Development and Culture

Introduction to Planetary Health

as taught at

Hiroshima University
Graduate School of Humanities and Social Sciences

Autumn/Winter 2023
Room: IDEC 203
Intensive Course

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Office Hours: Monday, 17:00 - 18:00 (upon request), Zoom

Course Objective

The aim of this course is to develop an academic interest in how humans have altered social-ecological systems on a planetary scale, often called Anthropocene, and the consequences of such transformation for health, disease and well-being. Lectures will explore the complex interactions between the changing environment, forms of disease and the healthcare system by introducing students to major theme areas in the interdisciplinary field of planetary health, such as emerging infectious diseases, food waste or chemical pollution. In the subsequent seminars, participants will take a leading role in reviewing case studies from around the world through intensive group discussions. In addition, key concepts and methods in medical anthropology will be introduced to help students understand and interpret the changing relationship between health, disease and the environment in the 21st century. The course will be completed by an off-campus fieldtrip (half-day) and a take-home final paper.

Course Format

Lecture & seminar including discussions, student presentations and group work

Learning Goals

By the end of this course students should:

(1) be familiar with medical anthropology as a distinctive discipline at the crossroads of the social, human and medical sciences
(2) build up a solid knowledge of the broad nature, concepts and theories of planetary health
(3) be able to apply key theoretical approaches to explain the environmental factors of disease, particularly the recursive interaction of epidemiological and ecological drivers
(4) develop an academic interest in how humans have been altering the relationship between the environment and their health
(5) develop an interest in further comprehension of grassroots activism around planetary health
(6) be able to participate in collaborative work such as class discussion and group presentation assignments

Keywords

planetary health; Anthropocene; medical anthropology; disease; zoonosis, science and technology studies, resilience

Course Calendar

The course will consist of lectures, group discussions, case studies and practical exercises. For *Day 1 and Day 2*, everyone is required to read one chapter of the *textbook* before each class to prepare for the warm-up discussion QUESTIONS. For *Day 3*, everyone will be assigned a case study from the *anthology*. You will be required to PRESENT a summary that outlines the main points and interrogates some of the key issues of this case study and lead a DISCUSSION inspired by that text. On *Day 4*, you will participate in a roundtable discussion with other students that will lead to a short GROUP PRESENTATION.

Daily Schedule

Each "class" will be divided into three "sessions" conducted over half a day.

Session 1	09:00~09:50		Session 4	13:30~14:20
Session 2	10:00~10:50	*(Lunch)*	Session 5	14:30~15:20
Session 3	11:00~11:50 +		Session 6	15:30~16:20 +

DAY 1, Oct 14 | FOUNDATIONS

Orientation: About the class

#1 Introduction: What is planetary health?

**Required reading:* M&F Ch.1 "An Introduction to Planetary Health" (pp.3-16)

Recommended readings:

- Farman, Abou and Richard Rottenburg. 2019. Measures of future health, from the nonhuman to the planetary. An introductory essay. *Medicine Anthropology Theory* 6(3): 1–28. doi: 10.17157/mat.6.3.659
- Whitmee S, Haines A, Beyrer C, et al. 2015. Safeguarding human health in the Anthropocene epoch: Report of the Rockefeller Foundation–Lancet Commission on planetary health. *Lancet* 386(10007):1973-2028.
- Watanabe, Toru and Watanabe Chiho. 2019. Ecohealth and human ecology as underlying theoretical background. In *Health in Ecological Perspectives in the Anthropocene*. Watanabe Toru and Watanabe Chiho eds., pp.1–12. Springer.

Class Discussion

#2 Ecologies 1: Population, consumption, technology

**Required reading:* M&F Ch.3 "Population, Consumption, Equity, and Rights" (pp.37-70)

Recommended readings:

- Yates-Doerr, Emily and Kenneth Maes. 2019. Global health. In *Cambridge Encyclopedia of Anthropology*. Cambridge: University of Cambridge. https://doi.org/10.29164/19ghealth
- McElroy, Ann and Patricia K. Townsend. 2015. The ecology of health and disease (Chapter 1). In *Medical Anthropology in Ecological Perspective*. Sixth edition., pp. 1–32. Boulder, Oxford: Westview Press.

Class Discussion

#3 Ecologies 2: Changing environments and planetary boundaries

**Required reading:* M&F Ch.4 "A Changing Planet" (pp.71-110)

Recommended readings:

- Moore, Amelia. 2016. Anthropocene anthropology: Reconceptualizing contemporary global change. *Journal of the Royal Anthropological Institute* 22(1): 27–46. doi: 10.1111/1467-9655.12332
- Steffen W, Broadgate W, Deutsch L, Gaffney O, Ludwig C. 2015. The trajectory of the Anthropocene: The Great Acceleration. *The Anthropocene Review* 2(1): 81–98.
- Nguyen, Gia Thanh, Jian Pu, and Toru Watanabe. 2019. Floods and foods as potential carriers of disease between urban and rural areas. In *Health in Ecological Perspectives in the Anthropocene*. Watanabe Toru and Watanabe Chiho eds., pp. 133–145. Springer.

DAY 2, Oct 15 | TOPICS

#4 Heat 1: Energy and health

**Required reading:* M&F Ch.12 "Energy and Planetary Health" (pp.285–324)

Recommended readings:

- Climate Reality Project. N.A. *Extreme Weather and the Climate Crisis*. https://www.climaterealityproject.org/extremeweather (last accessed on September 23, 2023).
- Fukushi Kensuke. 2019. Health Risk Assessment for Planning of a Resilient City in the Changing Regional Environment. In *Health in Ecological Perspectives in the Anthropocene*. Watanabe Toru and Chiho Watanabe eds., pp. 109-116. Singapore: Springer.
- He, Cheng et al. 2022. The effects of night-time warming on mortality burden under future climate change scenarios: a modelling study. *Lancet Planetary Health* 6: e648–57.
- Singer, Merrill, Jose Hasemann & Abigail Raynor. 2016. "I Feel Suffocated:" Understandings of Climate Change in an Inner City Heat Island. *Medical Anthropology* 35(6): 453-463, DOI: 10.1080/01459740.2016.1204543.

Class Discussion

Class #5 Metabolism 1: Biodiversity and nutrition

**Required reading:* M&F Ch.5 "Food and Nutrition on a Rapidly Changing Planet" (pp.113-140)

Recommended readings:

- Cuj, Miguel, Lisa Grabinsky and Emily Yates-Doerr. 2021. Cultures of nutrition: Classification, food policy, and health. *Medical Anthropology* 40(1):79–97.
- McElroy, Ann and Patricia K. Townsend. 2015. The ecology and economics of nutrition (Chapter 5). In *Medical Anthropology in Ecological Perspective*. Sixth edition., pp. 169–216. Boulder, Oxford: Westview Press.
- Willett, Walter, Johan Rockström and Brent Loken, et al. 2019 Food in the Anthropocene: The EAT-Lancet Commission on healthy diets from sustainable food systems. *Lancet* 393 (10170):447–492.

Class #6: Pollution 1: Living on a toxic planet

**Required reading:* M&F Ch .14 "Controlling Toxic Exposures" (pp.359-386)

Recommended readings:

- Bean, Tom G., Alistair B.A. Boxall, Julie Lane, Katherine A. Herborn, Stéphane Pietravalle, and Kathryn E. Arnold. 2014. Behavioural and physiological responses of birds to environmentally relevant concentrations of an antidepressant. *Philosophical Transactions of The Royal Society of London Series B - Biological Sciences* 369(1656): 0130575.
- Kopnina, Helen. 2016. Asthma and air pollution: Connecting the dots. In *A Companion to the Anthropology of Environmental Health.* Merrill Singer, ed., pp. 142–156. San Francisco, CA: WileyBlackwell.
- Langwick, Stacey. 2018. A politics of habitability: Plants, healing and sovereignty in a toxic world. *Cultural Anthropology* 33(3): 415-443. doi: 10.14506/ca33.3.06
- Mohácsi, Gergely. 2021. Toxic remedies: On the cultivation of medicinal plants and urban ecologies. *East Asian Science, Technology and Society: An International Journal* 15(2):192–210, doi: 10.1080/18752160.2021.1897738
- Pathak, Gauri and Mark Nichter. 2019. The anthropology of plastics: An agenda for local studies of a global matter of concern. *Medical Anthropology Quarterly* 33(3): 307–326. doi: 10.1111/maq.12514

Class Discussion

Class #7: Zoonosis 1: Animal farming and pandemics

**Required reading:* M&F Ch.6 "Planetary Health and Infectious Disease" (pp.141-164)

Recommended readings:

- Brown, Hannah and Alex M. Nading. 2019. Introduction: human animal health in medical anthropology. *Medical Anthropology Quarterly* 33(1): 5–23. doi: https://doi.org/10.1111/maq.12488
- Sandhu, Harman, Anish Arora, Saadia Sarker, Bindra Shah, Anusha Sivendra, Emily Winsor, and Anahat Luthra. 2021. Pandemic prevention and unsustainable animal-based consumption. *Bulletin of the World Health Organization* 99(8): 603–605. doi:10.2471/blt.20.276238.
- Rock, Melanie and Chris Degeling. 2016. Toward "One Health" Promotion. In *A Companion to the Anthropology of Environmental Healt*h. Merrill Singer ed., pp. 68-82. San Francisco, CA: WileyBlackwell.

DAY 3, Jan 13 | CASE STUDIES

Class #8 Heat 2: Haze and asthma

**Assigned readings:* Duff et al. eds. 2020

- Chapter 01 "Health and Haze" (pp.32-81)
- Chapter 03 "Medical Clinics for Planetary Health" (pp.130-175)

Class #9 Metabolism 2: Food system and local change

**Assigned readings:* Duff et al. eds. 2020

- Chapter 05 "Putting Food Needs First" (pp.220-267)
- Chapter 07 "Today's Solutions for the Future of Food" (pp.314-359)

Class Discussion

Class #10: Zoonosis 2: Conservation and health promotion

**Assigned readings:* Duff et al. eds. 2020

- Chapter 02 "Dams and Disease" (pp.82-129)
- Chapter 06 "Typhoid and Torrents" (pp.268-313)

Class #11: Pollution 2: Drug resistance

(film and discussion)

Resistance Fighters: The Global Antibiotics Crisis (dir. Michael Wech, 2019)

**Required reading:* Duff et al. eds. 2020. Chapter 04 Going Circular" (pp.176-219)

Recommended readings:

- Harper, Kristin N., Gabriela M. Sheets, George J. Armelagos. 2016. Modifying our microbial environment: From the advent of agriculture to the age of antibiotic resistance. In *A Companion to the Anthropology of Environmental Health*. Merrill Singer, ed., pp. 373–395. San Francisco, CA: WileyBlackwell.
- Landecker, Hannah. 2016. Antibiotic resistance and the biology of history. *Body & Society* 22(4): 19–52.
- Tang, Karen L., Niamh P. Caffrey, Diego B. Nóbrega. 2017. Restricting the use of antibiotics in food-producing animals and its associations with antibiotic resistance in food-producing animals and human beings: a systematic review and meta-analysis. *Lancet Planetary Health* 1:316–327.

Class Discussion

DAY 4, Jan 14 | WRAP-UP

Class #12/13: Field trip

Class #14: Mini workshop

Class #15: Wrap-up

Independent Study Outside of Class

Participants of this course will be required to read c.20-30 pages from the textbook and of other sources before each class. In addition, each student will be in charge of presenting one case study for which they should read the assigned chapter (c. 50 pages) and prepare a handout until the day of the presentation.

Assignments

First and foremost, *(A) an engaged and thoughtful participation* in class discussion is central. In the first half of the course, students should come to class having read and understood the required chapter in the textbook. To prepare for the warm-up discussion questions, you will need to take notes on the main themes of each chapter and think about how these points relate to topics covered in other classes of the course. In addition, each participant will be asked to present *(B) a summary of a case study* from the anthology and lead a discussion inspired by that text. The presentation should outline the main points and interrogate some of the key issues of the case study (c. 4 pages handout, 15 minutes presentation). On the last day of the course, students will participate in a roundtable discussion with their peers designed to reflect on the key themes covered throughout the course. This will lead to a short (C) final collaborative paper of a grassroots project proposal that connects a particular type of environmental change to a specific human health outcome based on the last day's file trip.

Grading and Evaluation

Grading is based on the classwork, active participation in discussion, and the evaluation of midterm presentation and final group project. Attendance at 80% of all classes (12<) is required.

A: Class exercises & participation.....40%
B: Mid-term individual presentation (case study).....30%
C: Final report (field trip).....30%

Further Remarks on Class Conduct

1 Textbook. It is recommended that you download and/or purchase the textbook and the anthology (see in "Required and assigned readings" section), which will help you in following the reading requirements and preparing for the workshop at the end of the term. A limited number of the textbooks will be available on reserve.

2 Language. The language of the course is English, as well as all reading assignments.

3 Plagiarism. Plagiarism of any sort, including the use of online content, is not allowed. If you are not sure about what is or is not considered plagiarism, consult the instructor.

4 Completion of writing assignments. All writing assignments must be uploaded to the Dropbox folder before the due date.

5 Class notes and audio-visual materials. Instruction in this class is augmented with a variety of complementary materials, such as video excerpts, slideshows or direct quotes from primary sources. *Students are responsible for taking notes on these materials and incorporating them into their papers.*

6 Missed fieldwork and/or presentation. There will be no make-up exam without adequate documentation (such as a doctor's or counseling certificate).

Course readings

Required and assigned readings

Myers, Samuel and Howard Frumkin, eds. 2020. *Planetary Health: Protecting Nature to Protect Ourselves*. Washington, DC: Island Press. (textbook, "M&F")

Duff, Hilary, Carlos Faerron Guzmán, Amalia Almada, Christopher Golden and Samuel Myers eds. 2020. *Planetary Health Case Studies: An Anthology of Solutions*. Planetary Health Alliance. (anthology, "Duff et al. 2020")

Recommended readings

BOOKS

McElroy, Ann and Patricia K. Townsend. 2015. *Medical Anthropology in Ecological Perspective*. Sixth edition. Boulder, Oxford: Westview Press.

Singer, Merrill, ed. 2016. *A Companion to the Anthropology of Environmental Health.* San Francisco, CA: WileyBlackwell.

Watanabe, Toru and Watanabe Chiho, eds. 2019. *Health in Ecological Perspectives in the Anthropocene*. Springer.

Zywert, Katharine and Stephen Quilley, eds. 2020. Health in the Anthropocene: Living Well on a Finite Planet. Toronto: University of Toronto Press.

ARTICLES

Adams, Vincanne. 2013. Evidence-based global public health. In *When People Come First: Critical Studies in Global Health*. João Biehl and Adriana Petryna, eds., 54–90. Princeton, NJ: Princeton University.

Bean, Tom G., Alistair B.A. Boxall, Julie Lane, Katherine A. Herborn, Stéphane Pietravalle, and Kathryn E. Arnold. 2014. Behavioural and physiological responses of birds to environmentally relevant concentrations of an antidepressant. *Philosophical Transactions of The Royal Society of London Series B - Biological Sciences* 369(1656): 0130575.

Brown, Hannah and Alex M. Nading. 2019. Introduction: human animal health in medical anthropology. *Medical Anthropology Quarterly* 33(1): 5–23. doi: https://doi.org/10.1111/maq.12488

Cuj, Miguel, Lisa Grabinsky and Emily Yates-Doerr. 2021. Cultures of nutrition: Classification, food policy, and health. *Medical Anthropology* 40(1): 79–97.

Farman, Abou and Richard Rottenburg. 2019. Measures of future health, from the nonhuman to the planetary. An introductory essay. *Medicine Anthropology Theory* 6(3): 1–28. doi: 10.17157/mat.6.3.659

Fejerskov, Adam Moe. 2017. The new technopolitics of development and the Global South as a laboratory of technological experimentation. *Science, Technology, & Human Values* 42(5): 947–68. doi: 10.1177/0162243917709934

Kuriyama, Shigehisa. 2008. The forgotten fear of excrement. *Journal of Medieval and Early Modern Studies* 38: 413– 42.

Landecker, Hannah. 2016. Antibiotic resistance and the biology of history. *Body & Society* 22(4): 19–52.

Langwick, Stacey. 2018. A Politics of habitability: Plants, healing and sovereignty in a toxic world. *Cultural Anthropology* 33(3): 415-443. doi: 10.14506/ca33.3.06

MacKenzie, Adrian. 2014. Having an anthropocene body: Hydrocarbons, biofuels and metabolism. *Body & Society* 20(1):3-30.

Malhi, Yadvinder. 2014. The metabolism of a human-dominated planet. In *Is the planet full?* Ian Goldin, ed., pp. 142–163. Oxford: Oxford University Press.

Mohácsi, Gergely. 2021. Toxic remedies: On the cultivation of medicinal plants and urban ecologies. *East Asian Science, Technology and Society: An International Journal* 15(2):192–210, doi: 10.1080/18752160.2021.1897738

Moore, Amelia. 2016. Anthropocene anthropology: Reconceptualizing contemporary global change. *Journal of the Royal Anthropological Institute* 22(1): 27–46. doi: 10.1111/1467-9655.12332

Moran-Thomas, Amy. 2013. A Salvage ethnography of the guinea worm: Witchcraft, oracles and magic in a disease eradication program. In *When People Come First: Critical Studies in Global Health*. João Biehl and Adriana Petryna, eds., 207–240.. Princeton, NJ: Princeton University.

Rock, Melanie and Chris Degeling. 2016. Toward "One Health" Promotion. In *A Companion to the Anthropology of Environmental Health*. Merrill Singer ed., pp. 68-82

Pathak, Gauri and Mark Nichter. 2019. The anthropology of plastics: An agenda for local studies of a global matter of concern. *Medical Anthropology Quarterly* 33(3): 307–326. doi: 10.1111/maq.12514

Sandhu, Harman, Anish Arora, Saadia Sarker, Bindra Shah, Anusha Sivendra, Emily Winsor, and Anahat Luthra. 2021. Pandemic prevention and unsustainable animal-based consumption. *Bulletin of the World Health Organization* 99(8): 603–605. doi:10.2471/blt.20.276238.

Steffen W, Broadgate W, Deutsch L, Gaffney O, Ludwig C. 2015. The trajectory of the Anthropocene: The Great Acceleration. *The Anthropocene Review* 2(1): 81–98.

Tang, Karen L., Niamh P. Caffrey, Diego B. Nóbrega. 2017. Restricting the use of antibiotics in food-producing animals and its associations with antibiotic resistance in food-producing animals and human beings: a systematic review and meta-analysis. *Lancet Planetary Health* 1:316–327.

Whitmee S, Haines A, Beyrer C, et al. 2015. Safeguarding human health in the Anthropocene epoch: Report of the Rockefeller Foundation–Lancet Commission on planetary health. *Lancet* 386(10007):1973-2028.

Willett, Walter, Johan Rockström and Brent Loken, et al. 2019 Food in the Anthropocene: The EAT-Lancet Commission on healthy diets from sustainable food systems. *Lancet* 393 (10170):447–492.

Yates-Doerr, Emily and Kenneth Maes. 2019. Global Health. In *Cambridge Encyclopedia of Anthropology*. Cambridge: University of Cambridge. https://doi.org/10.29164/19ghealth