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## STEM, STEAM AND SHAPE: SCIENCE AND TECHNOLOGY IN CONTEMPORARY ANGLOPHONE LITERATURE AND CULTURE

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**English and creative writing**

## Novelists issue plea to save English degrees as demand slumps

Authors blame government 'prejudice' against humanities, as loss of applicants hits university courses

**Anna Fazackerley**

Sat 19 Jun 2021 08.00 BST

- the education secretary, Gavin Williamson, was “clearly driven by an utterly baseless prejudice in favor of STEM (science, technology, engineering and mathematics) subjects and against the humanities”, and clearly supported those disciplines saying that “universities must focus on technical courses and filling gaps in the labour market”.

# DEFINITIONS

- STEM (Science, Technology, Engineering and Mathematics)
- STEAM (an educational approach that incorporates the arts into the STEM model: Science, Technology, Engineering and Mathematics) – a more collaborative approach



- [SHAPE](#) Social Sciences, Humanities and the Arts for People and the Economy/Environment (**SHAPE**) is a collective name for the social sciences, humanities and the arts. An acronym that valorises humanities, social sciences and arts



# This is SHAPE

Social Sciences, Humanities and the Arts for People and the Economy/Environment (**SHAPE**) is a collective name for the social sciences, humanities and the arts.

It was developed as a tool to tell the story of these subjects, which help us make sense of the human world, to value and express the complexity of life and culture, and to understand and solve global issues.

**SHAPE** research and skills are particularly valuable to the 21st-century workplace – they are vital to the health, wellbeing and prosperity of the nation and to tackling grand challenges. They teach us to analyse, interpret, create, communicate and collaborate with rigour, clarity and energy – crucial skills for today. And together with STEM subjects, they help us make innovation work harder for the benefit of everyone.

We encourage individuals and organisations to use the term SHAPE in their own activities and to [share examples of SHAPE in action](#) with us.

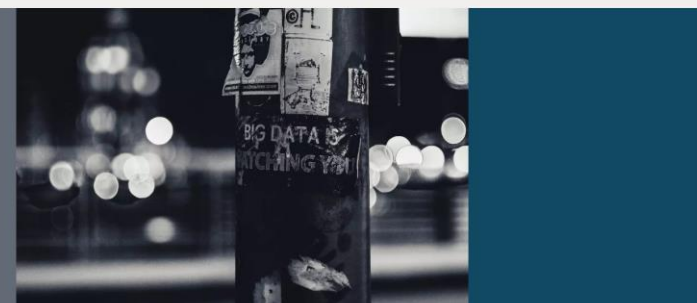
## What is SHAPE?



### Mission

The European Alliance for Social Sciences and Humanities (EASSH) aims to promote and strengthen the social sciences and humanities in Europe.

EASSH provides channels and platforms for effectively communicating expertise on policy, programmes and results to decision makers and public officials.



### Why EASSH?

EASSH is a membership organisation made up of scientific networks, associations, disciplinary groups and universities.

The main purposes of EASSH are to promote learning and research in the social sciences and humanities (SSH) as a resource for Europe and the world, and to engage with policymakers and research funders in support of the social sciences and humanities.

### What EASSH does

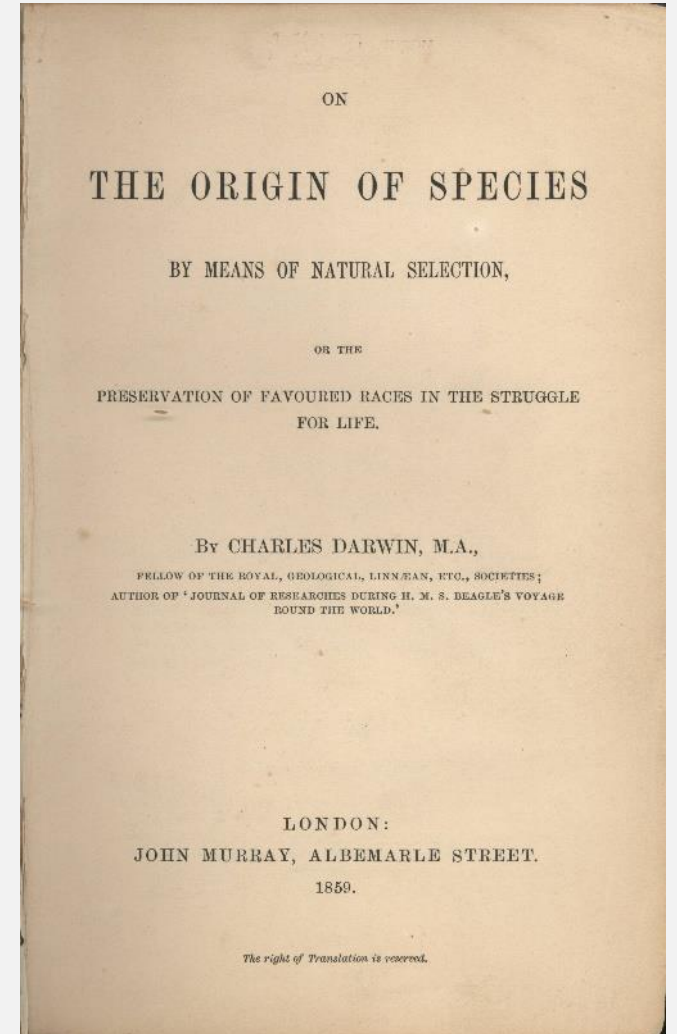
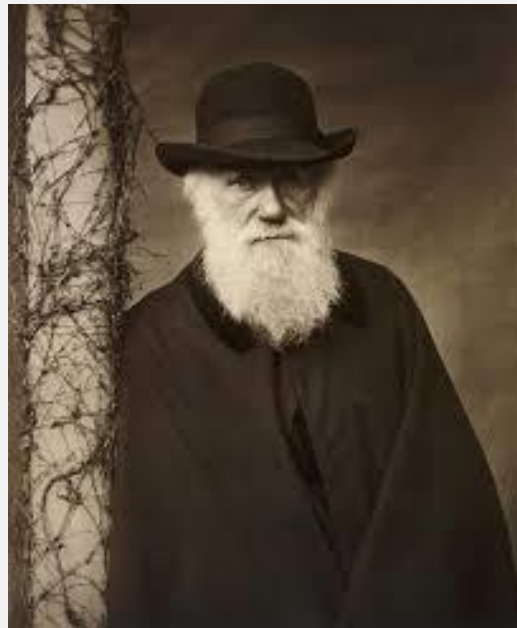
EASSH provides a platform for engagement among its member organisations and for the promotion of a shared commitment to the advancement of the social sciences and humanities in Europe and in the member states of the European Union.

EASSH provides a channel for information, ideas, policy proposals and consultations shared between its member organisations and policy makers, advisers, public-private partnerships, administrators and practitioners.

# OUTLINE

- Disciplines in the nineteenth century
- The 'two cultures' debate, the one culture and the third culture
- LS Criticism: avenues for research (Margaret Atwood, Kazuo Ishiguro, Doris Lessing)
- Posthumanism and transhumanism
- AI in contemporary literature and culture
- Electronic literature and multimodality
- Concluding remarks



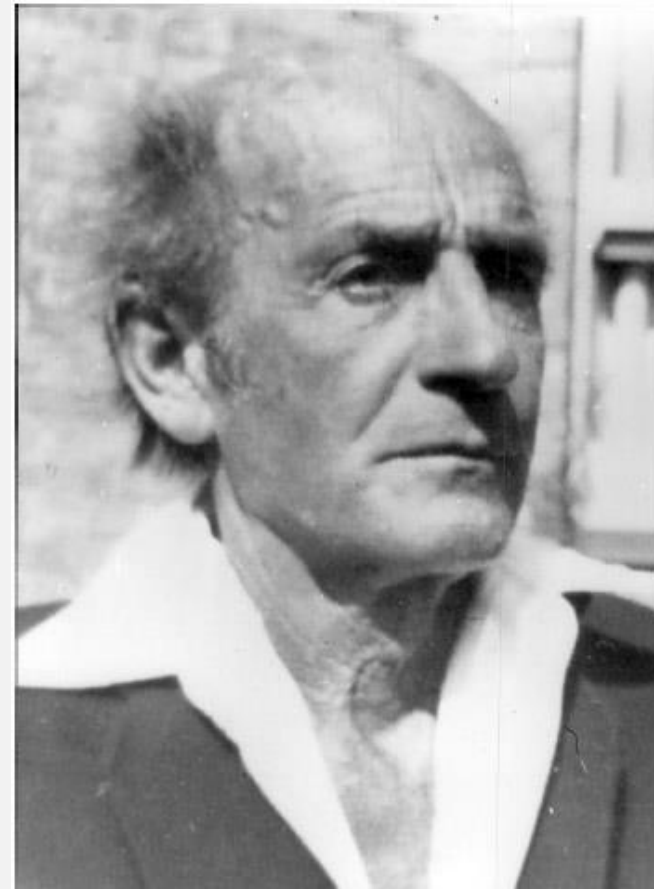


## TWO CULTURES DEBATE:

- C. P. Snow (Rede Lecture in 1959 “Two Cultures and the Scientific Revolution”)



- F. R. Leavis (Richmond Lecture in 1962 “Two Cultures? The Significance of C. P. Snow” )





## TWO CULTURES DEBATE

### C. P. SNOW

- **C. P. Snow's** “famous assertion, that not knowing the second law of thermodynamics is equivalent to ignorance of the works of Shakespeare, was a rhetorically effective way of making this point” (Cordle 16).
- “The Two Cultures: A Second Look” (1964) he qualified his ideas and called for “a third culture” in the field of the social sciences.

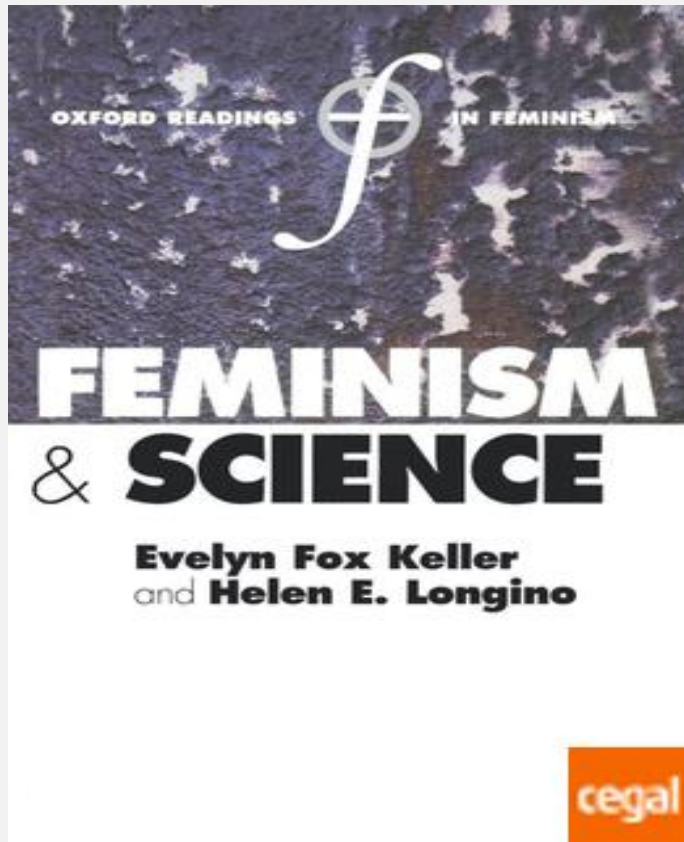
### F. R. LEAVIS

- the **advance of science and technology** means a human future of change so rapid and of such kinds, of tests and challenges **so unprecedented**, of decisions and possible non-decisions so momentous and insidious in their consequences, that mankind—this is surely clear—will need to be in full intelligent possession of its full humanity...; something that is alien to either of Snow's cultures (**Leavis** 59-61).

## DECONSTRUCTION OF SCIENCE IN POSTMODERNISM

- “[Twentieth-century intellectuals] seek to postmodernize science by treating it as a ‘discourse’, a textual or narrative construct with no special claim to rationality or truth except in so far as these are defined according to prevalent sociocultural norms” (Norris 80). Therefore, **literature-science criticism** took as its starting point the idea that science is a discourse, and thus subjected to analysis, as well as “the perception of scientific knowledge as specific to its historical and social contexts” (Cordle 45).

# FEMINISM AND SCIENCE



- Feminist historians and thinkers reveal and examine the intrinsic equation of science, objectivity and autonomy with control, mastery and domination:
- **Evelyn Fox Keller.** *Reflections on Gender and Science* (1985)
- “a network of interactions between gender development, a belief system that equates objectivity and masculinity, and a set of cultural values that simultaneously (and conjointly) elevates what is defined as scientific and what is defined as masculine” (89).
- **Sandra Harding**

# FEMINISM AND SCIENCE

Donna J. Haraway

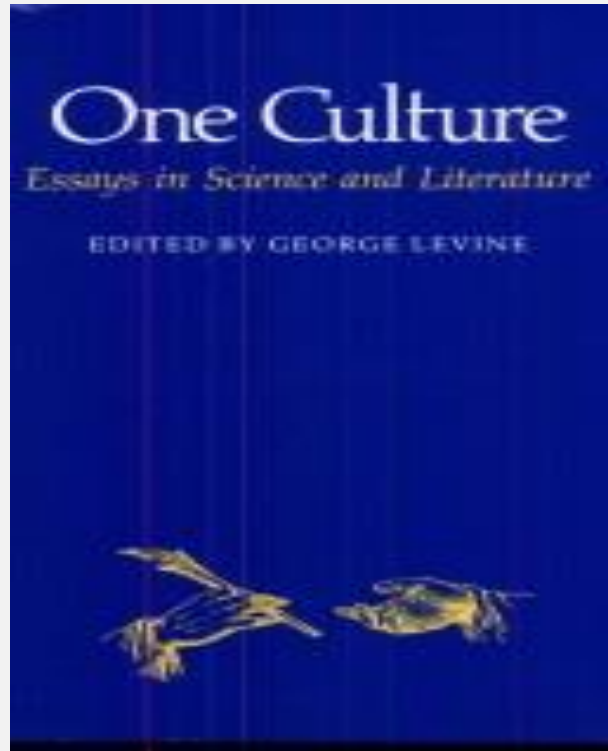
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**Simians, Cyborgs, and Women**  
*The Reinvention of Nature*

- **Donna Haraway** – the cyborg
- “a cyborg world might be about lived social and bodily realities in which people are not afraid of their joint kinship with animals and machines” (154).

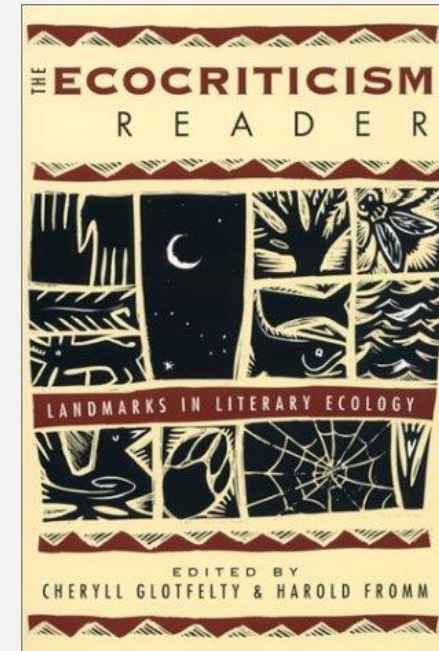
## THE ONE CULTURE/THE THIRD CULTURE “LITERATURE-SCIENCE (LS) STUDIES”



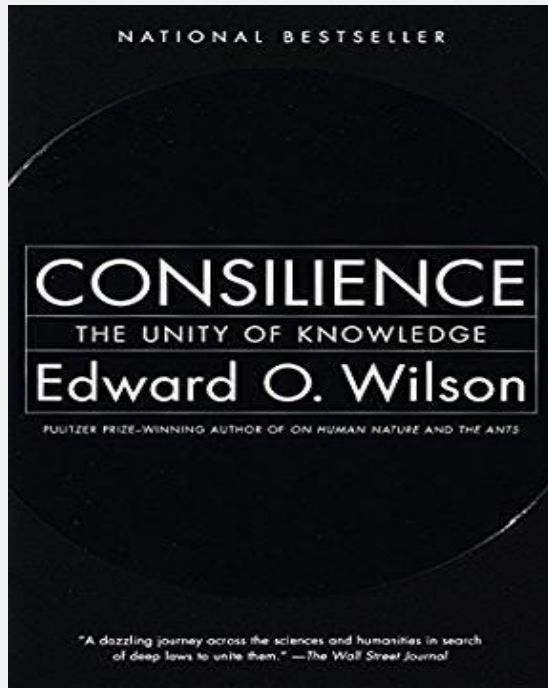
- “Science very much *is* a part of our lives. Even if we do not have direct access to science...there are routes by which we come into contact with it. These routes include the explicit popularisation of scientific ideas in the media and in books, and the less direct appearance of scientific ideas as they become accepted as a general background of shared information” (Cordle 42)

## THE THIRD CULTURE “LITERATURE-SCIENCE (LS) STUDIES”

- Elaine Shaffer – the **third culture** is a preferred term (as an enhancement to the phrase ‘one culture’)
- Eco-criticism: “A scientific field and a humanities-based field overlap to create a knowledge system where both approaches have to work in tandem with each other” - Disciplinary border-crossing or interdisciplinarity = bridging the gulf [...] between the two cultures of the sciences and the humanities



## THE THIRD CULTURE “LITERATURE-SCIENCE (LS) STUDIES”



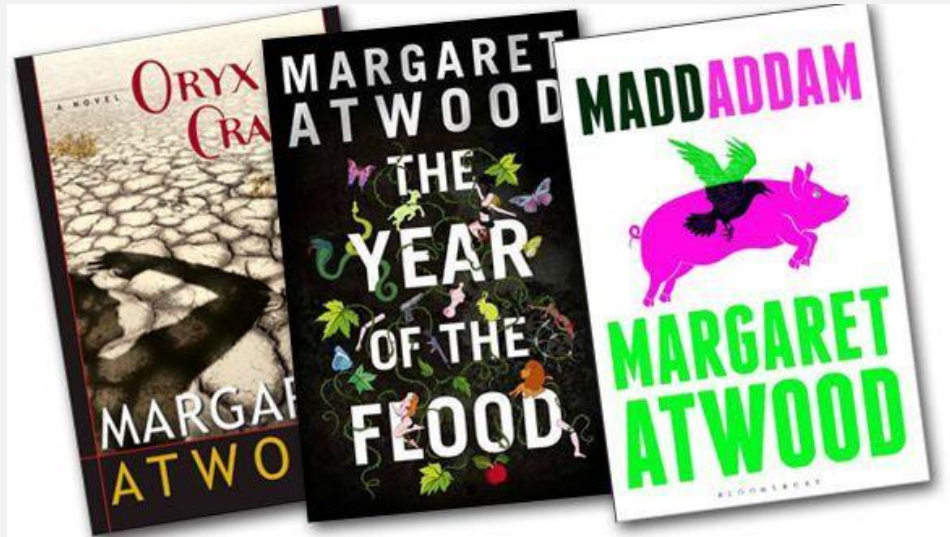
- **Edward O. Wilson**
- consilience, a term that derives from an 1840 synthesis of the sciences by **William Whewell**, “is the linking of causal explanations across all disciplines” (Love 567).
- In using ‘consilience,’ there seems to be an emphasis on a synthesis or a unity between science and humanities, or at least, between the methods they use.

THE THIRD CULTURE  
“LITERATURE-SCIENCE (LS) STUDIES”

- “How then to reconcile our respect for science with our resistances to it, to recognize the need for knowledge and to sustain our sense that science is in culture, that it is never any more unpolluted by the society out of which it emerges than any other cultural product...” (Ross, “What is Science” 136).
- “literature and science as an area of specialization...is a way of understanding ourselves as embodied creatures living within and through embodied worlds and embodied words” (24).
- “[S]cience is regarded by LS scholars as permeable to broader cultural forces. Like literature, it is seen as a creative, linguistically determined and historically positioned activity” (Deery 255).
- “The feeding of scientific ideas...into the culture, and the place of science within that culture, cannot be ignored in an age when so many advances in our understanding have come from science” (Cordle 68).



# MARGARET ATWOOD

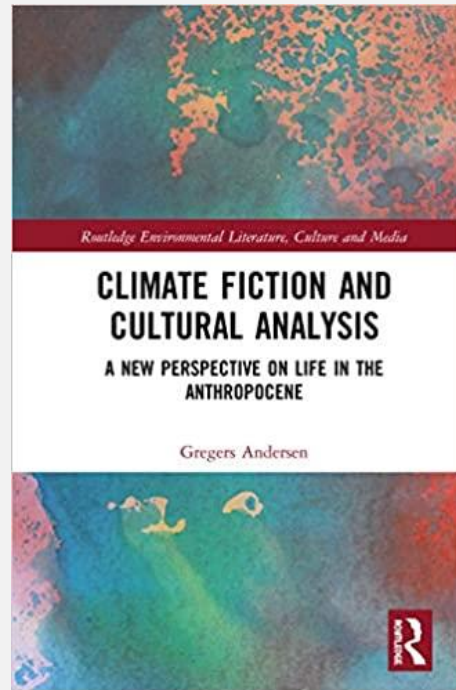
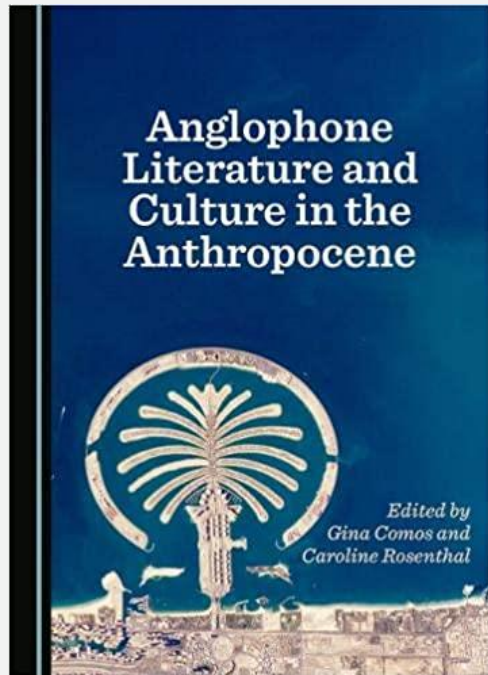


# ANTHROPOCENE

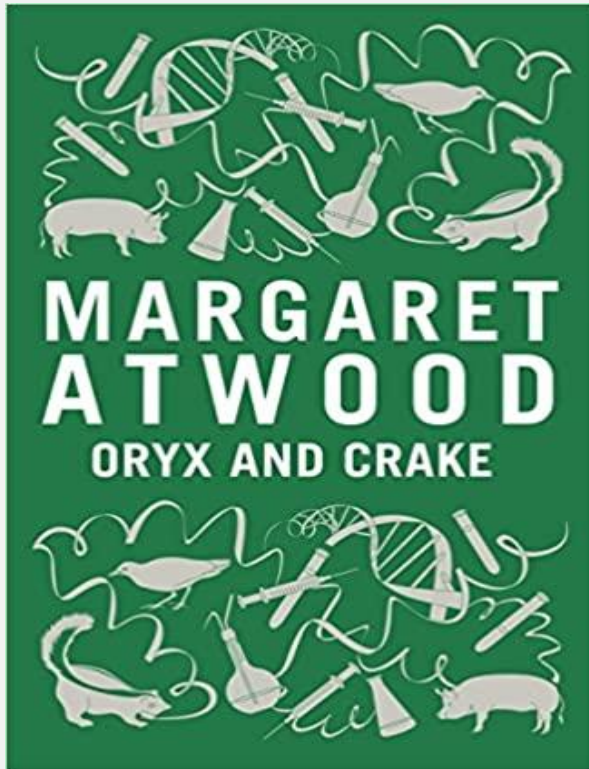


• <https://www.anthropocene.info/>

# ANTHROPOCENE LITERATURE

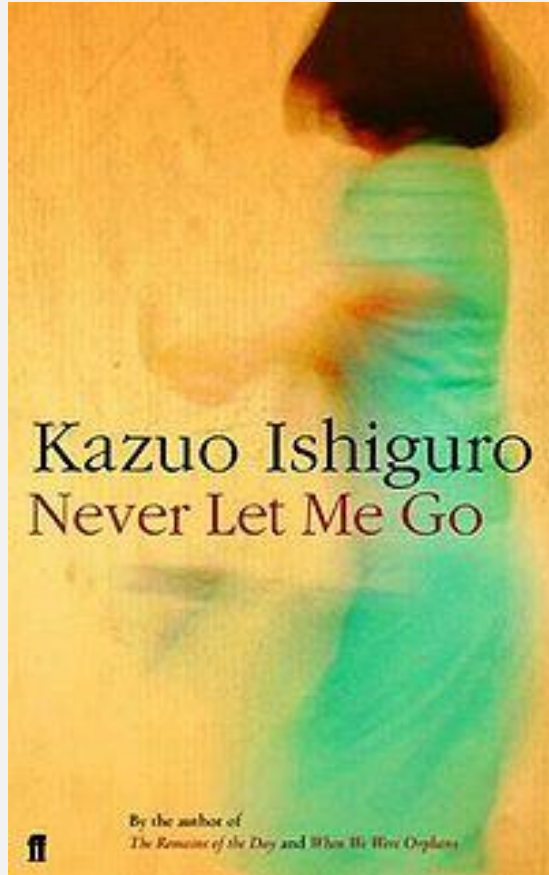


# ORYX AND CRAKE

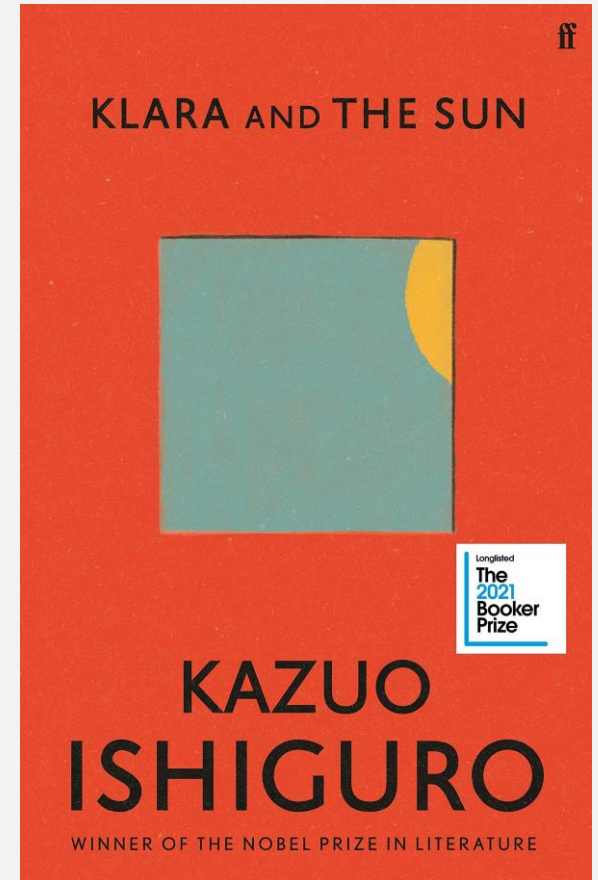


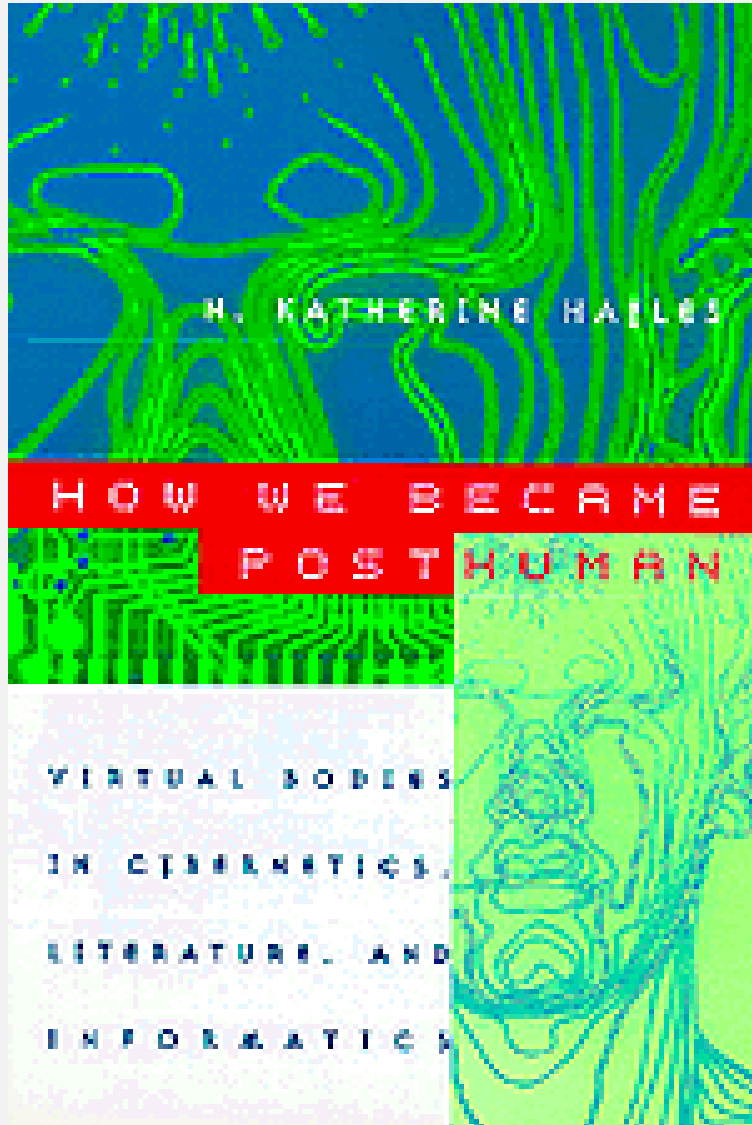
- Jimmy/Snowman
- Crake
- Oryx

KAZUO ISHIGURO  
*NEVER LET ME GO AND KLARA AND THE SUN*

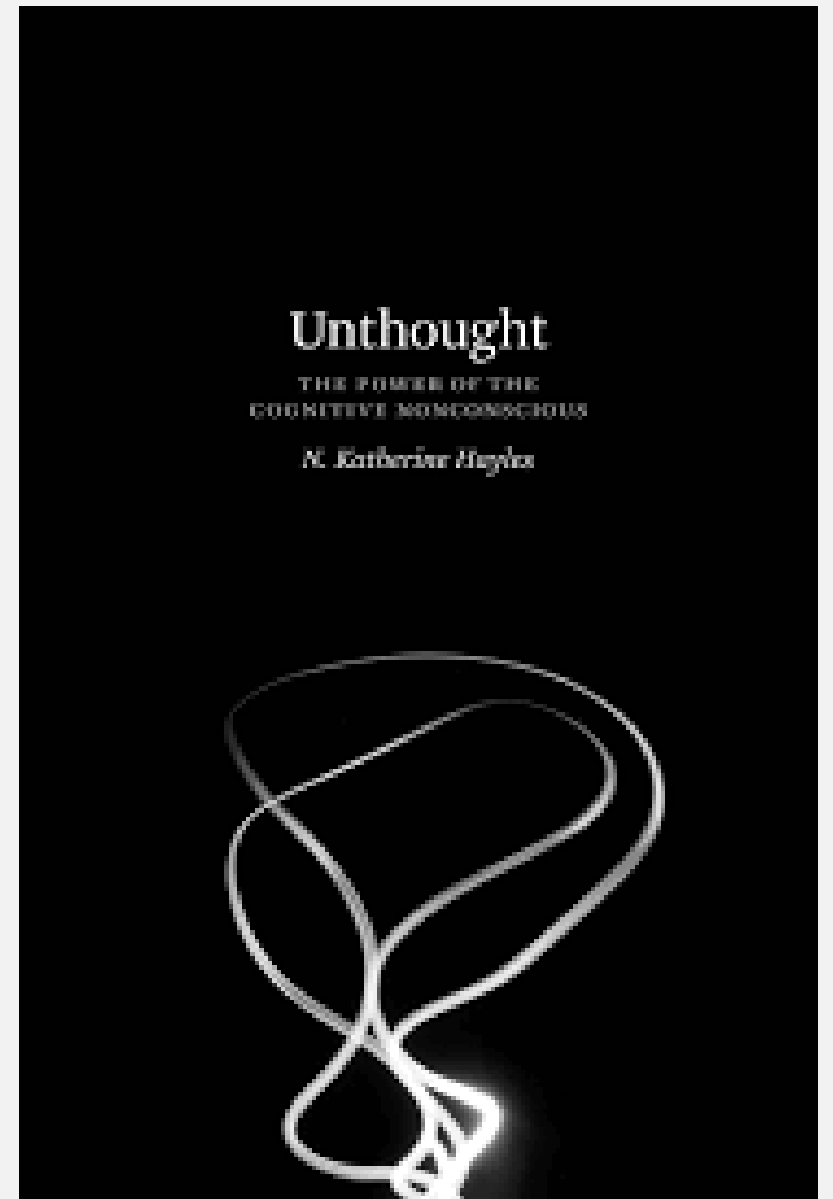


- Madame (Marie-Claude) and Miss Emily:  
“... we demonstrated to the world that if students were reared in humane, cultivated environments, it was possible for them to grow to be as sensitive and intelligent as any ordinary human being. Before that, all clones – or *students*, as we preferred to call you – existed only to supply medical science” (239)





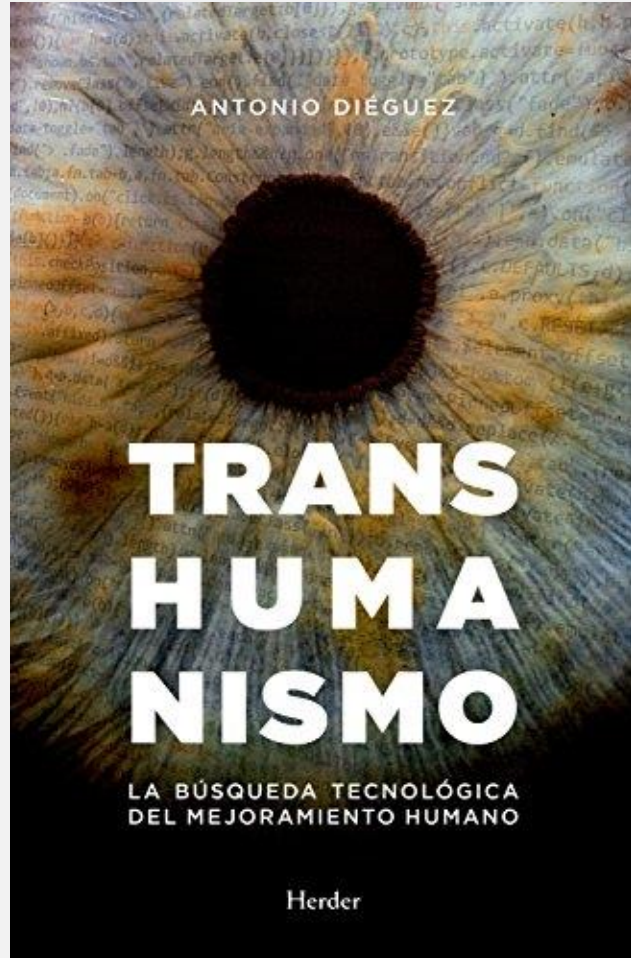
- Katherine Hayles
- “towards a more moderate view of seriated social, technological, political and cultural changes” (284-285).
- “cognitive assemblage”





# TRANSHUMANISM

1. Humanity stands to be profoundly affected by science and technology in the future. We envision the possibility of **broadening human potential** by overcoming aging, cognitive shortcomings, involuntary suffering, and our confinement to planet Earth.
3. We recognize that humanity faces serious risks, especially from the **misuse of new technologies**. There are possible realistic scenarios that lead to the loss of most, or even all, of what we hold valuable. Some of these scenarios are drastic, others are subtle. Although all progress is change, not all change is progress.
7. We advocate the well-being of all **sentience**, including humans, non-human animals, and any future artificial intellects, modified life forms, or other intelligences to which technological and scientific advance may give rise.







AI

- Stephen Hawking in 2014: “AI can kill the human race”
- Stephen Hawking in 2016: “the rise of powerful AI will be either the best, or the worst thing, ever to happen to humanity. We do not yet know which.”
- “Year Million”. Season 1: “Homo Sapien 2.0”. National Geographic



**CATEDRA** TelefónicaUMA  
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💡🔥 ¡Duelo de titanes!! 📚🗑️ Dos mundos, un solo escenario de debate. 🗓️🕒 ¿Preparados para romper estereotipos?. El próximo 23/05, 16:00-18:00h en @LetrasUma #steamh #TendenciasTecnológicas #innovación #InteligenciaArtificial #humanidades #futuro #debate

¡Hilo va! 🗨️

## II Jornada de debate de estudiantes STEAM-H La tecnología que somos

**¿Constituyen los modelos generativos basados en IA, como ChatGPT o Dall-E2, herramientas que pueden favorecer el desarrollo humano hacia nuevos horizontes o, por el contrario, provocarán una reducción del potencial creativo de las personas?**

¿Quieres participar como debatiente?

Inscríbete:  
<https://forms.gle/BxjMndcYMC6jQ5jyZ>

Más información en:



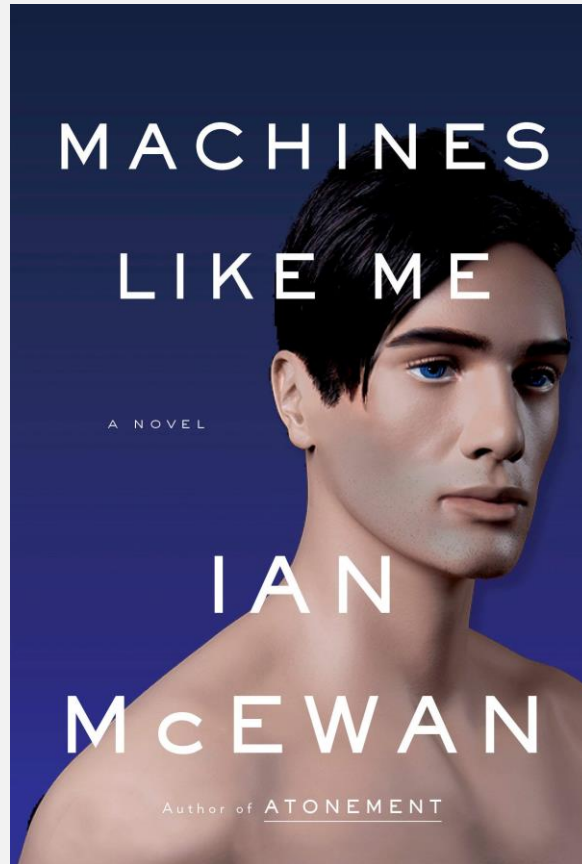
23 de mayo, 16:00-18:00h.  
Facultad de Filosofía y Letras

Organizan:

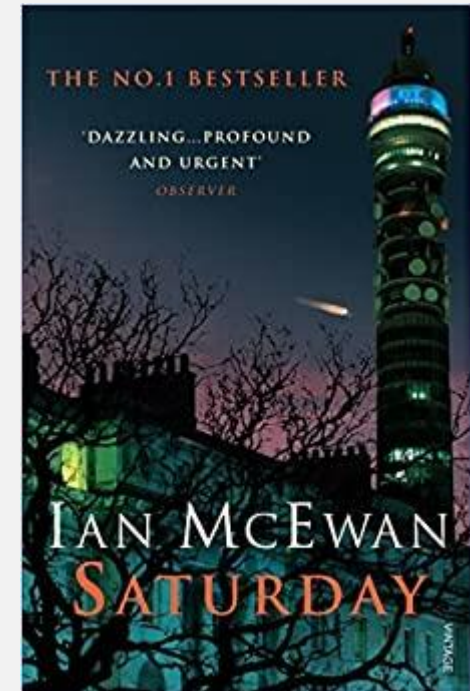
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# AI AND CONTEMPORARY FICTION

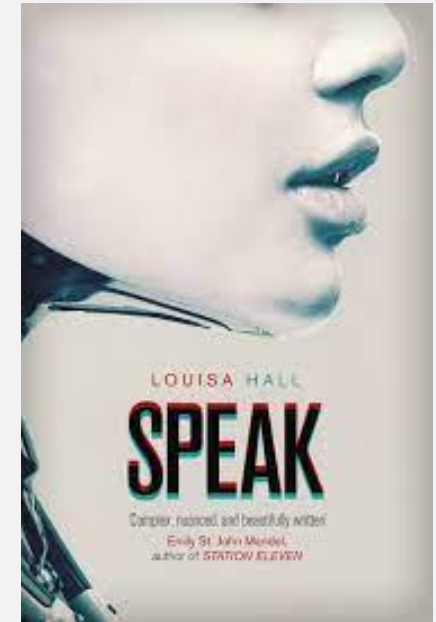
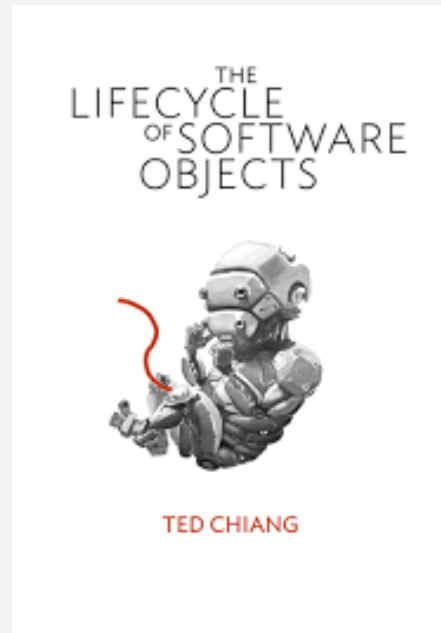


Charlie, Adam, Miranda.  
“whether a human mind  
could ever enter into a  
‘meaningful’ relationship  
with an artificial  
consciousness” (Lucas).

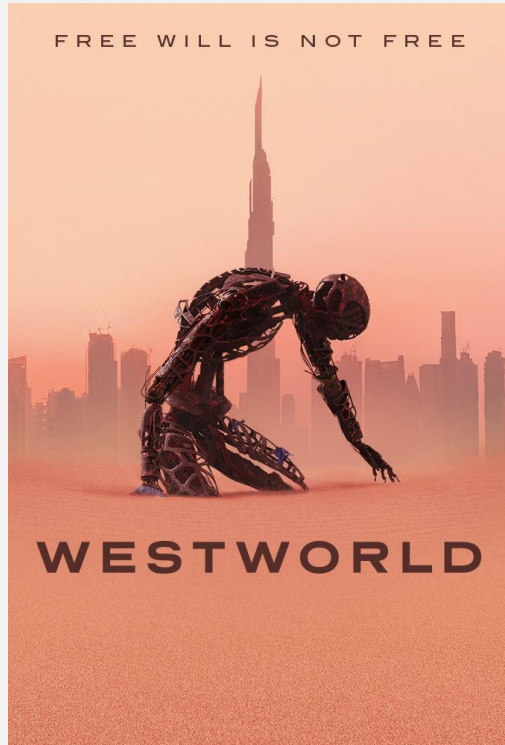


# AI AND CONTEMPORARY FICTION

- Louisa Hall. *Speak* (2015)
- Ted Chiang. *The Lifecycle of Software Objects* (2010)
- Holly Mintzer. “Tomorrow Is Waiting” (2011)
- Ian Reid. *Foe* (2018)



- CLIP



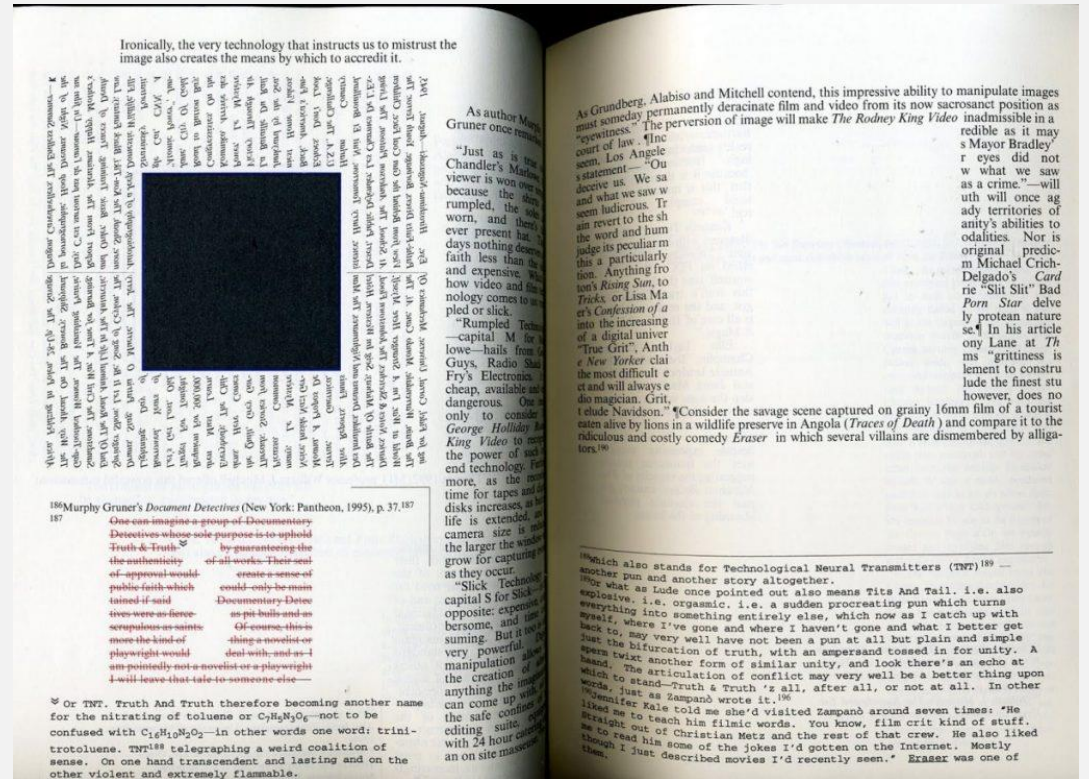
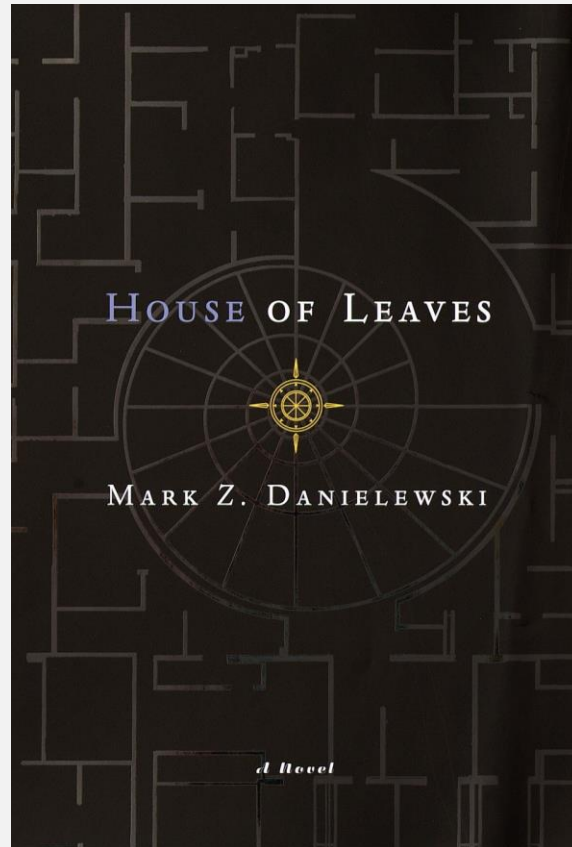
# ELECTRONIC LITERATURE AND MULTIMODALITY

## Bookishness



Loving Books in  
a Digital Age

Jessica Pressman



Ironically, the very technology that instructs us to mistrust the image also creates the means by which to accredit it.

As author Mark Gruner once remarked, "Just as is the Chandler's Marlowe deceive us because the worn, and then ever present hat, days nothing discern faith less than the and expensive. how video and technology comes to be plied or slick. "Rumpled Text—capital M for low—hails from Guys, Radio Shack Fry's Electronics, cheap, available and dangerous. One only to consider *George Holiday's King Video* to see the power of mid-end technology. Far more, as the time for tapes and disks increases, the camera size is the larger the window grow for capturing as they occur.

"Slick Technology capital S for Slick opposite: expensive, bersome, and suming. But it is very powerful in the creation of anything the safe come as come up with the editing suite, with 24 hour camera on site massaging

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<sup>186</sup>Murphy Gruner's *Document Detectives* (New York: Pantheon, 1995), p. 37, 187

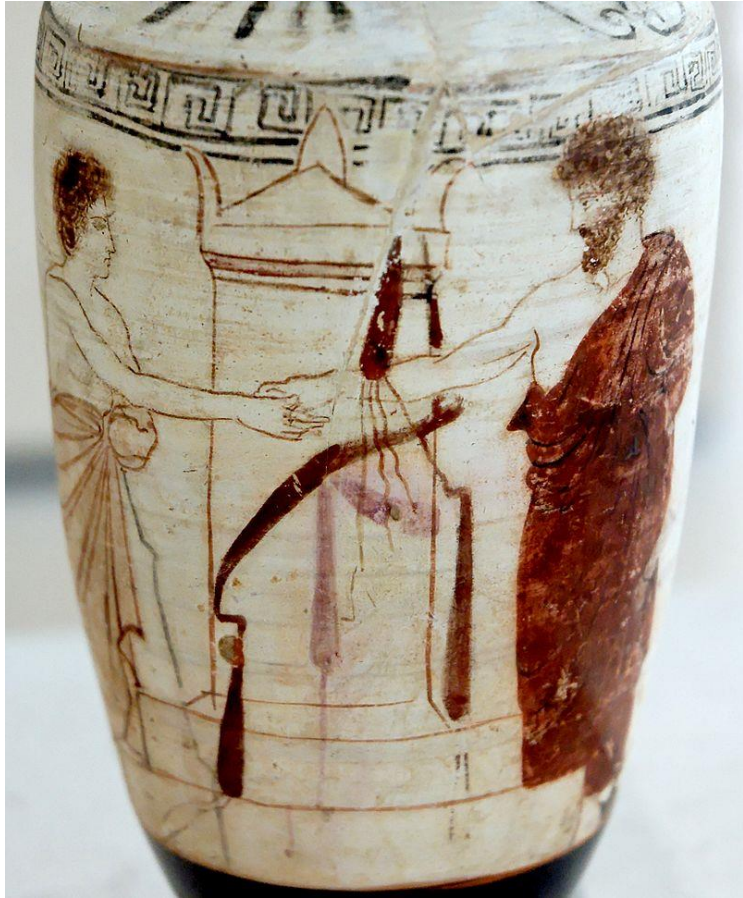
One can imagine a group of Documentaries. Documentaries whose sole purpose is to uphold Truth & Truth by guaranteeing the authenticity of all works. Their seal of approval would create a sense of public faith which stained-if said Documentaries Detectives were as fierce as scrupulous as saints. Of course, this is more the kind of thing a novelist or playwright would deal with, and as I am pointedly not a novelist or a playwright I will leave that tale to someone else.

<sup>188</sup>Or TNT. Truth And Truth therefore becoming another name for the nitrating of toluene or C<sub>7</sub>H<sub>8</sub>N<sub>2</sub>O<sub>6</sub>—not to be confused with C<sub>12</sub>H<sub>10</sub>N<sub>2</sub>O<sub>2</sub>—in other words one word: trinitrotoluene. TNT<sup>188</sup> telegraphing a weird coalition of sense. On one hand transcendent and lasting and on the other violent and extremely flammable.

which also stands for Technological Neural Transmitters (TNT)<sup>189</sup> — another pun and another story altogether.

<sup>189</sup>What as Lude once pointed out also means Tits And Tail. i.e. also explosive, i.e. orgasmic. i.e. a sudden procreating pun which turns everything into something entirely else, which now as I catch up with myself, where I've gone and where I haven't gone and what I better get back to, may very well have not been a pun at all but plain and simple just the bifurcation of truth, with an ampersand tossed in for unity. A sperm twist another form of similar unity, and look there's an echo at hand. The articulation of conflict may very well be a better thing upon which to stand—Truth & Truth 'z all, after all, or not at all. In other words, just as Zampanò wrote it.<sup>190</sup>

<sup>190</sup>Jennifer Kale told me she'd visited Zampanò around seven times: "He liked me to teach him filmic words. You know, film crit kind of stuff. He'd straight out of Christian Metz and the rest of that crew. He also liked me to read him some of the jokes I'd gotten on the Internet. Mostly through I just described movies I'd recently seen." Eraser was one of them.









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THANK YOU!

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