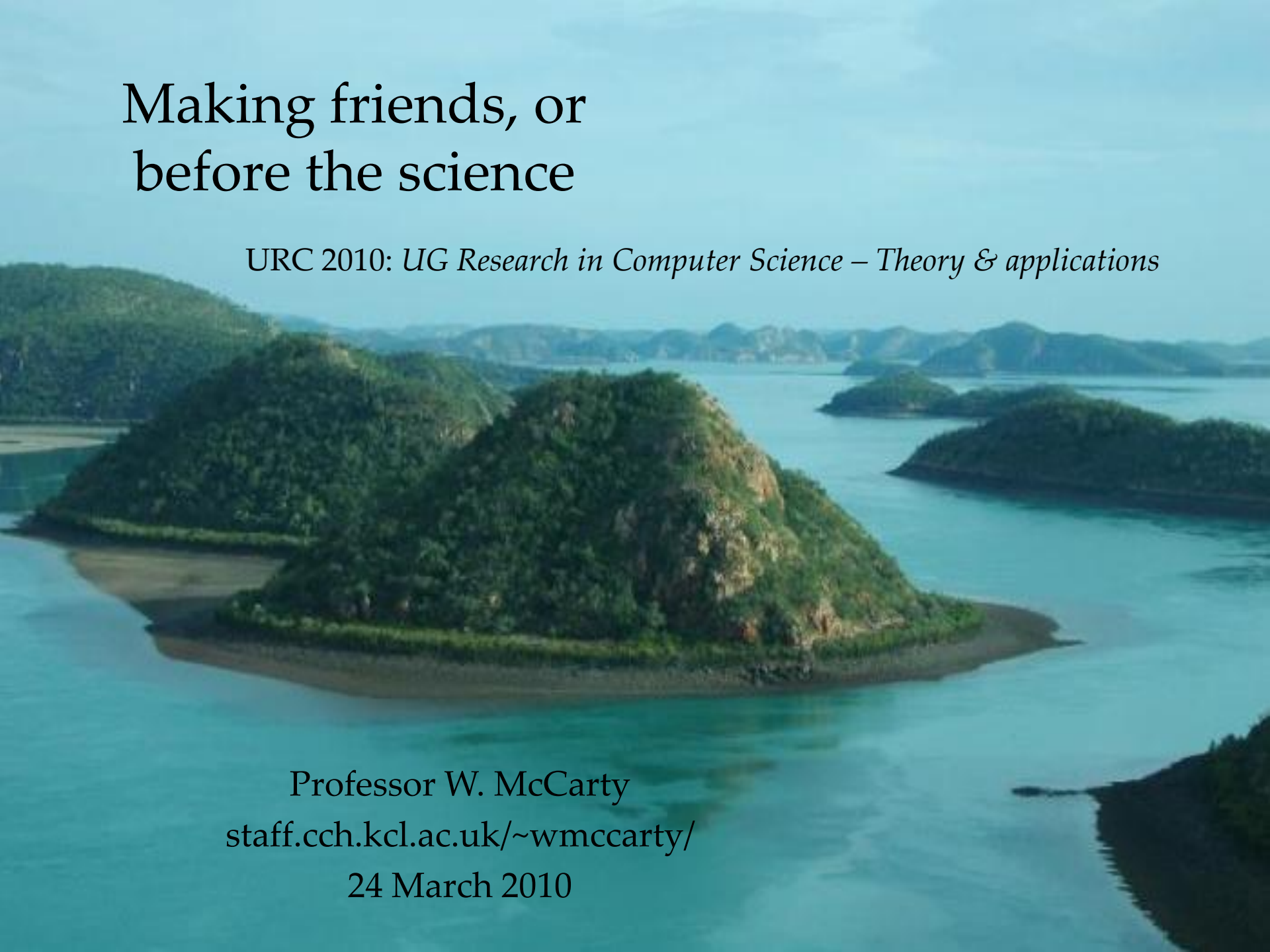
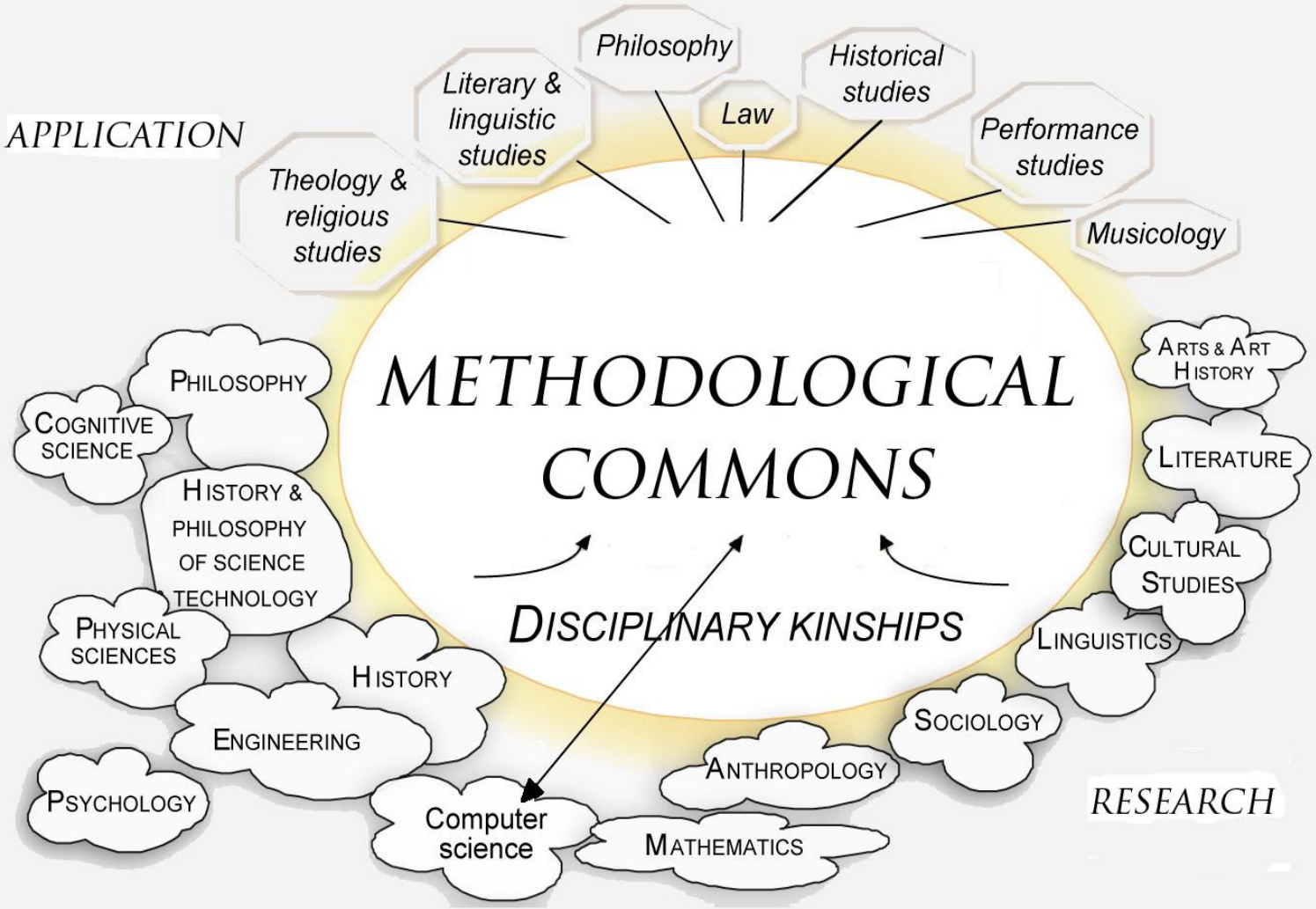
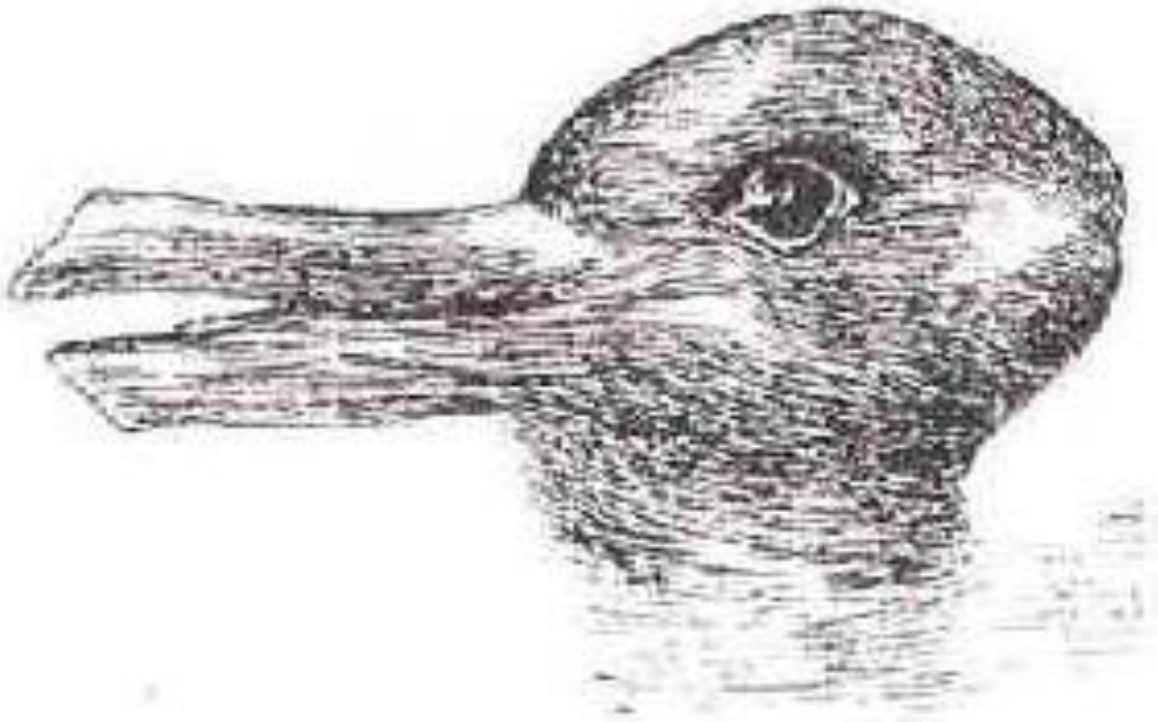
Making friends, or before the science

URC 2010: *UG Research in Computer Science – Theory & applications*



Professor W. McCarty
staff.cch.kcl.ac.uk/~wmccarty/
24 March 2010


APPLICATION
Philosophy
Literary & linguistic studies
Law
Historical studies
Theology & religious studies
Performance studies
Musicology
METHODOLOGICAL COMMONS
DISCIPLINARY KINSHIPS
PHILOSOPHY
COGNITIVE SCIENCE
HISTORY & PHILOSOPHY OF SCIENCE TECHNOLOGY
PHYSICAL SCIENCES
HISTORY
ENGINEERING
PSYCHOLOGY
Computer science
MATHEMATICS
ANTHROPOLOGY
SOCIOLOGY
LINGUISTICS
CULTURAL STUDIES
LITERATURE
ARTS & ART HISTORY
RESEARCH



Joseph Jastrow, *Fact and Fable in Psychology* (Boston, 1900): 295; see John F. Kihlstrom, "Joseph Jastrow and His Duck", socrates.berkeley.edu/~kihlstrm/JastrowDuck.htm.

Exploring disciplines

Professor W. McCarty
staff.cch.kcl.ac.uk/~wmccarty/
Spring 2010

WEEK 1. INTRODUCTION

(12/1)

Lecture.

Overview of the course, its subject, structure and aims; its rationale and outcomes; readings and participation in seminars. The imperative of interdisciplinarity from the situation we are in: great digital abundance accessed by primitive string-searching; the tradeoff this imposes and the shift in style of research. The dangers and opportunities.

Tutorial/demonstration. Rapid (re)introduction to the KCL Library collection of online resources; demonstration of topics emergent across several, quite disparate disciplines, and the value of taking these properly into account.

READINGS (recommended *prior* to the first meeting)

Becher and Trowler 2001: 23-57

Richards 1955

WEEK 2. THE INTERDISCIPLINARY SITUATION & SOME VIEWS ON IT
(19/1)

Seminar.
Is interdisciplinarity possible, and if so, to what degree? What can it possibly mean beyond simply poaching (i.e., acquiring ideas, sources or methods without respect to the context in which they are found)? Is poaching necessarily bad, and if not, how is it justified? If interdisciplinarity is coherent, possible and intellectually worthwhile, then "How thoroughly interdisciplinary is it possible to be?" (Beer 1996: 115). Two volunteers will be asked to present the case for the prosecution, one using Fish 1989, the other Hacking 2004. Discussion will then follow.

READINGS
Core:
(a) history & sociology of disciplines: Shumway and Messer-Davidow 1991; Burke 2000.
(b) challenges of interdisciplinarity: Beer 2006;
Volunteer:
(a) illegitimacy: Fish 1989 (with counter-argument in Liu 2008: 173-85);
(b) irrelevance: Hacking 2004.
Recommended:
(a) restrictions of disciplinarity: Dening 1996, esp. 39-41;
(b) changing conditions: Geertz 2000/1980; Rorty 2000;
(c) interdisciplinarity: Beer 1990 and 1996, esp. 115-17; Kuhn 1977; Frye 1988; Strathern 2004.

WEEK 3. BEACH-CROSSING STRATEGIES

(26/1)

Seminar.

The question for this seminar is how in theory to think one's way into a foreign way of thinking, writing and acting. The basic philosophical stance is pragmatic and relativist; the basic way of carrying out such work borrows from anthropology, for the ethnographic idea of participant-observation, applied to "epistemic cultures" (Knorr Cetina 1991). We briefly consider artefacts as well as people. One volunteer will be asked to present the case for the ethnographic perspective on scientific knowledge, using Daston and Galison 1992.

READINGS

Core (in ethnography)**:**

(a) Geertz 2000/1974 (with reference to Geertz 2005: 56-9, on the flight from the Balinese police; and 1995: 11-13, on the first sight of Sefrou); Dening 2002

Volunteer:

(a) History of science: Daston and Galison 1992

Recommended:

(a) Pragmatics and relativism: Rorty 1979; Geertz 2000/1984;

(b) Ethnography in science: Knorr Cetina 1991: 115-18; Galison 1997: 435-6, 511, 781-844.

WEEK 4. THE WHOLE SPECTRUM (OR MOST OF IT)

(9/2)

Seminar.

A broad-brush look at the range of studies offered at university: first some notions of what distinguishes the natural sciences from the humanities; then the relation of the social sciences with both; then the fine arts and engineering; finally medicine. Five volunteers will present each of these large amalgams based on the readings.

READINGS

Core: Bruner 1986.

Volunteer:

(a) Natural sciences: Galison 2004;

(b) Social sciences: Lepenies 1988/1985;

(c) Arts: Schulz 1998/1935;

(d) Engineering: Ferguson 1977;

(e) Medicine: Ginzburg 1992/1979.

Recommended:

Lewontin 1991; Scriven 1994/1956; Vincenti 1990;

CASE STUDIES

WEEK 5. CASE STUDY: PHILOSOPHY

(23/2)

Seminar.

In this seminar we first take up the question of what philosophers do and what they need to do it. Then we consider the outside visitor's dilemma: given an instance in a long philosophical conversation, "how to distinguish what's central from what's peripheral in this other zone; how to tap into the hinterland of controversy that lies behind the works on the shelf; how to avoid becoming merely disciples because not in control of a sufficient range of knowledge" (Beer 2006). Five volunteers summarize various areas of philosophy and characterize the argumentation and resources needed, followed by a general discussion.

READINGS

Core: Williams 2000; Hacking 2005 or Nagel 1974.

Volunteer:

(a) Language: Austin 1975/1955: 1-11;

(b) Cognition: Dennett 1978;

(c) Science: Hacking 1981;

(d) Epistemology: Ryle 2000/1949;

(e) Ethics: Wittgenstein 1965/1929-30.

CASE STUDIES

WEEK 6. CASE STUDY: LITERARY STUDIES

(2/3)

WEEK 7. CASE STUDY: HISTORY

(9/3)

WEEK 8. CASE STUDY: ARCHAEOLOGY & EPIGRAPHY

(16/3)

WEEK 9. CASE STUDY: COMPUTER SCIENCE

(23/3)

Seminar.

Historian of computing Michael Mahoney has described computer science an *amalgam* (1997), i.e. an intimate, plastic mixture of different things (*OED*), suggesting that although the singular term is not a misnomer, the various concerns included under it remain quite distinct. Its history and the design of its foundational scheme, the Turing Machine, suggest that it will continue to get more diverse internally while at the same time remain a singular entity externally. Various computer scientists, such as Peter Denning, have attempted to articulate a unifying idea of computer science, but these serve mostly to provoke argument rather than to establish a consensus. Three volunteers will be asked to look at overviews of CS, an early but still useful attempt to deal with the public image of artificial intelligence and the revealing publication habits of computer scientists.

READINGS

Core: *Computing Classification System*; McCarty 2005: 158-98.

Volunteer:

(a) Overviews: Denning 1985; Mahoney 1997;

(b) Popular reception of artificial intelligence: McCorduck 1979;

(c) Bibliographic habits: *Communications of the ACM*.

WEEK 10. CONCLUDING DISCUSSION
(30/3)

Seminar.

The theoretical struggle to understand work within its original context, as a practitioner of the discipline in question would understand it, versus creative re-use, or what Beer calls "the traffic of the apparently *in*appropriate audience". Comparisons among the disciplines considered for their differing kinds of evidence, assumptions and methods. Practical problems and strategies: sampling, collecting, classifying. Keeping and organizing notes. The problem of audience for the interdisciplinary researcher. Reaching toward perspicuous simplicity.