Advanced Topics in Communication Theory Construction: Paradigmatic Issues in Communication Theory and Research

CI 751-001 Course Syllabus/Fall 2022 Mondays 2:00-4:45 p.m., 209 Patterson Hall

Course Website: Canvas LMS [https://uk.instructure.com]

"We have many concepts but few confirmed theories; many points of view, but few theorems; many 'approaches' but few arrivals. Perhaps a shift in emphasis would be all to the good" (Merton, 1966)

"A theory is a set of interrelated constructs (concepts), definitions, and propositions that present a systematic view of phenomena by specifying relations among the variables, with the purpose of explaining and (or) predicting the phenomena." (Kerlinger, 1986)

"The primary goal in studying communication theory should be the discovery of common patterns of thought that will provide broader and more useful theoretical structures. Behavior can be both understood and improved through systematic study. Theory is a tentative explanation invented to assist in understanding some small or large part of the "reality" around us. Ideally, theoretical concepts are measurable and propositions testable and therefore subject to refutation. A theory comes into prominence when it is noticed and pursued by the scientific community, and it passes into history when better explanations are found." (Donohew & Palmgreen, 2003)

A paradigm can be viewed as a set of basic beliefs (or metaphysics) that deals with ultimates or first principles (Guba & Lincoln, 1994). It represents a worldview that defines, for its holder, the nature of the "world", the individual's place in it, and the range of possible relationships to that world and its parts. A paradigm in a scientific field (in this case, a social science field as well as a communication, psychological and cognitive science) is a coherent set of concepts, principles, assumptions, and basic axioms that have come to be accepted by a sufficiently significant number of researchers or practitioners in the field (Kuhn, 1962, 1970).

GENERAL COURSE INFORMATION

CI 751-001 Class meets: 2:00 a.m. - 4:45 a.m. Mondays 209 Patterson Hall

INSTRUCTOR CONTACT INFORMATION

Derek R. Lane, Ph.D.

Email: Derek.Lane@uky.edu Office Location: 235 Blazer Dining, 343 S. Martin Luther King Blvd.

Office: 859.218.0468 Communication Department Office: 859.257.3622

Zoom Office Hours: 11:00 a.m. – 12:00 noon (Mondays and Wednesdays)

1:00 p.m. – 2:00 p.m. (Mondays) And by appointment

https://uky.zoom.us/my/drlane

COURSE DESCRIPTION

This required doctoral seminar provides an intensive examination of selected topics important to the construction, development, and testing of communication theories and problems. **Prerequisite:** Completion of required first-year Ph.D. curriculum.

This course is *required* for second-year communication doctoral students.

GENERAL COURSE OBJECTIVES

- 1. Students will be introduced to the process of theory construction, development, testing, and modification.
- 2. Students will be introduced to the process of paradigmatic thinking to provide a foundation and perspectives for theoretical concerns.

- a. Introduce the major paradigms used in constructing communication theory (e.g., **scientific** objectivist/post-positivist, **interpretive**/humanistic, **critical**).
- b. Compare the methods and objectives of each in terms of actual communication problems.
- c. Identify with at least one of the major paradigms as a personal preference.
- 3. Students will identify and analyze examples of each paradigm in a specific context of communication research.
- 4. Students will conduct a critical analysis of theory, applied to a specific area of communication study, that may constitute the first steps in defining a dissertation focus
- 5. Students will develop a foundation for how paradigmatic approaches and application of theory either help or hinder scholarly communication research.
- 6. Students will be introduced to current theoretical and methodological challenges in social science research.

Course Objectives from Previous Semesters

- a. To provide the student with an appreciation of the multiple perspectives available for theory construction.
- b. To promote understanding of basic communication problems.
- c. To increase understanding of controversies related to communication theory.
- d. To provide students with a 'toolkit' for developing definitions of constructs, their interrelationships, their embeddedness in contexts, and their limiting conditions.
- e. To provide students with an opportunity to integrate these components into their own coherent framework which demonstrates their ability to perform future creative work in theory construction.

REQUIRED TEXTBOOKS*

American Psychological Association. (2022). Publication manual of the American Psychological Association (7th ed.). Author.

Dubin, R. (1978). Theory building (Revised Edition). New York, NY: The Free Press.

(out of press—available in the canvas shell)

Okasha, S. (2016). Philosophy of science: A very short introduction (2nd ed.). Oxford University Press.

*Other readings will be available in the **canvas site**, as assigned, including paradigmatic readings **you will identify throughout the semester.**

RECOMMENDED REFERENCE BOOKS

Communication Science

Berger, C., & Chaffee, S. (Eds.). (1987). Handbook of Communication Science. Sage.

Berger, C. R., Roloff, M. E., & Roskos-Ewoldsen, D. R. (Eds.). (2010). The Handbook of Communication Science (2nd Ed.). Sage.

Salwen, M. B. & Stacks, D. W. (Eds.). (1996). An integrated approach to communication theory and research. Lawrence Erlbaum Associates.

Schramm, W. (1997). The beginnings of communication study in America: A personal memoir. Sage.

Publishing

Knapp, M. L., & Daly, J. A. (2014). A guide to publishing in scholarly communication journals. (3rd Ed.). International Communication Association.

Philosophy of Science

Polkinghorne, D. (1983). Methodology for the human sciences: Systems of inquiry. Albany, NY: State University of New York Press.

Reynolds, P. D. (2006). A primer in theory construction. Routledge.

Zetterberg, H. L. (1966). On theory and verification in sociology (3rd ed.). Bedminster Press.

Research Methods/Statistics

Field, A. (2017). Discovering statistics using IBM SPSS (5th ed.). Sage.

Rubin, R. B., Rubin, A. M., & Haridakis, P. M. (2009). Communication research: Strategies and sources (7th ed.). Wadsworth.

Research Measures

Graham, E. E., & Mazer, J. P. (Eds.) (2020). Communication research measures III: A sourcebook. Routledge.

Rubin, R. B., Palmgreen, P. & Sypher, H. E. (1994). Communication research measures I: A sourcebook. Guilford Press.

Rubin, R. B., Rubin, A. M., Graham, E. E., Perse, M., & Seibold, D. R. (Eds.). *Communication research measures II: A sourcebook* (pp. 43-56). Routledge.

INSTRUCTIONAL STRATEGIES

This course operates as a doctoral seminar. This means that students are expected to come to class having *read* and *thought about* assigned readings and that everyone will participate in an active and informed manner in **class discussions**. Course objectives, readings, and assignments are designed so that students will leave with an informed understanding of the major paradigmatic perspectives and the foundations and process of theory construction. Some class sessions will be devoted to **discussion and critique** of the papers you present. Accordingly, you will have the opportunity to critique (and hopefully) improve each other's work. The ability to substantially modify your work in response to criticism (your own and others) is critical to your professional development. At the end of this seminar, I want you to know which paradigmatic perspective you embrace and be able to competently defend that choice. I also want you to be able to use what you learn in this course to advance your own research agenda.

COURSE ASSIGNMENTS

Written Assignments

Graphical Model: Drawing on Dubin (1978), you will prepare a graphical model of a theory of your choice, illustrating your understanding of Dubin's depictions of theory construction. <u>Due September 26</u>.

Personal Paradigm Statement: You will write a personal statement describing your paradigmatic position (i.e., you are putting your stake in the ground) and defending why you have adopted this position. <u>Due November 7</u>.

Research Problem Application: With a partner, you will be assigned a major area of communication research in which you have expressed interest. Identify a significant research problem in the area and then review the literature and determine the extent to which it has been investigated from the perspective of each of the three major paradigms we cover in class. Write a summary of your findings, noting strengths and weaknesses of each paradigmatic approach as evidenced in the research literature. <u>Due November 14</u>.

Theory Critique: For this assignment, you will identify a theory you think will be helpful in your dissertation research. You will review in detail the research that employs this theory, analyzing how the theory guides the research; identifying weaknesses, gaps, and contradictions; and discussing how you think the theory will guide you in your research and what modifications/extensions you believe will be necessary for your work and why. <u>Due December 5.</u> (or earlier if you want to get it off your plate).

In-Class Presentations

Graphical Model (9/26) and Personal Paradigm Statement (11/7): Completely informal, these presentations will give you the opportunity to share your creativity and paradigmatic position with the class.

Research Problem Application: With your partner, you will take up to 15-20 minutes to present the findings from your literature review, after which we'll have up to 10 minutes of Q&A. After both presentations, as a class we will discuss how each perspective informs each of the research areas, the strengths/weaknesses of each perspective, and the extent to which the approaches may or may not be "compatible" with specific research questions. This is meant to be a creative, engaging, and fun assignment.

Theory Critique: This will be the oral presentation of your theory critique paper. You will have 20 minutes to give a polished and professional presentation of your paper, and we'll have a Q&A session after each presenter. Papers are due and presentations are scheduled for December 5 (or earlier if you want).

Class Discussion: Because good discussion is **so important** to the success of this course, I expect everyone to participate wholeheartedly. Although class discussion is not a presentation, per se, it is oral participation and will comprise a significant portion of your grade.

COURSE EVALUATION

I hope grades will not be emphasized in this course as the major reinforcement for which doctoral students strive. At the same time, I realize that grades do hold contingencies for you and, therefore, I will make every effort to be as objective, impartial, and fair as possible. In keeping with this goal, I solicit your involvement and feedback. The following guidelines will be used to establish the final grade for the course:

Points will be distributed in the following manner:

Written Assignments

Graphical Models	75 points
Personal Paradigm Statement	100 points
Research Problem Application	175 points
Theory Critique	200 points

In-Class Presentations

Total Points

Graphical Model	50 points
Personal Paradigm Statement	50 points
Research Problem Presentation	100 points
Theory Critique Presentation	150 points
Class Discussion	<u>100 points</u> *
	1000 points

Final grades will be determined using the standard scale of 90-100% = A, 80-89% = B, 70-79% = C, <70%=E. Specifically, 1000 - 900 = A, 899 - 800 = B, and 799 - 700 = C, Less than 700 = E.

*During class, I will be paying close attention to everyone's participation in discussion, assessing not only quantity but also quality of participation. After each class, I will assign a grade for your participation on a plus/minus scale to reflect things like the significance of the issues you identified, the insightfulness of your observations, the questions you asked, and so forth. An "A+" will receive 100 points, an "A" will receive 95 points, an "A-" will receive 90 points, a "B" will receive 85 points, etc. These points will be averaged at the end of the semester to determine the number of points you receive for class discussion. Participation will be graded for all classes except Day 1.

Attendance. I expect that you will attend class and be on time for each session. If you have a problem that prevents you from doing so, you should contact me **before** class begins. **If you miss two or more classes, I will encourage you to withdraw from the course**. If you miss a class for an excused absence, that class will not factor into your participation grade.

Writing Skills. I expect that you will demonstrate good writing skills. You should be able to compose grammatically correct sentences, write well-developed paragraphs, and express your ideas in a well-organized, coherent manner following appropriated APA 7th edition guidelines.

Oral Skills. I also expect that you will demonstrate excellent oral communication skills. You will be participating in discussion of required course materials and making formal presentations. During discussions, you should be able to extemporaneously present your observations and arguments in a **clear** and **concise** manner. Your objective will be not only to help your fellow class members understand the material but also to show the relevance of your observations and arguments. I expect that formal presentations will be polished and, if appropriate, include polished slide decks.

Analytical Skills. I expect that you have some background in empirical research methods that will allow you to analyze the literature you will be reading. If your background is minimal, see me for some suggested readings.

Completion of Assignments. I expect that you will turn your assignments in on time. All written assignments are due at the beginning of class on the due date or by the designated time if the due date does not correspond with a regular class meeting. All assignments should be proofread carefully before you submit them. Work that is challenged at the level of grammar, spelling, or punctuation will be penalized up to 10 percentage points. Work that does not meet APA standards also will be penalized up to 10 percentage points. Late work will be reduced by 10 percentage points for each day it is late. Also, remember that you are expected to complete reading assignments before due dates!

Academic Integrity. I expect that you will do your own work. Any student guilty of cheating or plagiarism as defined in the Students' Rights and Responsibilities Code (http://www.uky.edu/StudentAffairs/Code/part2.html; especially see sections 6.3.1 on plagiarism and 6.3.2 on cheating) will be sanctioned with an E grade for the course. Although University of Kentucky policy stipulates the minimum penalty for an academic offense is a zero on the assignment, I have discretion as the instructor to impose a harsher penalty if I elect to—and in a graduate course, I elect to. We will be going over a "Plagiarism 101" handout together so that I will have as much assurance as possible that I've made myself clear and that you really understand and appreciate what plagiarism is and how to avoid it.

Reasonable Accommodation Policy. If you have a special need that requires accommodation or assistance, let me know as soon as possible (with appropriate documentation), but **no later than Monday, August 29**, so we can work to make reasonable accommodations that ensure you can fully demonstrate your abilities and benefit from this course.

Fairness Policy. The University of Kentucky is committed to social justice. I concur with that commitment and expect to maintain a positive learning environment based upon open communication, mutual respect, and non-discrimination. UK does not discriminate on the basis of race, color, national origin, age, sex, religion, or disability. Any suggestions as to how to further such a positive and open environment in this class will be appreciated and given serious consideration.

GENERAL CLASS REQUIREMENTS

Students are expected to:

- 1. Be on time for all class and team meetings.
- 2. Interact productively in class discussions.
- 3. Be prepared daily for discussions by reading all assigned material BEFORE the day it is listed on the course schedule. **Be** certain to say something smart and improve on the silence.
- 4. Successfully deliver several informal and formal presentation.
- 5. Submit all written assignments TYPED through the canvas shell at the designated due date and time.

PLAGIARISM: Senate Rules 6.3.1 (see http://www.uky.edu/Faculty/Senate/ for the current set of Senate Rules) states that all academic work, written or otherwise, submitted by students to their instructors or other academic supervisors, is expected to be the result of their own thought, research, or self-expression. In cases where students feel unsure about a question of plagiarism involving their work, they are obliged to consult their instructors on the matter before submission. When students submit work purporting to be their own, but which in any way borrows ideas, organization, wording, or content from another source without appropriate acknowledgment of the fact, the students are guilty of plagiarism. Plagiarism includes reproducing someone else's work (including, but not limited to a published article, a book, a website, computer code, or a paper from a friend) without clear attribution. Plagiarism also includes the practice of employing or allowing another person to alter or revise the work, which a student submits as his/her own, whoever that other person may be. Students may discuss assignments among themselves or with an instructor or tutor, but when the actual work is done, it must be done by the student, and the student alone. When a student's assignment involves research in outside sources or information, the student must carefully acknowledge exactly what, where and how he/she has employed them. If the words of someone else are used, the student must put quotation marks around the passage in question and add an appropriate indication of its origin. Making simple changes while leaving the organization, content, and phraseology intact is plagiaristic. However, nothing in these Rules shall apply to those ideas, which are so generally and freely circulated as to be a part of the public domain. Please note: Any assignment you turn in may be submitted to an electronic database to check for plagiarism.

COVID-19 POLICIES

The University of Kentucky follows all current federal, state, and local guidelines related to quarantine and isolation. Students are expected to follow University policy regarding COVID safety requirements. Any student who is non-compliant will be reported to the Office of Student Conduct. For more information, follow the resource links below.

Coronavirus Resource Links

Coronavirus Website https://coronavirus.uky.edu/covid-19-guidance UK Health Corps- healthcorps@uky.edu or 859-218-SAFE. Request a Vaccination - https://ukhealthcare.uky.edu/covid-19/vaccine Schedule a test - https://wildhealthcovid19testing.as.me/schedule.php

DIVERSITY AND INCLUSION

The College of Communication and Information is committed to fostering a diverse, welcoming, empowering, and inclusive community. We believe that diversity and inclusion are drivers of excellence, collaboration, creativity, and success. We strongly support intellectual freedom and the right to hold diverse perspectives, while at the same time condemning all forms of hatred and oppression.

IMPORTANT CONTACTS

Help Desk at 218-HELP (4357)

Distance Learning Programs Office: 859-257-3377

Distance Learning Services, Carla Cantagallo, DL Librarian: 859-257-0500, ext. 2171; or 800-828-0439 (option#6);

dllservice@email.uky.edu

PERSONAL NOTE

I'm looking forward to having you in class and getting to know you as we work through our semester together. One of my goals is for you to leave this seminar with a solid understanding of the knowledge claims and research methods of the three major paradigms we cover, which will allow you to become a stronger graduate student. Another goal is to make the course engaging, stimulating, and enjoyable! I've worked hard to not make the amount of reading overwhelming and to make the assignments manageable and complementary. With that said, the material in this course is challenging, and this course is meant to challenge you. Don't become discouraged, though! Learning in this course is a process; it takes time for the process to work. To see that it does, I am committed to quality teaching. I will strive to make class time well organized, fully interactive, relevant, and intellectually stimulating. But I need you to commit to the course, as well! Come to class having read and thought about the week's readings. A class like CI 751 works only if the instructor and students are fully committed to it. This can be a great experience. Please help me make it so! Along the way, if there is anything that I can do to make this course more relevant to you, your work, and your research interests, let me know. Take advantage of my office hours and email. I have an open-door policy, and I'm willing to help. Just ask!

Classes begin Monday, August 22, 2022

August 22 Introduction, Background, Overview

Dubin, R. (1978). Theory building (Rev. ed.). The Free Press. (Preface, Introduction, Chapters 1-2)

Littlejohn, S. (2001). Theories of human communication (7th ed.). Wadsworth. (Chapter 1 [pp. 9-17 only] and Chapter 2)

Berger, C. R. (2011). In point of practice: From explanation to application. Journal of Applied Communication Research, 39(2), 214-222.

August 29 Theory Construction: Units and Laws of Interaction

Dubin, R. (1978). Theory building (Rev. ed.). The Free Press. (Chapters 3-5)

Griffin, E. (2012). A first look at communication theory (8th ed.; pp. 125-130). McGraw-Hill.

Berger, C. R. & Calabrese, R. J. (1975). Some explorations in initial interaction and beyond: Toward a developmental theory of interpersonal communication. *Human Communication Research*, 1, 99-112.

September 12 Theory Construction: Boundaries, System States, and Propositions

Dubin, R. (1978). Theory building (Rev. ed.). The Free Press. (Chapters 6-8)

Theiss, J. A., & Solomon, D. H. (2008). Parsing the mechanisms that increase relational intimacy: The effects of uncertainty amount, open communication about uncertainty, and the reduction of uncertainty. *Human Communication Research*, 34, 625-654.

September 19 Theory Construction: Empirical Indicators and Hypotheses

Dubin, R. (1978). Theory building (Rev. ed.). The Free Press. (Chapters 9-10)

Barbour, J. B., Rintamaki, L. S., Ramsey, J. A., & Brashers, D. E. (2012). Avoiding health information. *Journal of Health Communication*, 17, 212-229.

September 26 Theory Construction: Research

Share Dubin graphical models

Dubin, R. (1978). Theory building (Rev. ed.). The Free Press. (Chapter 11)

Donohew, L., & Palmgreen, P. (2003). Constructing theory. In G. Stempel, III, D. H. Weaver, & G. C. Wilhoit (Eds.), *Mass Communication Research and Theory* (pp. 111-128). Allyn and Bacon.

Bradac, J. J. (2001). Theory comparison: Uncertainty reduction, problematic integration, uncertainty management, and other curious constructs. *Journal of Communication*, *51*, 456-476.

Brashers, D. E. (2001). Communication and uncertainty management. Journal of Communication, 51, 477-497.

October 3 Orientation to Paradigmatic Approaches

Okasha, S. (2016). Philosophy of science: A very short introduction (2nd ed.). Oxford University Press. (Chapters 1-5)

Hanna, J. F. (1991). Critical theory and the politicization of science. Communication Monographs, 58(2), 202-212.

Anderson, J. A., & Baym, G. (2005). Philosophies and philosophic issues in communication, 1995-2004. *Journal of Communication*, 54(4), 589-615.

Harrington, N. G., Francis, D. B., & Occa, A. (in press). Theoretical and methodological matters in health communication: Navigating current and future directions. In T. L. Thompson & N. G. Harrington (Eds.), *The Routledge handbook of health communication* (3rd ed.). Routledge.

October 10 Take Stock/Catch Our Breath/Get Our Bearings

October 17 Scientific/Objectivist/Post-Positivist Perspective

- Bostrom, R., & Donohew, L. (1992). The case for empiricism: Clarifying fundamental issues in communication theory. *Communication Monographs*, *59*, 109-129.
- Bylund, C. L., & Makoul, G. (2005). Examining empathy in medical encounters: An observational study using the empathic communication coding system. *Health Communication*, 18(2), 123-140.
- Passmore, J. (1967). Logical positivism. In P. Edwards (Ed.). The encyclopedia of philosophy Vol. 5 (pp. 52-57). New York: Macmillan & Free Press.
- Pavitt, C. (1999). The third way: Scientific realism and communication theory. Communication Theory, 9, 162-188.
- Venetis, M. K., Staples, S., Robinson, J. D., & Kearney, T. (2019). Provider information provision and breast cancer patient well-being. *Health Communication*, 34(9),1032-1042.
- Plus other readings: One exemplar article of research from the scientific perspective from each team (due 10/10)

October 31 Interpretive/Humanistic Perspective

- Delia, J. (1977). Constructivism and the study of human communication. Quarterly Journal of Speech, 63(1), 66-83.
- Goldsmith, D. J., & Domann-Scholz, K. (2013). The meanings of "open communication" among couples coping with a cardiac event. *Journal of Communication*, 63, 266-286.
- Golden, A. G., & Pomerantz, A. (2015). Interpretative repertoires that shape low-income African American women's reproductive health care seeking: "Don't want to know" and "Taking charge of your health." *Health Communication*, 30(8), 746-757.
- Plus other readings: One exemplar article of research from the interpretive perspective from each team (due 10/17)

November 7 Critical Perspective

Share personal paradigm statements

- Deetz, S. (2005). Critical theory. In S. May & D. K. Mumby (Eds.), Engaging organizational communication theory & research: Multiple perspectives (pp. 85-111). Sage.
- Goins, E. S., & Pye, D. (2013). Check the box that best describes you: reflexively managing theory and praxis in LGBTQ health communication research. *Health Communication*, 28(4), 397-407.
- Eisenberg, E. M., Baglia, J., & Pynes, J. E. (2006). Transforming emergency medicine through narrative: Qualitative action research at a community hospital. *Health Communication*, 19(3), 197-208.
- Plus other readings: One exemplar article of research from the critical perspective from each team (due 10/31)

November 14 Research Problem Application Presentations – Team Presentations

Readings to be assigned: Three exemplar readings from each team (due 11/07)

November 21 Theory Development and Modification

- Head, K. J., & Noar, S. M. (2014). Facilitating progress in health behaviour theory development and modification: the reasoned action approach as a case study. *Health Psychology Review, 8,* 34-52.
- Schwarzer, R. (2014). Life and death of health behaviour theories. Health Psychology Review, 8, 53-56.
- Rhodes, R. E. (2014). Improving translational research in building theory: A commentary on Head and Noar. *Health Psychology Review*, 8, 57-60.
- Kok, G., & Ruiter, R. A. C. (2014). Who has the authority to change a theory? Everyone! A commentary on Head and Noar. *Health Psychology Review*, 8, 61-64.
- Noar, S. M., & Head, K. J. (2014). Mind the gap: bringing our theories in line with the empirical data a response to commentaries. Health Psychology Review, 8, 65-69.
- Hall, J. A., & Schmid Mast, M. S. (2009). Five ways of being "theoretical": Applications to provider–patient communication research. *Patient Education and Counseling*, 74, 282-286.

November 28 It's a WEIRD World, and We're Having a Crisis in Science

- Henrich, J., Heine, S. J., & Norenzayan, A. (2010). The weirdest people in the world. *Behavioral and Brain Sciences, 33*(2/3), 1-75. Aarts, A. A., and the Open Science Collaboration. (2015). *Estimating the reproducibility of psychological science.* (2015). *Science, 349*(6251), 943-950.
- Gilbert, D. T., King, G., Pettigrew, S., & Wilson, T. D. (2016). Comment on "Estimating the reproducibility of psychological science." *Science*, 351(6277), 1037a.
- Anderson, C. J., Bahník, Š., Barnett-Cowan, M., Bosco, F. A., Chandler, J., Chartier, C. R., Cheung, F., Christopherson, C. D., Cordes, A., Cremata, E. J., Della Penna, N., Estel, V., Fedor, A., Fitneva, S. A., Frank, M. C., Grange, J. A., Hartshorne, J. K., Hasselman, F., Henninger, F., ... Zuni, K. (2016). Response to comment on "Estimating the reproducibility of psychological science." *Science*, 351(6277), 1037c.

Muthukrishna, M., & Henrich, J. (2019). A problem in theory. Nature Human Behavior, 3, 221-229.

December 5 Theory Critique Presentations; Toward Integration of Theory/Research and Making a Difference

Berger, C. R. (2010). Making a differential difference. *Communication Monographs*, 77(4), 444-451. Okasha, S. (2016). *Philosophy of science: A very short introduction* (2nd ed.). Oxford University Press. (Chapter 7)