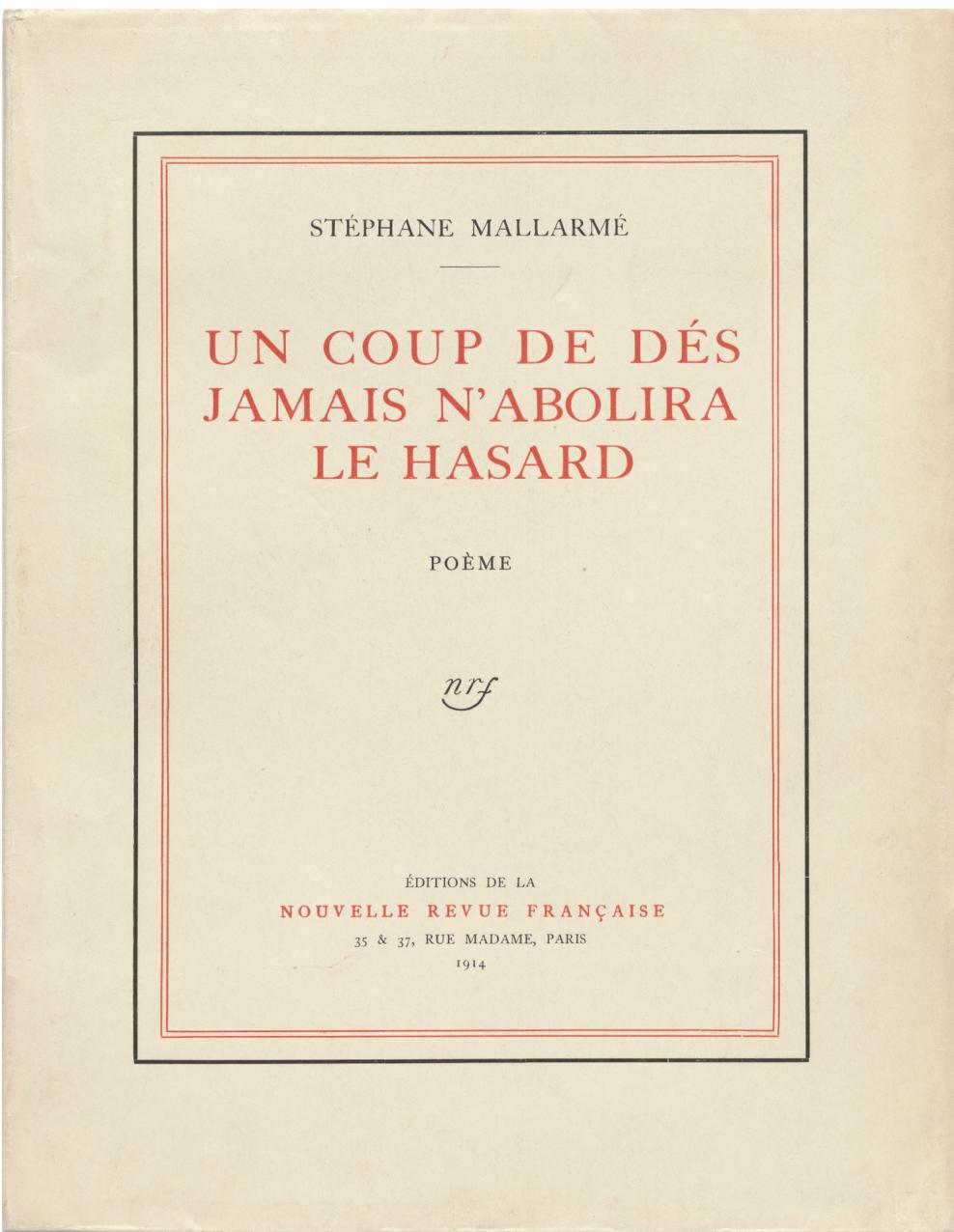
The glitch has in the intervening period become a figure unto itself, inspiring manifestos, art genres, and endless innovation

Image, left: Gerald van der Kaap, *BlindRom* CD-Rom (1993); Antirom, *Antirom* CD-Rom; Cyan, *MYST* (1993)
Image, right: Legacy Russell, *Glitch Feminism: A Manifesto* (2020)

Week 5: Theories and Histories: Noise, randomness, inputs

Precursors: the made, the given, the found

- By contrasting two seminal poetic works from the 19th and 21st century, we can detect a subtle shift in ambient concerns
- Stéphane Mallarmé's *A Roll of the Dice Will Never Abolish Chance*, and M. NourbeSe Philip's *Zong* both appear as free-form works, his published in the journal *Cosmopolis* in 1897, hers extending to book-length and published in 2008
- Mallarmé's work inaugurated literary modernity, whereas Philips, while no less formally daring, is very much a rumination on the effects of history; the 'coloniality of being', we might say (after Sylvia Wynter and others who analyse how all of existence has become suffused with empire's legacies).
- Can we frame one as the outpourings of a human soul, only, and the other as an experiment with the found form of a legal declaration? What is made, what is found, what is given?



Images, top: Stéphane Mallarmé, cover and drafts of *A Roll of the Dice Will Never Abolish Chance*
Images, bottom: M. NourbeSe Philip, *Zong* (2008), cover and interior

```
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</script>
```

Hour 4

Play with the exercise and take it away - lecturers will be around to help.

JavaScript Exercise: Create your own animated word cloud that lists the associations of a software system or technical object that you use or participate with?

Examples of a technical system/object could include a: Household bill, graphics application, social media platform, ID number, a p5.js sketch. Consider how your system/object involves the capture of data, from a mouse movement to demands for personal information, and where that data travels. List anything that 'feels' associated with your system/object however tenuous. Associations might be: technical, economic, intrapersonal, material, institutional, ethical, bodily, and more. For inspiration see:

<http://yoha.co.uk/evilmedia>

<http://resources.theanthillsocial.co.uk/experiments/just£10m.html>

<http://resources.theanthillsocial.co.uk/NuancelsLost.pdf>

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