History 2880

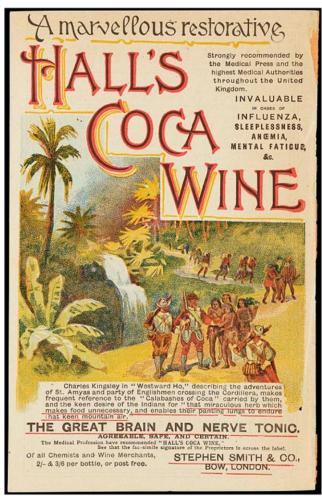
Drugs, Chemicals, and Health in Global History

Prof. Evan Hepler-Smith Fall 2018

MWF // 9-9:50am // Stokes Hall 215N

heplers@bc.edu // Office Hours: MW 3-5pm, Stokes 274

We live in a world full of synthetic chemicals: drugs, plastics, pesticides, high-tech materials, and countless other products that have transformed human lives and environments. This course will help you evaluate synthetic products and natural alternatives by uncovering the global history of chemicals and pharmaceuticals, from the nineteenth century through the present day. Have these products brought about "better living through chemistry" or toxic hazards? What makes something "natural" or "synthetic," anyway? Using methods from environmental history and science & technology studies, this course connects histories of chemical innovation and production, the positive and negative health effects of chemical products, and political controversies over chemical toxicity.



Advertisement for Hall's Coca Wine, circa 1890s.

[Wellcome Images, https://wellcomeimages.org/indexplus/image/L0063964.html, accessed 21 June 2018]

Goals

After taking this class, students will have gained an understanding of:

- Chemicals and drugs: Students will understand the origins, circulation, and effects of a collection of chemicals and pharmaceuticals that have been landmark determinants of human health, and their role in global history from the 16th century to the present day. They will be able to describe how natural, cultural, and economic processes interact to generate threats to human health and in efforts to address these threats.
- Comparative and connected global history: Students will understand how both differences in local culture and the history of empire, colonialism, anti-colonialism, and international development have affected human health in both global north and global south. They will be able to draw connections between histories of political and economic systems, histories of race and racism, histories of environments and natural resources, and histories of health and disease in communities around the world.
- Comparative science and medicine: Students will understand western biomedicine, non-western health traditions, and the division between the two as human-made achievements shaped by human values. They will be able to analyze health, disease, toxicity, and therapeutics as combinations of biology and culture.
- *Skills*: Students will have sharpened their skills in:
 - o **critical reading and contextual analysis**, through examination of primary-source texts and objects and consideration of the historical settings in which they were produced, including within the Material History project.
 - individual and collaborative verbal reasoning, through weekly responses, in-class discussion of texts and objects, and an oral presentation component of the Material History project.
 - o **written communication and argumentation**, including crafting historical arguments, identifying plausible alternative arguments, and justifying their chosen position, through written components of the Material History project.
- Integrating disciplines: Students will appreciate how histories of science and medicine can inform approaches from other disciplines, through an interdisciplinary component of the Material History project.
- Individual and collaborative reflection: Students will be able to situate everyday surroundings and choices within histories of global health, to recognize connections and inconsistencies among their personal values, actions, and global health concerns, to communicate with others about these values and concerns, and to listen to and comprehend values and concerns that differ from their own.

Lots of goals. We're up to the challenge!

Course requirements:

• Participation 20%

• Midterm exams 1 & 2 15% each

Material history assignments I–V
 10% each

Participation: To do your part in making for a productive class (and receive full credit):

a) read each week's assigned texts before our discussion session (usually Friday);

- b) **respond** to our weekly discussion question/exercise by 4pm on Thursday;
- c) attend class, arriving on time, and
- d) engage in our discussions as both **speaker** and **listener**.

Required Book: Marcy Norton, *Sacred Gifts, Profane Pleasures: A History of Tobacco and Chocolate in the Atlantic World* (Ithaca: Cornell University Press, 2008). *Available at BC bookstore by the end of Week 1, or online.*

Readings: We will read primary sources (produced in historical contexts by historical actors) and secondary sources (analyses by historians and other scholars), including images, film, and other media as well as written texts. All sources will be available on Canvas, except for the required book and where otherwise noted. Each Friday, I will email a brief guide to the following week's reading, which may occasionally contain a few *brief* media clips to supplement the readings listed on the syllabus.

Responses: Friday reading guide emails will also include discussion questions or exercises, most often addressing the readings for the week. Before <u>4pm on Thursday</u>, please submit a response to this question (appx. 150-200 words is great). I encourage you to be informal and exploratory in these responses—ask questions, identify areas of confusion, make connections. Unless I indicate otherwise, please **email** these responses to me.

Midterm examinations: We will have two **cumulative** examinations on October 15 and November 19. I will post exam formats on Canvas well in advance of each midterm.

Material history: As a semester project, you will select a chemical or drug and investigate its history, life cycle, and beneficial and/or harmful consequences for human health. You will develop this project through five separate assignments, the first due in late September and the last in December. This project will give you the chance to address your material of choice from the perspective of your field of study and/or other scholarly and creative perspectives you'd like to explore. (You're also welcome to stick to standard methods of primary-source-based historical research.) We'll meet to discuss your material of choice and your plans for the assignments. It's going to be totally great. Details at end of syllabus.

Collaboration and academic integrity: You are warmly encouraged to consult with one another and with others outside of class in studying for exams, on your research, and on your writing and presentations. All work that you submit for evaluation should reflect your own research, thinking, and writing about the topic. This course is subject to the university's <u>Academic Integrity policy</u>—make sure that you're familiar with it. If you have questions on collaboration, please ask!

Attendance: You are responsible for all material covered during all of our class meetings. And since productive discussions depend on you, you are required to be present for all discussion sessions. You are permitted one "personal day" absence from a discussion session, no questions asked. Additional absences will be excused provided you a) submit a note from a physician or documentation of <u>required</u> university activities and b) complete a make-up assignment.

Classroom collegiality: We will grapple with some challenging and disturbing ideas, events, writings, and images. I will do my best to make sure you know what's coming; if you have concerns, please let me know. Please also maintain civil respect for your colleagues and the perspectives, experiences, and identities that they bring to this class, including through frank questions and sincere arguments. Personal attacks are out of bounds.

Electronics: You are welcome to use laptops and tablets in class for accessing readings and taking notes. *Only course-related uses of electronics are permitted during class time*, and all mobile devices must be silenced and put away. Repeated digital distractions will negatively impact your participation grade.

Deadlines: A *half letter grade per day* (A to A-, A- to B+, etc.) will be deducted from assignments submitted after the deadline listed on the syllabus, except with prior consultation and written consent of the instructor. Questions? Ask!

Unforeseen conflicts: If you anticipate trouble, speak with me as soon as possible. If you can inform me of serious adverse circumstances in advance, we can make accommodations that are fair to you and your fellow students. It is more difficult to do so after the fact.

Disability and inclusion: If you have a documented disability, please notify me within the first two weeks of the semester and provide me with a letter from the <u>Disability Services Office</u> or <u>The Connors Family Learning Center</u> regarding accommodations that will help you succeed in this course. If you have other concerns about classroom inclusiveness, please talk with the Connors Center and with me. I will work with you!



Spraying DDT in Oregon, 1955.

[USDA Forest Service, Pacific Northwest Region, State and Private Forestry, Forest Health Protection. Portland Station Collection, image PS-1429; https://www.flickr.com/photos/151887236@N05/32213742634/]

Week 1: Introduction

 Lissa Roberts, "Exploring Global History through the Lens of History of Chemistry: <u>Materials, Identities and Governance</u>," *History of Science* 54, no. 4 (December 1, 2016): 335–61.

Monday, August 27 What is global health?

Wednesday, August 29 Discussion: Putting drugs and chemicals into global history

UNIT 1: INDIGENOUS MATERIALS TO MATTERS OF EXCHANGE (TO 1850)

Week 2: Indigenous practices: drugs & chemicals in place

- Norton, Sacred Gifts, 1–43, 63–83 (introduction, chapters 1 & 3).
- John Lawson, *The History of Carolina* (Raleigh: Strother & Marcom, 1860 [1709]), 353–361.
- Rosalyn R. LaPier, "Why Native Americans Do Not Separate Religion from Science," The Conversation, April 20, 2017,

http://theconversation.com/why-native-americans-do-not-separate-religion-from-science-75983.

Friday, August 31 Cultures of health and disease

Monday, September 3 NO CLASS—LABOR DAY

Wednesday, September 5 Precious metals and precious plants

Friday, September 7 Discussion: Global vs. indigenous materials, drugs, & toxicity

Week 3: Drugs, chemicals, and people on the move

Material history meetings (please <u>make an appointment</u>)

- Norton, *Sacred Gifts*, 84–128, 141–172 (chapters 4–5 and 7).
- "Cinchona," in Jacob Bigelow, A Treatise on the Materia Medica (C. Ewer, 1822), 126– 133.
- Alfred W. Crosby, Ecological Imperialism: The Biological Expansion of Europe, 900-1900 (Cambridge: Cambridge University Press, 2015 [1986]), 1-12, 195-216.
- Charles E. Rosenberg, "Framing Disease," in *Framing Disease: Studies in Cultural History*, ed. Charles E. Rosenberg and Janet Lynne Golden (New Brunswick: Rutgers University Press, 1992), xiii–xvi.

Monday, September 10 Drugs, metals, and people in global commerce

Wednesday, September 12 Disease on the move

Friday, September 14 Discussion: Historicizing disease

UNIT 2: INDUSTRY, EMPIRE, AND GLOBAL CHEMISTRY (1830-1950)

Week 4: Colonialism and tropical medicine

Material history meetings (please make an appointment)

- Jeremy Greene et al., "Colonial Medicine and Its Legacies," in <u>Reimagining Global Health: An Introduction</u>, ed. Paul Farmer et al. (Berkeley: University of California Press, 2013), 33–73.
- Amitav Ghosh, Sea of Poppies (New York: Farrar, Straus and Giroux, 2008), 3–22, 83–91, 96–109.
- Jas. F. W. Johnston, <u>The Chemistry of Common Life</u> (New York: D. Appleton, 1855), 58-85.
- Rudyard Kipling, "The White Man's Burden," *McClure's*, February 1899.

Monday, September 17 Monocropping and medicine

Wednesday, September 19 Opium pushers

Friday, September 21 Discussion: Historicizing race and health

Week 5: The synthetic world

- Hugo Schweitzer, "The Influence of Sir William Henry Perkin's Discovery Upon Our Science," Science 24, no. 616 (1906): 481–88.
- T. K. Gajjar, "Welcome Address," in *The Industrial Conference Held at Surat, December 1907* (Madras: G.A. Natesan, 1907), 1–21.
- Rebecca Altman, "How the Benzene Tree Polluted the World," The Atlantic, October 4, 2017, https://www.theatlantic.com/science/archive/2017/10/benzene-tree-organic-compounds/530655/.
- Projit Bihari Mukharji, *Doctoring Traditions: Ayurveda, Small Technologies, and Braided Sciences* (University of Chicago Press, 2016), 1–8, 227–56.

Monday, September 24 Quinine, indigo & synthetic organic chemistry

Wednesday, September 26 Synthetic drugs and chemicals go global

Friday, September 28 Discussion: Tradition, industrialization, & "braided sciences"

Week 6: War and nature

Edmund Russell, War and Nature: Fighting Humans and Insects with Chemicals from World War I to Silent Spring (New York: Cambridge University Press, 2001), 1–16, 95–144.

- Gregg Mitman, "Forgotten Paths of Empire: Ecology, Disease, and Commerce in the <u>Making of Liberia's Plantation Economy</u>," Environmental History 22, no. 1 (January 1, 2017): 1–22.
- DDT advertisements, 1940s-1950s

Monday, October 1 War and health **Material History Assignment I due**

Wednesday, October 3 American chemical empires: rubber, oil, plastic

Friday, October 5 Discussion: War, nature, and global health

UNIT 3: DEVELOPMENT & THE CHEMICAL COLD WAR (1950-1980)

Week 7: Decolonization and development in the "third world"

- "Declaration of the United Nations Conference on the Human Environment," in <u>Report of the United Nations Conference on the Human Environment</u>, Stockholm, 5-16 <u>June 1972</u>, A/CONF.48/14/Rev.1 (New York: United Nations, 1973), 3-5.
- World Health Organization, "Prophylactic and Therapeutic Substances," Twenty-Eighth World Health Assembly, Geneva, 13-30 May 1975 (Geneva: World Health Organization, 1975), 35-36 and 96-110.
- Jeremy A. Greene, "Making Medicines Essential: The Emergent Centrality of Pharmaceuticals in Global Health," BioSocieties 6, no. 1 (March 1, 2011): 10–33.
- Ivan Illich, "To Hell with Good Intentions" (Speech, April 20, 1968), http://ciasp.ca/CIASPhistory/IllichCIASPspeech.htm.
- Rachel Naomi Remen, "Serving is Different from Helping and Fixing," 2013.

Monday, October 8 NO CLASS—COLUMBUS DAY / INDIGENOUS PEOPLES' DAY

Wednesday, October 10 The chemical Cold War in the Global South Friday, October 12 Discussion: Drugs, health, and development

Monday, October 15 MIDTERM 1 (Weeks 1-6)

Week 8: Feeding the world, ending disease: Cold War chemical utopias

• Paul R. Ehrlich, *The Population Bomb* (New York: Ballantine Books, 1968), 15–67.

 Norman Borlaug, "The Green Revolution, Peace, and Humanity" (Nobel Peace Prize Lecture), 1970.

 Vandana Shiva, <u>The Violence of the Green Revolution: Third World Agriculture</u>, <u>Ecology, and Politics</u> (Lexington: The University Press of Kentucky, 2016 [1991]), 19–60.

Wednesday, October 17 The Green Revolution

Friday, October 19 Discussion: Debating the Green Revolution

Monday, October 22 Malaria eradication

Week 9: Production and reproduction

C. B. Davenport, "<u>The Eugenics Programme and Progress in Its Achievement</u>," in
 Eugenics: Twelve University Lectures (New York: Dodd, Mead and Company, 1914),
 1-14.

- Gabriela Soto Laveaga, "<u>Uncommon Trajectories: Steroid Hormones, Mexican Peasants, and the Search for a Wild Yam,</u>" Studies in History and Philosophy of Science Part C: Studies in History and Philosophy of Biological and Biomedical Sciences 36, no. 4 (December 1, 2005): 743–60.
- Michelle Murphy, <u>The Economization of Life</u> (Durham: Duke University Press, 2017), 1–14, 47–54, 95–104.
- Michel Foucault, The Birth of Biopolitics: Lectures at the Collège de France, 1978-79, trans. Graham Burchell (New York: Palgrave Macmillan, 2008), 317-325.

Wednesday, October 24 Eugenics and hormones: controlling reproduction

Friday, October 26 Discussion: How many babies? Who decides?

Unit 4: Residues and Resistance (1980-2018)

Week 10: AIDS & the making of contemporary global health

- João Biehl, "Pharmaceuticalization: AIDS Treatment and Global Health Politics," Anthropological Quarterly 80, no. 4 (2007): 1083–1126.
- Randy Shilts, *And the Band Played On: Politics, People, and the AIDS Epidemic* (New York: St. Martin's Press, 1987), 466-503.

 Susan Sontag, Aids and Its Metaphors (New York: Farrar, Straus, Giroux, 1989), 24-37, 60-71, 80-95.

Monday, October 29 AIDS: morals, medicine, drugs, justice

Wednesday, October 31 Discussion: AIDS, stigma, and global health as crisis response

Material History Assignment II due

Friday, November 2 NO CLASS

Week 11: Environmentalism, environmental justice, and sovereignty

- Rachel Carson, *Silent Spring* (Boston: Houghton Mifflin, 2002 [1962]), 219–243.
- Eve Tuck, "Suspending Damage: A Letter to Communities," *Harvard Educational Review* 79, no. 3 (2009): 409–28.
- Elizabeth Hoover et al., "Indigenous Peoples of North America: Environmental
 Exposures and Reproductive Justice," Environmental Health Perspectives 120, no. 12
 (December 2012): 1645–49.
- Thomas Jukes, "DDT, Human Health and the Environment," *Boston College Environmental Affairs Law Review* 1 (1971), 534-564.

Monday, November 5 Silent Spring to Bhopal, Minamata to Madre de Dios

Wednesday, November 7 Humans and nonhumans, sovereignty and justice

Friday, November 9 Discussion: Environmentalism & global health, friends or foes?

Week 12: Drug addiction, pharma skepticism, and pharma justice

- Ivan Illich *Medical Nemesis: The Expropriation of Health* (New York: Pantheon Books, 1976), 12–19, 28–32, 53–70.
- Dwaipayan Banerjee, "Markets and Molecules: A Pharmaceutical Primer from the South," *Medical Anthropology* 36, no. 4 (May 19, 2017): 363–80.
- Julie Livingston, Keith Wailoo, and Barbara M. Cooper, "Vaccination as Governance," in *Three Shots at Prevention: The HPV Vaccine and the Politics of Medicine's Simple Solutions*, ed. Keith Wailoo et al. (Baltimore: Johns Hopkins University Press, 2010), 231-253.
- Fran Quigley, "Opinion | Escaping Big Pharma's Pricing With Patent-Free Drugs," The New York Times, January 20, 2018, sec. Opinion.

Monday, November 12 Pharma justice

Wednesday, November 14 Opiates, pain, and politics

Friday, November 16 Discussion: Cheaper drugs or fewer drugs?

Week 13: Thanksgiving

Monday, November 19 Midterm 2 (Weeks 1-12)

UNIT 5: DRUGS, CHEMICALS, AND GLOBAL ENTANGLEMENTS

Week 14: Global health today: Cycles and limits

- Norton, *Sacred Gifts*, 257–266 (epilogue).
- Sarah Milov, "Smoking as Statecraft: Promoting American Tobacco Production and Global Cigarette Consumption, 1947–1970," *Journal of Policy History* 28, no. 4 (October 2016): 707–35, https://doi.org/10.1017/S0898030616000312.
- Paul Anastas and Nicolas Eghbali, "Green Chemistry: Principles and Practice," Chemical Society Reviews 39, no. 1 (December 14, 2009): 301–12, http://pubs.rsc.org.proxy.bc.edu/en/Content/ArticleLanding/2010/CS/B918763B.
- Rebecca D. O'Brien and Thomas Mashberg, "Suburbia's Deadly Secret," *The Record*,
 2013, http://www.pulitzer.org/finalists/rebecca-d-obrien-and-thomas-mashberg.

Monday, November 26 Tobacco: full circle

Wednesday, November 28 Other roads: green chemistry and self-sufficiency

Material History Assignment III due

Friday, November 30 Discussion: Addiction, politics, and reporting

Guest presenter: Rebecca D. O'Brien

Week 15: Global health today: making a difference

- Sarah Whitmee et al., "Safeguarding Human Health in the Anthropocene Epoch: Report of The Rockefeller Foundation–Lancet Commission on Planetary Health," *The Lancet* 386, no. 10007 (November 14, 2015): 1973–1979, 2017-2019.
- Peter Howitt et al., "Technologies for Global Health," The Lancet 380, no. 9840 (August 2012): 507–35.
- Jason Kass, "Bill Gates Can't Build a Toilet," The New York Times, November 18, 2013, sec. Opinion.

Monday, December 3 Discussions with student groups and local organizations
Wednesday, December 5 Discussions with student groups and local organizations

Friday, December 7 Discussion: Material History Presentations (Assignment IV)

Monday, December 10 Discussion: Material History Presentations (Assignment IV)

^{**}Material History Assignment V due by Friday, December 14 at 12pm**

Material History Project

Assignment I: Annotated bibliography

This assignment will get you started on research that you will draw on throughout this semester-long Material History project. It will also give me a chance to suggest additional sources that you might find helpful.

Using the online library catalog and other search techniques to be discussed in class, including browsing the stacks in O'Neill or another BC library, identify a collection of primary and secondary sources that might have something interesting to say about your substance of choice.

As you look over these sources and take notes on them, prepare a bibliography of **two to five secondary sources** and **two to five primary sources** that you have consulted.

For each *secondary* source, write a paragraph describing:

- The material(s) of interest to you that the author discusses.
- The author's historical argument(s) about this substance, its effects on human health, and/or how people in a specific context understood the substance and its effects.
- One or more ways in which you might build on or write against this argument in your project.
- Any information about the author's identity or background that might be relevant in evaluating their argument.

For each *primary* source, write a paragraph describing:

- The material(s) of interest to you that the source discusses.
- The kind of information about this substance that the source provides.
- The historical context in which the text was produced.
- The identity and background of the author (or why this is uncertain).
- One or more ways in which you might draw upon this source as evidence in your project.

Other requirements:

- At least one of your primary sources must come from before 1950.
- At least one primary or secondary source must address a setting outside the continental United States.
- Format each bibliographic citation according to a consistent style that gives readers the information they need to find the source (for one such format, Chicago style, see "Resources for Research and Writing" on Canvas).
- You must submit **visual documentation** (photographic or video) of your browsing the library stacks. (I recommend going in groups or bringing a friend!)

Assignment II: Read an object or image

This assignment will give you the change to build on the broad, exploratory work of your annotated bibliography to explore one historical source in greater detail.

Find an interesting object or image that contains, depicts, or otherwise pertains to your material.

Observe your image or object carefully, **documenting** your object with photo(s) and/or video(s) (if not already in digital form). What do you see (hear, feel, smell, taste, or otherwise experience, insofar as safe & legal!) in engaging your object? What connections might you make to what you've learned from sources you've read so far? What new questions about historical ideas and experience does your observation raise? Destructive methods of observation are permitted, if appropriate; be safe, stick within the bounds of university regulations, and don't destroy your object until you've documented it and are satisfied with your observations.

Write an essay of 4-6 pages (or longer, if you really want), consisting of the following parts:

First, in one short paragraph, a) identify your object or image (including its medium — digital or print reproduction; 3D digital rendering; physical object; etc.) and b) describe how and where you conducted your observations (one sustained hour at night in the library; three 10-minute observations during the morning outside dorm; etc.)

Second, in one longer paragraph, describe your object in detail based on your observation. This description should *not* incorporate historical connections. Just synthesize your observation notes into a full description of what *you* observed. It's okay — encouraged! — to note uncertainties in your observations and constraints imposed by the media. (For example, there are some things that are hard to figure out from a digital image.)

Third, drawing on evidence, arguments, and context from other sources, use your observations to shed light on the production, use, cultural significance, health consequences, and/or ideas about the health consequences of your Material History Project substance in a particular time and place. This can be the place and time in which the object/image was produced or a place or time that an object/image depicts or invokes (e.g. the 16th century scene in the late 19th century Coca Wine advertisement that we observed in class). Be sure to describe when and where your object was produced, the historical setting (if different) that it depicts or invokes, and your evidence for this. Be sure to **cite your sources**.

If the object/image provides evidence for comparing or connecting the significance of your substance in two difference places/times (e.g. 16^{th} century South America and late 19^{th} century England, for our Coca Wine advertisement), you may do so. However, this is not required. You are encouraged but not required to draw on sources that you have looked over in preparing your annotated bibliography. Note that secondary sources are especially good for providing context and historical arguments that you can agree with, disagree with,

and build on. Primary sources are especially good for providing specific bits of historical evidence to which you can connect evidence from your observation.

When you submit your assignment (via email), be sure to **include the photo or video documenting your object/image**. A link is fine, if you are addressing an online image.

Assignment III: Material biography or genealogy

Write a narrative analysis of the life cycle of a unit of your material, from extraction to disposal, at some particular historical moment. Pay attention to geography -- where does your material come from, where does it go, and whose health does it affect along the way?

OR

Write a narrative account of continuities and changes in how your material has been used in different global historical settings. Be sure to address continuities and changes in its effects on human health and in whose health it has affected.

Details to come.

Assignments IV-V: Bringing it all together

In the final two parts of your project, you will present a historical argument that integrates the work you've done in the first three parts. As mentioned in the project overview above, you will have a variety of options for how you approach this final portion of the project.

Details to come.



Residents protest a lead smelter near Mombasa, Kenya, in 2013. Photo by Norbert Allen, in Human Rights Watch, "Kenya: Toxic Lead Threatening Lives," 24 June 2014, https://www.hrw.org/news/2014/06/24/kenya-toxic-lead-threatening-lives, accessed 21 June 2018.