

HPSC0013 Science and Popular Culture Course Syllabus

2020-2021 session | Dr Emily Dawson | emily.dawson@ucl.ac.uk | Jocelyn Morales Verdejo | j.verdejo@ucl.ac.uk

Course Information

Science and technology permeate popular culture. From the film *Black Panther* to the Facebook page 'I F**king Love Science', science and popular culture are deeply intertwined. In this module we explore science in popular culture using theories from sociology, cultural studies, media studies, political philosophy and post-colonial studies. In other words, we will learn about the politics of science in popular culture. As with any module, your active participation in the group and taking responsibility for your own learning are crucial. Together, we will develop our skills as researchers, as well as critical consumers, producers & regulators of science in popular culture across different media. We'll watch films and TV programmes, we'll explore science on social media, we'll dissect skin cream adverts and we'll "visit" museums. We'll think too, about how popular culture influences science, such that science and popular culture may not be as separable as you might first think! I will suggest that they are actually co-constructed.

Key themes of this module are 1) thinking about the relationships between producers and publics, 2) thinking about how science is represented (both in terms of *who* is represented and epistemology) and 3) thinking about science and popular culture in terms of dominant cultural practices. **Key theories** in this module are about publics/audiences/users, patterns of cultural consumption (and how this is affected by class, 'race'/ethnicity, gender, sexuality, ability/disability and their intersections), communication theory, representation and social justice, as well as feminist and post-colonial approaches to understanding culture.

*** Due to the COVID19 Pandemic this module will be taught online in Term 1, 2020-2021. Each week will have a 'cluster' of activities designed to recreate the experience of being together in a 'real' classroom. The weekly activities are outlined in detail in weekly tabs on the moodle site. ***

Basic course information

Moodle Web site:	https://moodle.ucl.ac.uk/course/view.php?id=7422
Assessment:	50% Media Analysis Assignment(2500 words), 50% essay (1000 word) in Term 3
Timetable:	TBC
Prerequisites:	None
Required texts:	See syllabus (below), reading list & moodle
Course tutor(s):	Dr Emily Dawson & Jocelyn Morales Verdejo
Contact:	Emily.dawson@ucl.ac.uk and/or j.verdejo@ucl.ac.uk

Web:	https://www.ucl.ac.uk/sts/people/dr-emily-dawson
Office location:	22 Gordon Square, room 2.2

Schedule

UCL Week	Topic	Date	Preparation Activity
6	¹ Introduction: Outline of the course, methods, theories & popular culture as a “system”		Essential readings Practical activity
7	Media: Films & Representation		Essential readings Practical activity
8	Media: Museums & “The Public”		Essential readings Practical activity
9	Media: TV & Communication Theories		Essential readings Practical activity
10	Media: Social Media & Structural Inequalities		Essential readings Practical activity
11	READING WEEK!!!		
12	Genre: News & News Values		Essential readings Practical activity
13	Genre: Science Fiction		Essential readings Practical activity
14	Genre: Fan-Fiction, Activism & Messing Up the Circuit of Culture?		Essential readings Practical activity
15	Genre: Advertising		Essential readings Practical activity
16	Conclusions: Exploring ‘Value’ in Popular Culture & Structural Inequalities		Essential readings Practical activity

Assessments

¹ For further information regarding assessments (including word counts, late submissions and possible penalties) please refer to the STS appropriate programme page i.e B.Sc or M.Sc

Summary

	Description	Deadline	Word limit	Deadline for Tutors to provide Feedback
Coursework	Media analysis assignment	Tuesday, 15 th December 2020	2500	TBC
Essay	Term 3 essay as exam replacement	Monday, 26 th April 2021	1000	TBC

Assignments & Specific Criteria for Assessment for this Module:

1) Media Analysis Project, 50%

Word limit: 2500. Which means within a 2475-2525 window. i.e. it is worth your time to hit near that 2500 mark or you will hit under/over-writing penalties, see handbook!

For this assignment, you will have to select **ONE** piece of science in popular culture and you will need to critically analyze it, in an argumentative fashion. This can be:

- ☛ A feature published in a newspaper^[SEP]
- ☛ A popular science book
- ☛ A Novel
- ☛ A Museum or Science Centre Display
- ☛ An image (photograph, painting, portrait)
- ☛ A film (fiction or documentary)
- ☛ A TV programme
- ☛ A website (including blogs)
- ☛ A theater play
- ☛ An advertisement
- ☛ A podcast
- ☛ A radio show
- ☛ A children's book
- ☛ A You Tube vlog (or channel—but we would need to discuss this)
- ☛ Micro blogging (but we would need to discuss exactly what!)

Depending on your choice, different methods of analysis will be at your disposal. But, whatever your method, your analysis should try and answer the following questions and you must use some of the theoretical tools from the module:

- What is the piece under scrutiny about?
- Why did you choose it?
- How does it relate to the topic of the course (science in popular culture)? And what makes it interesting in relation to that topic?
- How do the theories discussed in this course apply to your chosen media item? (i.e. media effects, news values, representation, cultural consumption, structural inequalities and so on).
- What does analyzing this piece of science in the media enable you to claim about science in popular culture?

- What kind of relationship between science and popular culture does your object of analysis foster?
- How is it situated in relation to the production of knowledge? What kind of participation in science does it encourage? What is its contribution in defining the cultural boundaries of science?

Media Analysis Assignments must be structured, written documents. That is, they **must** include the title, sub-titles and a reference list alongside your own research and analysis. The references must be correct in the main text and in the reference list. Ideally you will use APA 6th but other recognized referencing systems will be accepted. Your assignment **must** have an argument and that argument **must** be apparent to readers.

Please please please (!) think about what you want to do early on in term and come and talk to me about it during my office hours. This is a really creative assessment and some people have a lot of fun with it, but it is really useful to have support figuring out your project so that you don't get overloaded, take on something too big, or take on something too small.

2) Essay in Term 3, 50%

In term 3, rather than take the usual closed exam for this module, you will write a short, 1000 word essay. You will answer one of the following three questions:

1. "Natural history museums are more racist than anyone will admit" wrote Danny Birchell in 2016, as quoted by Subhadra Das & Miranda Lowe (2018). What implications does this idea have for how science museums shape different publics in relation to science?
2. The title of N.K. Jemison's 2018 book poses the question "How long 'til Black Futures Month?" Discuss how science fiction might provide a space in popular culture to engage with socio-technical imaginaries of past, present and future, with reference to how it might both resist *and* reproduce the politics of science in popular culture.
3. Citizen science, fan-fiction, co-curation and activism are just some of the ways that the categories of 'producer' and 'consumer' have been blurred in science and popular culture. Discuss the idea of "produsage" in science and popular culture in terms of the circuit of culture, with reference to at least two examples of practice (which don't have to be from different media).

We will discuss the essay and how best to prepare for them during our classes. The key thing to remember is that all essential readings are ASSESSABLE readings! As with any essay (& the media analysis assignment above) it is crucial to make use of module reading material, the concepts taught in the module and to go beyond these with **your own** research and reading.

Essays **must** be structured, that is, they **must** include the title, sub-titles and a reference list. The references **must** be correct in the main text and in the reference list. Ideally you will use APA 6th but other recognized referencing systems will be accepted. Your essay **must** have an argument and that argument **must** be apparent to readers.

Assessment criteria for all coursework (Media analysis and Affiliate Students) are those found in the STS students' handbook. You should make sure you have a really good look at them & come and talk with me if you want to figure out what they mean for these assessments in more detail.

Aims & objectives

Aims:

This module revolves around two strands of thought. First, that science, society, politics and culture are mutually co-constructed. Second, that science in popular culture can be studied and understood. *And that this study is important because culture is the space where our selves are known and lived, in relation with others.* In other words, cultural practices help us learn who we are, who others are, how to be and what do to.

Despite evidence to suggest that most people in the UK continue to get most of their information about science and technology via their TV and, increasingly, online, we know remarkably little about how the landscape of science in popular culture operates. Most studies are piecemeal, concentrating on one medium or even only one media artifact (as you will in your coursework!). Drawing on theories from cultural studies, media studies, sociology and, of course, science and technology studies, we will look at science in popular culture as a *system*, we will look at specific *media*, and we will look at *genre* to try to understand what work is being done through these practices. Importantly, to bring us back to that first strand of thought, throughout the module, we will work with ideas from a range of disciplines, such as post-colonial studies, critical race theory and intersectional feminism to learn about how structural inequalities are enmeshed within science in popular culture. Who gets to be represented in science related popular culture and how are they represented? Who are the producers, consumers and regulators of science in popular culture? What does this matter for our identities and our societies?

Your participation matters! This is a participatory class where students help to design the curriculum and lead their own discussions and activities. On a weekly basis you will have readings and practical activities to do, including group work and active note-taking (individually and in groups). Each week you will need to read the essential readings (& any of the additional readings that you find interesting) and carry out any of the more practical tasks outlined in this syllabus & on moodle. These will be things like asking your friends what forms of popular science they consume, watching a particular film or TV show, listening to a podcast, looking at something on social media, visiting (*where it is safe to do so!*) museums, science centres, science festivals, science comedy events, a café scientifique, hackerspace and other 'spaces' of popular science as well as reading newspapers or parts of a novel.

Objectives:

By the end of this module students should be able to:

- critically engage with a range of forms of science-related popular culture; ^[L]_[SEP]
- demonstrate knowledge of the relevant literature for the module; ^[L]_[SEP]
- demonstrate skills in qualitative discourse analysis; ^[L]_[SEP]

- appreciate the complexity involved in the presentation of science in popular culture; [SEP]
- reflect on the role of popular culture in the evolution of scientific debate; [SEP]

Reading list and weekly activities

PLEASE NOTE: E-resources are being confirmed with the library and this list is subject to confirmation.

Good General Introductions if you want to start reading before term starts:

- Davies, Sarah. R., & Horst, Maja. (2016). "Science communication as culture". Pp. 1-28 in *Science [SEP] Communication: Culture, Identity and Citizenship*. London: Palgrave. [SEP]
- Broks, Peter. (2006). *Understanding popular science*. Maidenhead: Open University Press.
- Gregory, Jane., & Miller, Steve. (1998). *Science in Public*. New York: Plenum Press.
- McGuigan, Jim. (1996). *Culture and the Public Sphere*. London and New York: Routledge.
- Hall, Stuart. (Ed.), *Culture, Media, Language: Working Papers In Cultural Studies, 1972-79* (pp. 107-116). Birmingham: Unwin Hyman (Publishers) Ltd.
- Nelkin, Dorothy. (1995). *Selling science*. New York: W.H. Freeman and [SEP] Company.
- Jennings, Gretchen., & Jones-Rizzi, Joanne. (2017). Museums, white privilege and diversity: A systematic perspective. *Dimensions*, 63-74. [SEP]

Lecture readings & weekly activities:

NB: Where there are "recommended" extra readings the list is not that organized, but the very first one of the "recommended" readings (**in bold!**) is always one that was almost an essential reading, so if you read nothing else, read that. Each week has a long list of "recommended" readings, these are here to give you a solid starting point if you focus your media analysis assignment or essay on that week's topic. So, if for instance, your essay was about museums, I would expect you to start by reading the whole of the longer list of readings about museums and I would expect to see at least some of them in your essay's reference list too.

Week 1, Introduction: Outline of the course, methods, theories & popular culture as a "system"

This week there are two lecture films to watch. The **first** sets the scene for what we will accomplish in our class together. Pragmatically, I will talk through the goals of the class, create some rules for our work together, discuss the assessment structure & map out the next nine learning sessions. The **second** explores course content, I will talk about the theories that underpin this class, asking 'what is popular culture', 'where is science in popular culture' and 'how can we understand the relationships between science and popular culture'. Drawing on ideas about leisure time, entertainment, politics and education, we will think about how science and popular culture go together

Essential readings:

1. Orthia, L. A. (2020). Strategies for including communication of non-Western and indigenous knowledges in science communication histories. *Journal of Science Communication*, 1-17.
2. Davies, Sarah. R., & Horst, Maja. (2016). "Science communication as culture". Pp. 1-28

in *Science Communication: Culture, Identity and Citizenship*. London: Palgrave.

Additional readings:

- **Sharpe, Christina (2016). "The Weather". Pp. 102-134 in *In the Wake: On Blackness and Being*. Duke University Press: Durham and London.**
- Du Gay, Paul, Hall, Stuart, Janes, Linda, Madsen, Anders, Koen, Mackay, Hugh, & Negus, Keith (2013). Introduction to the first edition, pp. xxviii – xxxii AND Chapter 1: Making Sense of the Walkman, pp. 2-35. *Doing cultural studies: The story of the Sony Walkman*. Thousand Oaks, CA.: Sage.
- Weitkamp, Emma (2016). Five years of JCOM — inclusive, comprehensive or could we do better?' *JCOM*
- Archer, Louise, Dawson, Emily, DeWitt, Jennifer, Seakins, Amy, & Wong, Billy (2015). "Science capital": A conceptual, methodological, and empirical argument for extending Bourdieusian notions of capital beyond the arts. *Journal of Research in Science Teaching*, 52, 922-948.
- Rajput, Abhay S. D. (2017). Science communication as an academic discipline: An Indian perspective. *Current Science*, 113(12), 2262-2267.
- Bourdieu, Pierre, & Johnson, Randal (1993). *The field of cultural production: Essays on art and literature*. Cambridge: Polity Press.
- McRobbie, Angela (2005). *The uses of cultural studies*. London, Thousand Oaks, New Delhi: Sage.
- Moi, Toril (1991). Appropriating Bourdieu: Feminist Theory and Pierre Bourdieu's Sociology of Culture. *New Literary History*, 22(4), 1017-1049.
- Skeggs, Bev (2004). *Class, self, culture*. London and New York: Routledge.
- Dawson, Emily (2017). Social justice and out-of-school science learning: Exploring equity in science television, science clubs and maker spaces. *Science Education*, 101(4), 539-547.
- Thornton, Sarah (1996). *Club cultures: music, media, and subcultural capital*. Hanover N.H.: University Press of New England.
- Yosso, Tara. J. (2005). Whose culture has capital? A critical race theory discussion of community cultural wealth. *Race Ethnicity and Education*, 8(1), 69-91.
- Bourdieu, Pierre., & Passeron, Jean-Claude (1990). *Reproduction in education, society and culture* (R. Nice, Trans. Second ed.). London, Newbury Park CA, New Delhi: Sage.
- Hesmondhalgh, David (2006). Bourdieu, the media and cultural production. *Media, Culture & Society*, 28(2), 211-231.
- Broks, Peter (2006). *Understanding popular science*. Maidenhead: Open University Press.

Week 2. Media: Films & Representation

This week we will have a think about the roles of science and technology in a number of popular films (we are likely to focus on Black Panther and/or Hidden Figures). We will analyse how science and technology are represented in these films, what the implications of such representation might be and will discuss the socio-political and historic context of such representations. We will talk about theories of representation and ask what happens when you watch these films? What do they mean? Who do they represent? How do they represent knowledge? What are the roles played by science and technology in the stories these films tell?

Essential

1. Davies, S. R., Halpern, M., Horst, M., Kirby, D. S., & Lewenstein, B. (2019). Science stories as culture: experience, identity, narrative and emotion in public communication of science. *Journal of Science Communication*, 18(5).
2. Hall, Stuart. (2013). "The work of representation". Pp. 1-47 in *Representation, Second Edition*. (Eds). Hall, Stuart, Evans, Jessica and Nixon, Sean. The Open University Press: Milton Keynes.

Additional

- hooks, bell (1992). *Black looks: Race and representation*. Boston: South End Press. [Any chapter but my favorite is "Eating the Other: Desire & Resistance"].
- McKittrick, K. (2014). Mathematics Black Life. *The Black Scholar*, 44(2), 16-28.
- McIntosh, Peggy (1989). White privilege: unpacking the invisible knapsack. *Peace and Freedom*, July/August, 10-12.
- Chambers, Amy C. (2016). The Evolution of Planet of the Apes: Science, Religion, and 1960s Cinema. *The Journal of Religion and Popular Culture*, 28(2-3), 107-122.
- Steinke, Joycelyn (2005). Cultural Representations of Gender and Science: Portrayals of Female Scientists and Engineers in Popular Films. *Science Communication*, 27(1), 27-63.
- Chambers, Amy C. 'Hidden Figures: Screening Hidden Histories.' Viewpoint: Magazine for the British Society for the History of Science 113 (July 2017).
- Flicker, Eva (2003). Between brains and breasts—Women scientists in fiction film: On the marginalization and sexualization of scientific competence. *Public Understanding of Science*, 12(3), 307-318.
- Mellor, Felicity (2018). Configuring Epistemic Authority: The Significance of Film Style in Documentaries about Science. *Science in Context*, 31(1), 39-59.
- Kirby, David (2011). *Lab coats in Hollywood*. Cambridge, MA and London: MIT Press.

Week 3. Media: Museums & "The Public"

We will focus this week on science museums as a medium through which to think about the idea of "the public". Of the various media we discuss in our class, museums are often seen as the most traditional, most dominant and most 'high-brow', 'special' or 'elite' forms of popular culture (to the extent that we might question just how popular they are!). We will use all the ideas we have been learning about to think about museum visits & to become critical consumers of exhibits and to question what forms of knowledge, culture and practice are being validated and which are being rendered invisible or insignificant. To this end we will discuss questions of publics, producers and epistemology and, as always, the messy relationships between science and society.

1. Das, S., & Lowe, M. (2018). Nature Read in Black and White: decolonial approaches to interpreting natural history collections. *Journal of Natural Science Collections*, 6, 4-14.
2. Dawson, E., Archer, L., Seakins, A., DeWitt, J., Godec, S., King, H., . . . Nomikou, E. (2019). Selfies at a science museum: Exploring girls' identity performances in a science learning setting. *Gender and Education*.

3. Dewey. John (1927). *The Public and its Problems*. Ohio University Press. Athens, OH. [You can read any chapter of this from chapter 1 to 6]

Additional

- Cassidy, Angela, Lock, Simon J., & Voss, Georgina (2016). Sexual Nature? (Re)presenting Sexuality and Science in the Museum. *Science as Culture*, 25(2), 214-238.
- Jennings, Gretchen, & Jones-Rizzi, Joanne (2017). Museums, white privilege and diversity: A systematic perspective. *Dimensions*, 63-74.
- Dawson, Emily (2014). "Not Designed for Us": How Science Museums and Science Centers Socially Exclude Low-Income, Minority Ethnic Groups. *Science Education*, 98(6), 981-1008.
- Dawson, E., Archer, L., Seakins, A., DeWitt, J., Godec, S., King, H., . . . Nomikou, E. (2019). Selfies at a science museum: Exploring girls' identity performances in a science learning setting. *Gender and Education*.
- Garibay, Cecelia (2009). Latinos, leisure values, and decisions: Implications for informal science learning and engagement. *The Informal Learning Review*, 94, 10-13.
- Dixon, Carol. A. (2012). Decolonising the museum: Cité Nationale de l'Histoire de l'Immigration. *Race & Class*, 53(4), 78-86.
- Archer, Louise, Dawson, Emily, DeWitt, Jennifer, Seakins, Amy, & Wong, Billy (2015). "Science capital": conceptual, methodological, and empirical argument for extending Bourdieusian notions of capital beyond the arts. *Journal of Research in Science Teaching*, 52, 922-948.
- Levin, Amy K. (2010). *Gender, Sexuality and Museums: A Routledge Reader*. Abingdon and New York: Taylor & Francis.
- Macdonald, Sharon (2002). *Behind the scenes at the Science Museum*. Oxford and New York: Berg.
- Ogawa, Rod, Loomis, Molly, & Crain, Rhiannon (2008). Institutional History of an Interactive Science Center: The Founding and Development of the Exploratorium. *Science Education*, 93(2), 269-292.
- Chaffee, Rachel, & Gupta, Preeti (2018). Accessing the elite figured world of science. *Cultural Studies of Science Education*. Online First.
- Aguirre, Claudia (2014). Science Centers. Which roles can they play to participate in a city social reconstruction? *Journal of Science Communication*, 13(2), 1-12.
- Toupin, Sophie (2014). Feminist Hackerspaces: The Synthesis of Feminist and Hacker Cultures. *Journal of Peer Production*(5).
- Macdonald, Sharon (1998). Supermarket science? Consumers and 'the public understanding of science'. In S. Macdonald (Ed.), *The politics of display: Museums, science, culture* (pp. 118- 138). New York: Routledge.

Week 4. Media: TV & Communication Theories

This week we will turn to the world of science on television. In terms of media forms, TV is often considered 'low-brow', 'everyday' or 'popular culture', but what does this mean when it comes to science? Television has been found to be a ubiquitous cultural practice in the UK, but should we assume that putting science on TV makes it accessible or helps people learn? This week we will learn more about media effects, communication theory, representation and

cultural consumption. We will think about how science on TV sits within a legacy of socio-political issues about authority, knowledge and whose stories count.

Essential

1. Hall, Stuart (1980). Encoding/decoding. In S. Hall (Ed.), *Culture, Media, Language: Working Papers In Cultural Studies, 1972-79* (pp. 107-116). Birmingham: Unwin Hyman (Publishers) Ltd.
2. Steinke, Jocelyn. (2017). Adolescent Girls' STEM Identity Formation and Media Images of STEM Professionals: Considering the Influence of Contextual Cues. *Frontiers in Psychology, 8*(716).

Additional

- Rosell, Ana. M. (2014). Science television is just television. *Actes D'Historia de la Ciencia i de la Technica, 7, 113-126.*
- Gouyon, J.-B. (2019). *BBC Wildlife Documentaries in the Age of Attenborough*. London: Palgrave.
- Florensa, Clara, Hochadel, Oliver, & Taberner, Carlos (2014). Science on television: Audiences, markets and authority. Some conclusions. *Actes D'Historia de la Ciencia i de la Technica, 7, 127-136.*
- Ebrey, Jill (2016). The mundane and insignificant, the ordinary and the extraordinary: Understanding Everyday Participation and theories of everyday life. *Cultural Trends, 25*(3), 158-168.
- Li, Rashel, & Orthia, Lindy A. (2016). Communicating the Nature of Science Through The Big Bang Theory: Evidence from a Focus Group Study. *International Journal of Science Education, Part B, 6*(2), 115-136.
- Whitelegg, Elizabeth, Holliman, Richard, Carr, Jennifer, Scanlon, Eileen, & Hodgson, Barbara (2008). (In) visible Witnesses: Investigating gendered representations of scientists, technologists, engineers and mathematicians on UK children's television. Bradford, UK: UK Resource Centre for Women in Science, Engineering and Technology
- Tan, Aik-Ling, Jocz, Jennifer A., & Zhai, Junqing (2017). Spiderman and science: How students' perceptions of scientists are shaped by popular media. *Public Understanding of Science, 26*(5), 520-530.
- Orthia, Lindy A. (2013). *Doctor Who and Race*. Bristol: Intellect Books.
- Dhingra, Koshi (2006). Science on Television: Storytelling, Learning and Citizenship. *Studies in Science Education, 42*(1), 89-123.
- Saha, Anamik (2012). 'Beards, scarves, halal meat, terrorists, forced marriage': television industries and the production of 'race'. *Media, Culture & Society, 34*(4), 424-438.
- Bennett, Tony (2006). Distinction on the box: Cultural capital and the social space of broadcasting. *Cultural Trends, 15*(2), 193 - 212.
- Dingwall, Robert, & Aldridge, Meryl (2006). Television wildlife programming as a source of popular scientific information: a case study of evolution. *Public Understanding of Science, 15*(2), 131-152.
- Reid, Grace (2012). The television drama-documentary (dramadoc) as a form of science communication. *Public Understanding of Science, 21*(8), 984-1001.

Week 5. Media: Social Media & Structural Inequalities

Social media plays a contentious role in the popular science landscape. Part user-generated content, part 'anti-science' platform and at the same time, part of broader, socio-political histories of journalism, reporting, political debate and education. This week we will ask what science and technology 'do' on social media? How are they represented and how, technically, do they determine what we see when we go online? How does this medium (or is it media?) work in terms of what we have learnt about cultural consumption and high/low cultural forms?

Essential

1. Benjamin, Ruha. (2019). "Engineered Inequality: Are Robots Racist?". Pp. 49 – 76 in *Race After Technology: Abolitionist Tools for the New Jim Crow*. Polity Press: Cambridge & Medford, MA. [The next chapter is also very relevant!]
2. Jarreau, Paige B., & Porter, Lance (2018). Science in the Social Media Age: Profiles of Science Blog Readers. *Journalism & Mass Communication Quarterly*, 95(1), 142-168.
3. Bell, Alive (2012). ScienceBlogs is a high school clique, Nature Network is a private club': imagining the communities of online science'. *The Canadian Journal of Media Studies*, 10(1), 240-265.

Additional

- **Umoja Noble, Safia (2018). *Algorithms of Oppression: How search engines reinforce racism*. New York University Press. New York. [You can read any chapter of this interesting book]**
- St Louis, Connie, & Zorlu, Godze (2012). Can Twitter predict disease outbreaks? *BMJ : British Medical Journal*, 344.
- Eubanks, Virginia (2018). *Automating Inequality: How high-tech tools profile, police and punish the poor*. Picador. New York.
- Marsh, Oliver (2016). "People seem to really enjoy the mix of humour and intelligence": science humour in online settings. *Journal of Science Communication*, 15(2), C03, 01-09.
- Shanahan, Marie-Claire (2011). Science blogs as boundary layers: Creating and understanding new writer and reader interactions through science blogging. *Journalism*, 12(7), 903-919.
- Daniels, Jessie (2015). "My Brain Database Doesn't See Skin Color": Color-Blind Racism in the Technology Industry and in Theorizing the Web. *American Behavioral Scientist*, 59(11), 1377- 1393.
- Daniels, Jessie (2009). Cloaked websites: propaganda, cyber-racism and epistemology in the digital era. *New media & society*, 11(5), 659-683.
- Pinto, Bruno, Marçal, David and Vaz, Sofia G. (2015). 'Communicating through humour: a project of stand- up comedy about science'. *Public Understanding of Science* 24 (7), pp. 776–793.
- Riesch, Hauke, & Mendel, Jonathan (2014). Science Blogging: Networks, Boundaries and Limitations. *Science as Culture*, 23(1), 51-72.
- Mendick, Heather, & Moreau, Marie-Pierre (2012). New media, old images: constructing online representations of women and men in science, engineering and technology. *Gender and Education*, 1-15.

****READING WEEK****

Week 6. Genre: News & News Values

Science and technology are in the news a lot. More than you might think given the extensive efforts around science popularisation, literacy and the deficit model of science communication. This week we examine how science is reported in the news. We learn more about media effects, specifically we will talk about framing, 'churnalism' and news values. In other words, what makes science newsworthy, why do some stories make it to print? As always we will be thinking about who produces and who consumes science in the news, and what roles print might play in terms of cultural consumption. [SEP]

Essential

3. Nelkin, Dorothy (1995). Chapter 1, pp. 1 – 23 in *Selling science*. New York: W.H. Freeman and [SEP]Company. [SEP]
4. Fjaestad, Bjorn (2007). Why journalists report science as they do. In M. W. Bauer & M. Bucchi [SEP](Eds.), *Journalism, science and society* (pp. 123-132). New York and Abingdon: Taylor and Francis. [SEP]

Additional

- Eklöf, J., & Mager, A. (2013). **Technoscientific promotion and biofuel policy: How the press and search engines stage the biofuel controversy.** *Media, Culture & Society*, 35(4), 454-471.
- Miles, Matthew. B., & Huberman, A. Michael (1994). *Qualitative data analysis* (2nd ed.). London, [SEP]Thousand Oaks, New Delhi: Sage. [SEP]
- Silverman, Daniel. (2005). *Doing qualitative research*. Los Angeles, London, New Delhi and [SEP]Singapore: Sage.
- Weitkamp, Emma (2003). British newspapers privilege health and medicine topics over other science news. *Public Relations Review*, 29(3), 321-333. [SEP]
- Su, Leona Yi-Fan Su, Akin, Heather, Brossard, Dominique, Scheufele, Dietram A., & Xenos, Michael A. (2015). Science News Consumption Patterns and Their Implications for Public Understanding of Science. *Journalism & Mass Communication Quarterly*, 92(3), 597-616. [SEP]
- Chimba, Mwenya, & Kitzinger, Jenny (2010). Bimbo or boffin? Women in science: an analysis of media representations and how female scientists negotiate cultural contradictions. *Public Understanding of Science*, 19(5), 609-624. [SEP]
- Ipsos MORI. (2014). *Public Attitudes to Science 2014*. London: Ipsos Mori [SEP]
- Priest, Susanna. H. (2001). Cloning: A study in news production. *Public Understanding of Science*, 10(1), [SEP]59-69. [SEP]

Week 7. Genre: Science Fiction [SEP]

This week we'll work on the idea of science fiction in its traditional sense, Sci-Fi, tales of aliens and other imagined futures. We'll explore the role of Sci-Fi in popular science, and focus on both how Sci-Fi is understood and what 'work' these kinds of imaginaries do for science and

society.

If I can find it, I will get an afterword N.K.Jemison wrote to one of the books in her Broken Earth trilogy about how a NASA workshop for writers helped her with her science fiction writing!

Essential

1. Carrington, Andre M. (2016). 'Introduction: The whiteness of science fiction and the speculative fiction of blackness', pp. 1-29 in *Speculative Blackness: The Future of Race in Science Fiction*. London and New York: University of Minnesota Press.
2. Chow-White, P. A., Deveau, D., & Adams, P. (2015). Media encoding in science fiction television: *Battlestar Galactica* as a site of critical cultural production. *Media, Culture & Society*, 37(8), 1210-1225.
3. Penley, Constance (1997). *NASA/Trek: Popular science and sex in America*. London and New York: Verso. (Chapters TBC)

Additional

- Hrotic, Steven (2014). **The evolution and extinction of science fiction. *Public Understanding of Science*, 23(8), 996-1012.**
- Pandora, Katherine & Rader, A. Karen (2008). Science in the Everyday World. *Isis*, 99(2), 350-364.
- Orthia, Lindy A., & Morgain, Rachel (2016). The Gendered Culture of Scientific Competence: A Study of Scientist Characters in Doctor Who 1963–2013. *Sex Roles*, 75(3-4), 79-94.
- Wolmark, J. (1988). Alternative futures? Science fiction and feminism. *Cultural Studies*, 2(1), 48-56.
- Collver, Jordan and Weitkamp, Emma. **Alter Egos: An exploration of the motivations, perspectives, and identities of science comic creators. *Journal of Science Communication***
- Orthia, Lindy A. (2013). *Doctor Who and Race*. Bristol: Intellect Books.
- Bell, Alice R. (2011). Science as 'Horrible': Irreverent Deference in Science Communication. *Science as Culture*, 20(4), 491-512.
- We will also try and look at some actual sci-fi books, probably focusing on Afro-futurism, but we can make our list together!

Week 8. Genre: Fan-Fiction, Activism & Messing Up the Circuit of Culture?

So far we've discussed various aspects of how science in popular culture can be understood in terms of epistemology (knowledge production) on a spectrum from fact to fiction. We discussed the challenges social media poses to ideas about how news is produced as well as theories like the circuit of culture *and* we have discussed science fiction in terms of the 'work' it does to ideas about science and technology as they circulate in popular culture. This week we will build on these previous sessions to think in more depth about how popular culture, science and the circuit of culture are fluid, shaping one another just as they too are shaped in turn (including the many wonderful worlds of 'fandom'). By thinking about 'user-generated content' (whether it's fan-fiction, activism or something else), I will argue that science, popular science and culture are more closely intertwined than you might first think.

Essential

1. Bird, S. E. (2011). Are we all producers now? *Cultural Studies*, 25(4-5), 502-516.
2. Du Gay, Paul, Hall, Stuart, Janes, Linda, Madsen, Anders, Koen, Mackay, Hugh, & Negus, Keith (2013). Introduction to the first edition, pp. xxviii – xxxii AND Chapter 1: Making Sense of the Walkman, pp. 2-35. *Doing cultural studies: The story of the Sony Walkman*. Thousand Oaks, CA.: Sage.

Additional

- **Green, Shoshanna, Jenkins, Cynthia, & Jenkins, Henry (1998). Normal female interest in men bonking: selections from The Terra Nostra Underground and Strange Bedfellows. *Theorizing fandom: Fans, subculture and identity*, 9-38.** (Note: this is not available via the UCL library at the moment)
- Penley, Constance. (1997). *NASA/TREK: Popular science and sex in America*. London and New York: Routledge, Verso.
- Bonney, R., Cooper, C. B., Dickinson, J., Kelling, S., Phillips, T., Rosenberg, K. V., & Shirk, J. (2009). Citizen Science: A Developing Tool for Expanding Science Knowledge and Scientific Literacy. *BioScience*, 59(11), 977-984.
- Curtis, V. (2015). Motivation to Participate in an Online Citizen Science Game: A Study of Foldit. *Science Communication*, 37(6), 723-746.

Week 9: Genre: Advertising

This week we explore how science/tech are used in adverts and will try to analyse their content (so I've put some papers about analysis on the reading list for this week, this whole exercise is designed to give you some analytic skills in advance of your coursework project!).

Essential

1. Dodds, Rachel. E., Tseëlon, Efrat, & Weitkamp, Emma. L. C. (2008). Making Sense of scientific claims in advertising. A study of scientifically aware consumers. *Public Understanding of Science*, 17(2), 211-230.
2. Williams, R. (2000). Advertising: the Magic System. *Advertising & Society Review*, 1(1). Williams, Raymond. 1980. Advertising: The magic system. In *Problems in Materialism and Culture*. London: Verso, 170–195. Reprinted with the permission of the author's estate.
3. Lombard, Matthew, Snyder-Duch, Jennifer, & Bracken, Cheryl C. (2002). Content Analysis in Mass Communication: Assessment and Reporting of Intercoder Reliability. *Human Communication Research*, 28(4), 587-604.

Additional

- **Pitrelli, Nico, Manzoli, Federica, & Montolli, Barbara (2006). Science in advertising: Uses and consumptions in the Italian press. *Public Understanding of Science*, 15(2), 207-220.**
- Anderson, S. J., Dewhirst, T., & Ling, P. M. (2006). Every document and picture tells a story: using internal corporate document reviews, semiotics, and content analysis to assess tobacco advertising. *Tobacco Control*, 15(3), 254-261.
- Dyer, Gillian (1982). *Advertising As Communication*. London: Routledge.

- Matthes, Jorg, & Kohring, Matthias (2008). The Content Analysis of Media Frames: Toward Improving Reliability and Validity. *Journal of Communication*, 58(2), 258-279.
- Scott, Tim, Stanford, Neil, & Thompson, David R. (2004). Killing me softly: myth in pharmaceutical advertising. *BMJ*, 329(7480), 1484-1487.

Week 10. Conclusions: Exploring 'Value' in Popular Culture & Structural Inequalities

In this final class we will talk about value. How, given the different practices & theories we've studied so far, can value be understood in science in popular culture. We will look at ideas about cultural consumption, revisit the circuit of culture, communication theories and news values, and think about representation, identity and politics. How do media systems interact with one another? What can we learn here if we think about structural inequalities? How does science 'work' in hegemonic culture, sub-cultures, everyday culture and elite culture? I will argue that while on the one hand these are relationships of power that recreate social inequalities, there are (as we have seen in some of our examples so far) moments of resistance and transgression that make space for change. Change, not only for science, but for our societies too. We will also make time to talk about the closed exam in Term 3 and how best to plan your preparation for it.

Essential

1. Miles, Andrew, & Gibson, Lianne (2016). Everyday participation and cultural value. *Cultural Trends*, 25(3), 151-157.
2. Saha, Anamik (2018). 'Chapter 1: Race and Cultural Industries'. Pp. 3-28 in *Race & the Cultural Industries*. Polity Press. Cambridge.
3. Dawson, Emily (2019). 'Chapter 3: Mapping Participation' pp. 47- 67 in *Equity, Exclusion & Everyday Science Learning: The Experiences of Minoritised Groups*. London: Routledge.

Additional

- **Fraser, Nancy (1990). Rethinking the Public Sphere: A Contribution to the Critique of Actually Existing Democracy. *Social Text*(25/26), 56-80.**
- Burns, Maureen, & Medvecky, Fabien (2016). The disengaged in science communication: How not to count audiences and publics. *Public Understanding of Science*, 1-13 Online First.
- McIntosh, Peggy (1989). White privilege: unpacking the invisible knapsack. *Peace and Freedom*, July/August, 10-12.
- Hill Collins, Patricia, & Bilge, Sirma (2016). *Intersectionality*. Cambridge Polity Press.
- Hall, Stuart (1990). Cultural identity and diaspora. In J. Rutherford (Ed.), *Identity: Community, culture, difference* (pp. 222-237). London: Lawrence and Wishart.
- DeWitt, Jennifer & Archer, Louise (2017). Participation in informal science learning experiences: the rich get richer? *International Journal of Science Education, Part B*, 7(4), 356-373.
- Falk, John, Dierking, Lynn D., Osborne, Jonathan, Wenger, Matthew, Dawson, Emily, & Wong, Billy (2015). Analyzing Science Education in the United Kingdom: Taking a System-Wide Approach. *Science Education*, 99(1), 145-173.
- McGuigan, Jim (1996). *Culture and the Public Sphere*. London and New York: Routledge.
- Saha, Amanik (2018). *Race and the cultural industries*. Cambridge: Polity Press.

- Ware, Vron, & Back, Les (2002). *Out of Whiteness: Color, Politics, and Culture*. Chicago and London: University of Chicago Press.
- Belfiore, Elenor (2018). Whose cultural value? Representation, power and creative industries. *International Journal of Cultural Policy, In press*.
- Bennett, Tony (1998). *Culture: A Reformer's Science*: Sage Publications (CA).
- Bennett, Tony, Savage, Mike, Silva, Elizabeth, Warde, Alan, Gayo-Cal, Modesto, & Wright, David (2009). *Culture, class, distinction*. Abingdon and New York: Routledge.
- Hage, Ghassan (1998). *White Nation: Fantasies of White Supremacy in a Multicultural Society*. New York: Routledge.