

Communication and Technology

Instructor: Joerg Blumtritt

Course Number: IM-UH 1012

Dates: 07/09/2020 to 09/12/2020

Times: Class meets at varying times on Mondays and Wednesdays. For the exact times and dates see <https://docs.google.com/spreadsheets/d/13OjAsiimy1hAbPip-w8DKb3Sh7o5t7NOYLtcTkQPGg/edit?usp=sharing>

From the very first alphabet to technology existing only as speculative design, this course will explore the development, reaction, and impact of some of humankind's most transformative innovations – its forms of communication. How have these inventions, such as writing, printing, the telegraph, television, radio, the internet and beyond, influenced human behavior throughout the course of history. How have humans shaped their development and direction? And what role do they play informing our lives both today and tomorrow?

This course will focus on the role and application of communication technologies with a transnational cross-cultural lens. Beginning in ancient times and making our way to the present, we will analyze how, why, and to what effect innovations were adopted both geographically and culturally. Readings and discussion will cover history and historiography, the philosophy of technology, science and technology studies, media theory, and creative application. Weekly writing assignments will traverse a variety of media forms and contexts.

In an analysis paper, students will apply a lens of critical thinking to historical accounts related to their own individual cultures and backgrounds. A final project will challenge students to speculate and produce a vision of their own transformative innovation in this area.

The lectures will be recorded and made available to students asynchronously. Student presentations and student lead lectures can also be submitted as recordings. For discussions and questions, we will use Zoom as well as the forum function in Classes so that everybody can participate independently from their connectivity and time zone.

Readings

- Briggs, Asa, and Peter Burke. *A Social History of the Media: From Gutenberg to the Internet*. 3rd ed. Cambridge, UK/ Malden, MA: Polity, 2009.
- Evans, Claire Lisa. *Broad Band: The Untold Story of the Women Who Made the Internet*. New York, New York: Portfolio/Penguin, 2018.
- Gleick, James. *The Information: A History, a Theory, a Flood*. 1st Vintage Books ed., 2012. New York: Vintage Books, 2012.
- Robinson, Andrew. *The Story of Writing*. 1st paperback ed. New York: Thames and Hudson, 1999.

- Tufekci, Zeynep. *Twitter and Tear Gas: The Power and Fragility of Networked Protest*. New Haven: Yale University Press, 2017. <http://ebookcentral.proquest.com/lib/nyulibrary-ebooks/detail.action?docID=4849027>.
- Wu, Tim. *The Master Switch: The Rise and Fall of Information Empires*. Reprint edition. New York: Vintage, 2011.

Schedule

Subject to modification and clarification ## Part I: The story of writing ###

0. Introduction

Video recording of this lecture

- What is communication? What is technology?
- How to study the history and theory of communication and technology?
- Semiotics: Language and other signs

Readings

- Scharff, Robert C., and Val Dusek. *Philosophy of Technology: The Technological Condition: An Anthology*. 2nd ed. Blackwell Philosophy Anthologies 33. Chichester, West Sussex & Malden, MA: Wiley Blackwell, 2014. <http://proxy.library.nyu.edu/login?url=https://ebookcentral.proquest.com/lib/nyulibrary-ebooks/detail.action?docID=1565910>. Chapter 2.
- Sebeok, Thomas, A., and Hilmar M. Pabel. *Signs: An Introduction to Semiotics*. Toronto Studies in Semiotics and Communication. Toronto; Buffalo: University of Toronto Press, 2001. <http://ebookcentral.proquest.com/lib/nyulibrary-ebooks/detail.action?docID=4634643>. Chapter 3.

Further readings

- Louden, Robert B. "Language: Who/What Has It? (And Were Aristotle and Descartes Right?)." *HISTORY OF PHILOSOPHY QUARTERLY* 26, no. 4 (October 2009): 373–87. www.jstor.org/stable/27745172.
- Haraway, Donna J. *When Species Meet*. Minneapolis: University of Minnesota Press, 2007. <http://ebookcentral.proquest.com/lib/nyulibrary-ebooks/detail.action?docID=328400>.
- E. Sue Savage-Rumbaugh. *Kanzi: The Ape at the Brink of the Human Mind*. New York: Wiley, 1994. <https://catalog.hathitrust.org/Record/002902100?signon=swle:urn:mace:in>
- Heidegger, Martin. *The Question Concerning Technology, and Other Essays*. New York: Garland Pub, 1977. https://monoskop.org/images/4/44/Heidegger_Martin_The_Question

1. Technology studies

Video recording of this lecture - Science and technology studies applied to the history of communication

Readings

- Galison, Peter. “Ten Problems in History and Philosophy of Science.” *Isis* 99, no. 1 (2008): 111–24. <https://doi.org/10.1086/587536>.

Further readings

- Schatzberg, Eric. *Technology: Critical History of a Concept*. Technology. University of Chicago Press. Accessed April 11, 2020. <https://www.universitypressscholarship.com/view/10.7208/chicago/9780226584027.001.0001/upso-9780226583839>. Introduction.
- Woolgar, Steve. “The Turn to Technology in Social Studies of Science.” *Science, Technology, & Human Values* 16, no. 1 (January 1991): 20–50. <https://doi.org/10.1177/016224399101600102>.
- Fleck, Ludwik, Thaddeus J. Trenn, Robert K. Merton, and Fred Bradley. *Genesis and Development of a Scientific Fact*. Repr. 11. Aufl. *Sociology of Science*. Chicago [u.a]: Univ. of Chicago Press, 2008. https://worldpece.org/sites/default/files/artifacts/media/pdf/fleck_et_al._-2008-genesis_and_development_of_a_scientific_fact.pdf.
- Material on Galison’s Ten Problems: https://github.com/jbenno/nyuad_comm_tech/blob/master/files/ga

2. Orality and literacy

Video recording of this lecture - From talking to writing: From prehistory to history - Signs that last: The Voyager record and nuclear semiotics

Readings

- Crowley, David, and Paul Heyer. *Communication in History: Technology, Culture, Society*. Old Tappan: Taylor & Francis Group, 2010. https://bobcat.library.nyu.edu/permalink/f/1c17uag/nyu_aleph005523560. Chapters 1-3.
- Robinson, Andrew. *Writing and Script: A Very Short Introduction*. *Writing and Script: A Very Short Introduction*. Oxford University Press. Accessed April 26, 2020. https://bobcat.library.nyu.edu/permalink/f/1c17uag/nyu_aleph005302667. Chapters 1-3.

Nuclear semiotics

- Gilbert, Samuel. “The Man Who Helped Design a 10,000-Year Nuclear Waste Site Marker.” *Vice* (blog), April 26, 2018. https://www.vice.com/en_us/article/9kgjze/jon-lomberg-nuclear-waste-marker-v25n1.
- Sebeok, Thomas A. “Pandora’s Box in Aftertimes” in: *I Think I Am a Verb More Contributions to the Doctrine of Signs*. *Topics in Contemporary Semiotics Ser.* New York, NY: Springer, 2013. <http://proxy.library.nyu.edu/login?url=https://ebookcentral.proquest.com/lib/nyulibrary-ebooks/detail.action?docID=5576035>. Chapter 13, pp. 149-173.

- Beauchamp, Scott. “How to Send a Message 1,000 Years to the Future.” The Atlantic, February 24, 2015. <https://www.theatlantic.com/technology/archive/2015/02/how-to-send-a-message-1000-years-to-the-future/385720/>.
- Some material: https://github.com/jbenno/nyuad_comm_tech/blob/master/files/nuclear.md

3. The Alphabet

Video recording of this lecture - Early alphabets - Cuneiform - Deciphering early scripts and undeciphered sign systems

Readings

- McLuhan, Marshall, and R. K. Logan. “ALPHABET, MOTHER OF INVENTION.” ETC: A Review of General Semantics 34, no. 4 (1977): 373–83. https://www.jstor.org/stable/42575278?seq=1#metadata_info_tab_contents
- Grosswiler, Paul. “Dispelling the Alphabet Effect.” Canadian Journal of Communication 29, no. 2 (2004). <https://doi.org/10.22230/cjc.2004v29n2a1432>.

Further readings

- Gleick, James. The Information: A History, a Theory, a Flood. 1st Vintage Books ed., 2012. New York: Vintage Books, 2012. Chapter 2

Part II: Media: Technology of communication

4. Books and libraries

Video recording of this lecture - Scribes and the scriptorium - Paper and parchment, scrolls and codices, manuscripts and palimpsests - Margins and maculature - The great libraries - Paleographic exercise

Readings

Introductions to pre-print bookmaking

- Bradley, John. Illuminated Manuscripts. Project Gutenberg EBook. London: Bracken Books, 2006. https://www.gutenberg.org/files/19870/19870-h/19870-h.htm#Page_1.
- The J. Paul Getty Museum. “The Making of a Medieval Book,” 2003. <https://www.getty.edu/art/exhibitions/making/>.

Four examples *Vienna Genesis* - Unknown author. Sogenannte Wiener Genesis. Unknown place: 6th century. Digitized and published by Österreichische Nationalbibliothek from Cat. No. Cod. Theol. gr. 31, Vienna. <http://data.onb.ac.at/rep/106F8E6A>.

Kitab Al Taryaq - Kerner, Jaclynne J. Art in the name of science: The

KITĀB AL-DIRYĀQ in text and image. In: - Contadini, Anna. Arab Painting: Text and Image in Illustrated Arabic Manuscripts. Arab Painting. Brill, 2007. <https://brill.com/view/title/13442>. pp. 25-39 and colour tables in the appendix. - Canby, Sheila R., Deniz Beyazit, Martina Rugiadi, and A. C. S. Peacock. Court and Cosmos: The Great Age of the Seljuqs. Metropolitan Museum of Art, 2016. pp. 176-177. <https://books.google.com/books?id=BPrcwAAQBAJ&lpg=PP1&pg=PA176#v=onepage&q&f=false>.

Dresden Codex - Unknown. Codex Dresdensis - Mscr.Dresd.R.310. Edited by SLUB Dresden. Yucatan, c. 1200-1250. <http://digital.slub-dresden.de/id280742827/1>.

Splendor Solis - Unknown, and Jörg (?) Breu. Splendor Solis Oder Sonnenglanz. Augsburg or Nuremberg, c. 1532. <http://www.smb-digital.de/eMuseumPlus?service=direct/1/ResultLightboxView/moduleContextFunctionBar.viewType&sp=10&> - Unknown. Splendor Solis (an Alchemical Treatise). Digitized by The British Library. Germany 1582. <http://www.bl.uk/catalogues/illuminatedmanuscripts/record.asp?MSID=7881&CollID=8>

Further readings

- Luker, Emma. Some Observations on the Artists of the Leiden Psalter and Their Working Practices. In: Cleaver, Laura, Alixe Bovey, and Lucy Donkin, eds. Illuminating the Middle Ages: Tributes to Prof. John Lowden from His Students, Friends and Colleagues. Illuminating the Middle Ages. Vol. 79. Library of the Written Word. Brill, 2020. <https://brill.com/view/title/56850>. pp 139-156
- Casson, Lionel. Libraries in the Ancient World. New Haven: Yale University Press, 2001. <http://ebookcentral.proquest.com/lib/nyulibrary-ebooks/detail.action?docID=3420337>.
- Green, Arnold H. "The History of Libraries in the Arab World: A Diffusionist Model." Libraries & Culture 23, no. 4 (1988): 454–73.
- The Newton Project, Rob Iliffe, and Scott Mandelbrote. "Books in Newton's Library." 2007 ff. Accessed April 30, 2020. <http://www.newtonproject.ox.ac.uk/his-library/books-in-newtons-library>.

5. Printing and reproduction

Video recording of this lecture ### Print - Movable type and the printing press - Fonts and typesetting - Manuscripts and markup - Gutenberg and Aldus: Gothic vs. renaissance - Lost books

Writing with machines

- The fountain pen
- Stencils, matrices, displays
- The typewriter

- HTML and Unicode

Reproduction

- Wallpaper
- Jacquard's weaving loom
- Printed art

Readings

- Lost Books: Reconstructing the Print World of Pre-Industrial Europe. Lost Books. Brill, 2016. <https://brill.com/view/title/32814>.
- Briggs, Asa, and Peter Burke. A Social History of the Media: From Gutenberg to the Internet. 3rd ed. Cambridge, UK/ Malden, MA: Polity, 2009. Chapter 2.

6. Technology, Progress, and Determinism

Video recording of this lecture - The idea of progress - Technological determinism
- A history of turns - Semaphore competition

Readings

- Dusek, Val. Philosophy of Technology: An Introduction. Malden, MA/Oxford: Blackwell Pub, 2006. Chapter 6 and 12.
- Dumas, Alexander. "The Telegraph." In The Count of Monte Cristo, translated by Anonymous. Chapman and Hall, 1846. https://en.wikisource.org/wiki/The_Count_of_Monte_Cristo/Chapter_60.

Further readings

- Winner, Langdon. "Do Artifacts Have Politics?" Daedalus 109, no. 1 (1980): 121–36. <http://www.jstor.org/stable/20024652>.
- Woolgar, Steve, and Geoff Cooper. "Do Artefacts Have Ambivalence? Moses' Bridges, Winner's Bridges and Other Urban Legends in S&TS." Social Studies of Science 29, no. 3 (1999): 433–49. <http://www.jstor.org/stable/285412>.
- Agamben, Giorgio. What Is an Apparatus?: And Other Essays. Meridian (Stanford, Calif.). Stanford, Calif.: Stanford University Press, 2009.
- Heidegger, Martin. The Question Concerning Technology, and Other Essays. New York: Garland Pub, 1977.

7. Telephone, radio, photography, cinema, and television

Video recording of this lecture - Linguistic turn, iconic turn - The publishing industry - New monopolies - The idea of progress

Readings

- Wu, Tim. The Master Switch: The Rise and Fall of Information Empires. Reprint edition. New York: Vintage, 2011.
- Briggs, Asa, and Peter Burke. A Social History of the Media: From Gutenberg to the Internet. 3rd ed. Cambridge, UK/ Malden, MA: Polity, 2009. Chapter 5.
- Marinetti, Filippo Tommaso. Manifesto of Futurism: Published in Le Figaro, February 20, 1909. Yale Library Associates, 1983.

Part III: Interactive media

8. Digital media and the internet

Video recording of this lecture - What is “digital”? - The digital machine: Processor, code, memory, output - The protocol: TCP/IP and HTTP - Output technologies

Readings

- Evans, Claire Lisa. Broad Band: The Untold Story of the Women Who Made the Internet. New York, New York: Portfolio/Penguin, 2018.
- Wu, Tim. The Master Switch: The Rise and Fall of Information Empires. Reprint edition. New York: Vintage, 2011.

9. Social media and mobile

Video recording of this lecture ### Readings - Tufekci, Zeynep. Twitter and Tear Gas: The Power and Fragility of Networked Protest. New Haven: Yale University Press, 2017. https://bobcat.library.nyu.edu/permalink/f/ci13eu/nyu_aleph006187878.
- Noble, Safiya Umoja. Algorithms of Oppression: How Search Engines Reinforce Racism. New York, UNITED STATES: New York University Press, 2018. <http://ebookcentral.proquest.com/lib/nyulibrary-ebooks/detail.action?docID=4834260>.

10. Art and communication technology

Video recording of this lecture

Readings

- Kholeif Omar (ed.). Electronic Superhighway: From Experiments in Art and Technology to Art after the Internet. London: Whitechapel Gallery, 2016.
- — — —. You Are Here: Art after the Internet. Manchester: Cornerhouse; London, 2014. https://github.com/jbenno/nyuad_politics_of_code/blob/master/literature/omar-kholeif-you-are-here-art-after-the-internet-1.pdf.

Part IV: The future

11. and 12. Futurism and speculative design

Readings

- Dunne, Anthony, and Fiona Raby. *Speculative Everything: Design, Fiction, and Social Dreaming*. MIT Press, 2013. <https://readings.design/PDF/speculative-everything.pdf>.

Further readings

- Anders, Charlie Jane. *Go Ahead, Dream about the Future*. Accessed April 16, 2020. https://www.ted.com/talks/charlie_jane_anders_go_ahead_dream_about_the_future.
- Brand, Stewart. *Whole Earth 50th Anniversary Celebration*, 2018. <https://www.youtube.com/watch?v=31mXWZAgCF4>.
- Candy, Stuart, and Jeff Watson. “The Thing From The Future.” *Situation Lab (blog)*, 2018. <https://situationlab.org/project/the-thing-from-the-future/>.
- Haraway, Donna. “A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century.” In *Simians, Cyborgs and Women: The Reinvention of Nature*. Routledge, 1991. <https://sites.evergreen.edu/politicalshakespeares/wp-content/uploads/sites/226/2015/12/Haraway-Cyborg-Manifesto-2.pdf>.
- Ramos, José. *Why Futures Studies: An Interview with Jim Dator*. Interview, 2012. <https://actionforesight.net/why-futures-studies-an-interview-with-jim-dator/>.
- Saffo, Paul. “Six Rules for Effective Forecasting.” *Harvard Business Review*, July 1, 2007. <https://hbr.org/2007/07/six-rules-for-effective-forecasting>.
- Sterling, Bruce. *Bruce Sterling at The Interval at Long Now | San Francisco*. Accessed November 1, 2019. <https://theinterval.org/salon-talks/02018/oct/16/how-be-futuristic-bruce-sterling>.

13. and 14. Final project

We have examined the history of communication technologies ranging from writing to the telegraph, to present-day social media. What will come next?

Research an emerging communication technology or trend and design a product or service that makes use of it. Describe the world the product exists in and how it differs from today. Describe the interplay of the product and society. Develop a narrative: imagine a character who uses the technology. What does their life look like? How is it different from yours? Where does your future fall on a continuum from utopia to dystopia?

This project is meant to engage you in using design as a creative process to address social, cultural, environmental and ethical impacts of technology.

Method

This project can be completed collaboratively in groups of up to 4 people or independently, as you prefer. We will have time in class over the next weeks to discuss and work on projects, but the majority of work is expected to take place as weekly homework. You may complete the project in a medium of your choice but it should demonstrate effort and craft. For example it can be a 3d printed prototype of a physical device, it could be a website or video promoting a service. Your narrative can be text, like a short story or something more inventive, a graphic novel, poster or podcast script for example.

Deliverables

Prototype You will create a prototype of the product or service you imagine along with a 1-page (300 words) narrative describing the character who uses it and the world they inhabit.

This creative project is meant to be equivalent to a 10 page final paper. As such it should demonstrate significant research, reflection, and creative effort. You should show an engagement with the readings and discussions we have had throughout the semester as well as original ideas of your own and independent work.

Final presentations in class The last week of class will be devoted to showing and discussing final projects. In your presentation you will show your prototype and discuss your research as well as your narrative. In addition to giving a 5 minute presentation of your work you are expected to engage and comment on the work of others. Each presentation will consist of 5 minutes presentation and 5 minutes discussion. Engage the class with a prompt or question during your presentation so it opens conversation.

Documentation Submit documentation by the due date to NYU Classes. Documentation should include your 1 page (300 words) narrative and at least a 1 page (300 words) description of what you made and why demonstrating the research completed, as well as 4-5 high resolution images which convey the creative work completed. Submit everything in one PDF with your name (and those of your collaborators if applicable) and project title.

Additional Information

Learning Outcomes

- Think critically and work creatively toward innovations in communication technology, design, and computation.
- Demonstrate an understanding of the historical significance of major technical inventions situated in the field of communications.

- Describe key concepts and theories that explain the relationship between these innovations and the development of human behavior, incorporating global, cultural, social, and political perspectives.
- Gain the ability to reflect on the impact recent communication advances have had on our own individual lives and behavior patterns
- Gain exposure to writing across various forms of media, old and new.
- Clearly communicate ideas and analysis in a verbal, visual, auditory, experiential, and written form.

Assignments

- Reading and watching the provided material is required in advance for each class.
- Assigned readings and videos will be discussed in class. Preparedness (i.e. having read/watched the assigned material), active participation, and therefore attendance to the classes will be graded.
- The readings, writing assignments, as well assigned talks and presentations can be found on NYU Classes, as well as in this spreadsheet: https://docs.google.com/spreadsheets/d/1Bu35X0wV_cASv74YWs31mLPuC5KtvBMBXeJX49akmqU/edit
- Please submit assignments via NYU Classes. Submissions can be just links to your blog, webpage or Google document. If you have to submit via email, please put [CommTech] in front of the email subject.

Group Lesson

- There will be four or five student-lead lectures on an assigned topic.
- Students prepare these as full length lectures, working together in groups of 3 to 5.
- Each student is expected to work in at least one of these projects.
- The lecture can be prerecorded.
- Slides and other material has to be submitted and made available to the class.

Analysis Paper

In a 4-5 page paper (min 1200, max 1500 words) identify a specific communication technology that was developed or emerged in your hometown, city, or country of origin. Your paper must identify and argue for factors (i.e. social, cultural, technical, political, economic or others) that caused, related, and resulted from its emergence. Also, attempt to analyze its impact and significance within the world stage of communication technology.

Final Project - Speculative Design - The Future of Communication Technology.

Develop a narrative around an existing or imagined use of communication technology in the form of a new product or service. Your narrative should be

character driven. How does communication technology impact this character's life? Their relations with other beings and the environment? How are politics affected? Social and cultural customs? Show the world this character exists in and how it is different from today. Demonstrate the interplay of technology and society. The narrative can be written, visual (i.e. graphic novel), video or sound.

Short Responses

- Students will write a one page response.
- All responses must be submitted on time before the next class.

Grades and Rubrics

Grades

10% Participation: Active contribution to the discussions, showing initiative, taking on tasks outside the assignments - this includes participation in forum discussions. 30% Assignments: Preparedness (having actually read/watched the material), timely submission of assignments, quality of work (see rubrics), presenting in class. 30% - Analysis paper 30% - Final project

Rubrics

20% Comprehension (understanding of the material, structure, argumentation)
30% Criticism (assessing the form, intention, preliminary conditions of the assigned material; questioning the arguments), resp. technical complexity for programming assignments
50% Creativity (Showing original thoughts and ideas; compelling form of presentation; creative use of various techniques with focus on interactive media; aesthetics of the experience)

Assignments will be graded according to the following scale of 100%

- Poor Evincing poor absorption of material, or made no effort (0-70%)
- Adequate Accomplished enough to prove the student encountered the material (71-80%)
- Good Demonstrated strong effort incorporating and articulating concepts in a creative way (81-90%)
- Excellent Exceptional creativity, understanding and synthesis of the material (91-100%)

Attendance and Participation

- Engaging in the class discussion, offering feedback to peers, and being mentally present is a major part of the grade, no matter if in real time or in virtual discussions.
- Daily submission of responses and participation in group discussions is mandatory.

Administrative Matters

Office hours

Please reach out to me via email. I shall be happy to arrange an office hour.

Accommodation and Mental Health Awareness

As a University student, you may experience a range of issues that can interfere with your ability to perform academically or impact your daily functioning, such as: heightened stress; anxiety; difficulty concentrating; sleep disturbance; strained relationships; grief and loss; personal struggles. If you have any well-being or mental health concerns please visit the Counseling Center on the ground floor of the campus center from 9am-5pm Abu Dhabi time Sunday - Thursday, or schedule an appointment to meet with a counselor by calling: +971 02-628-8100, or emailing: nyuad.healthcenter@nyu.edu. If you require mental health support outside of these hours call NYU's Wellness Exchange hotline at +971 02-628-5555, which is available 24 hours a day, 7 days a week. You can also utilize the Wellness Exchange mobile chat feature, details of which you can find on the student portal. If you need help connecting to these supports please contact me directly. Diversity and inclusion are important tenets of NYUAD and my own teaching philosophy. Please let me know if you have a disability I should be aware of or require special assistance. I am happy to make accommodations.

Academic Integrity

NYUAD's policies and procedures relating to academic integrity: At NYU Abu Dhabi, a commitment to excellence, fairness, honesty, and respect within and outside the classroom is essential to maintaining the integrity of our community. By accepting membership in this community, students, faculty, and staff take responsibility for demonstrating these values in their own conduct and for recognizing and supporting these values in others. In turn, these values create a campus climate that encourages the free exchange of ideas, promotes scholarly excellence through active and creative thought, and allows community members to achieve and be recognized for achieving their highest potential. All potential violations to this community academic integrity standard (including plagiarism) will be taken seriously and reviewed through NYUAD's Academic Integrity Procedure. Link: <https://students.nyuad.nyu.edu/campus-life/community-standards/policies/academic-integrity/>

IM Lab and Tool Training

Tool training is mandatory for using the IM LAB (Room C3 029).