

Psych 461 Fall 2008
Classic Cases in Human Neuropsychology

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Office hours : Fridays 1:30 – 2:30 or by appointment

Time: Fridays 9:30 am – 12:20 pm

Place: HH 334

Description:

Much of what we know about human behaviour has come from more than a century of single case studies – studies of individuals with unique or unusual pathologies. This honours level seminar will first examine the basic methodological approach used in single case studies and the limitations of those approaches before moving on to a more detailed examination of particular classic cases. The explicit intent of studying these cases will be to examine how the case informed our models of human behaviour with a view to exploring what advances have been made since that time.

Key things to learn include:

What makes a classic case, classic?

What is critical in single case methodology? What are the limitations of single case methodology?

How can classic cases enhance our understanding of the “normal” brain?

Assessment:

After the first few weeks of lectures the class will consist primarily of student presentations and group discussions. Students will be required to make a number of presentations to the class (the number will depend on the final enrollment size). The presentations will be of two kinds: the first will consist of presenting a classic case (based on a chapter selected from the book Classic Cases in Neuropsychology, Code, C., Wallesch, C-W., Joannette, Y., & Roch Lecours, A. (Eds.) published in 1996 – photocopies of the chapters to be used will be available for students to make their own copies and the book will be made available for purchase at the bookstore if students wish to purchase their own copy). The second type of presentation will explore more recent research relevant to the classic case being presented in the same class (each student will only be required to present once during any given class but twice during the course of the year). That is, the first presentation type requires the student to present a particular classic case to the class while the second type requires an examination how our models of the particular behaviour addressed by the classic case have advanced since. For example, patient H.M. who underwent bilateral temporal lobectomy surgery as a treatment for

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medication resistant epilepsy was first studied in the 1950's. His case showed that memory can be fractionated into distinct systems some of which (implicit memory) do not rely so heavily on the medial temporal lobes. In this instance, the student presenting the classic case of H.M. would use the book chapter and other sources to outline the case and its important findings to the class. The second presentation would explore how our models of memory functions have progressed or changed since the initial presentation of H.M.

The grades for presentations will depend on the number of presentations made and will be announced in the first or second class. Class participation will be worth 10% of the total grade with students expected to ask questions and engage in discussion on a regular basis. In addition, one or two students will be nominated each week to lead class discussion – this will be graded and is worth 10% of the final grade (so 10% for regular class participation and 10% for leading the discussion when assigned for a total of 20% towards the final grade coming from one form or another of in class participation). Finally, 35% - 50% (depending on the proportion of grades assigned to presentations which will depend on the number of presentations made) of the total grade will come from a written assignment (details below). **The due date for the written assignment is Friday November 7th.**

Written Assignment.

Students can choose one of the following two options for their written assignment:

Option 1:

Critique a modern (within the last five years) single case study. Try to include the following components:

- summarize the case and its major findings
- explore its historical antecedents
- what has this case added to the field?
- should it be considered a 'classic case'? why or why not?

Option 2:

Create your own (fictional) classic case. Your case should be one that provides key insights into the neuropsychological bases of one of the following functions:

- consciousness
- free will
- creativity
- motivation
- altruism

Be sure to include the following in your (fictional) account:

- description of the illness or lesion
- description of the tests used to highlight what was unique about your case

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- impact of the findings on the field – i.e., why should your case be considered a ‘classic’?

For this option (admittedly the harder – but more interesting – option) you must be careful to ground your fictional case study in reality. For instance, it will not be acceptable to talk about a patient with a frontal lesion who is now blind in one region of space (we know this to be extremely unlikely). So you have to create something that is surprising yet informative and plausible. I am happy to discuss plans for the assignment before it is due.

Lecture and Presentation Schedule

Week 1 September 12th Outline and Organisation

I will also be giving a presentation here on how to make a good presentation – this is a must see if you want to get hints at how to impress later in the course.

Week 2 September 19th Single Case History and Methodology

Paterson & Zangwill’s (1944) case of unilateral neglect. (CH 13)

I will present this case and the more recent work on neglect as an example of what I am expecting from student presentations.

The remainder of the course will consist of student presentations and class discussion as outlined above.

Week 3 September 26th

Broca’s first two cases: From bumps on the head to cortical convolutions. (CH 17)

Week 4 October 3rd

Charcot’s case of impaired imagery (CH 3)
Bodamer on Prosopagnosia (CH 6)

Week 5 October 10th

Poppelreuter’s case of Merk: The analysis of visual disturbances following a gunshot wound to the brain (CH 7)

Week 6 October 17th

Balint-Holmes’ Syndrome (CH 10)

Week 7 October 24th

Monrad Krohn’s Foreign Accent Syndrome Case (CH 12)

Week 8 October 31st

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Liepmann (1900 and 1905): A Definition of Apraxia and a Model of Praxis (CH 9)

- Week 9** **November 7th**
Akelaitis' Investigation of the First Split-Brain Patients (CH 21)
- Week 10** **November 14th**
H.M.: The Medial Temporal Lobes and Memory (CH 23)
- Week 11** **November 21st**
Phineas Gage: A Case for all Reasons (CH 18)
- Week 12** **November 28th**
A psychosurgical chapter in the history of cerebral localization: The six cases of Gottlieb Burkhardt (1891) (CH 20)

Avoidance of academic offences:

www.arts.uwaterloo.ca/arts/ugrad/academic_responsibility.html

Academic Integrity: To create and promote a culture of academic integrity, the behaviour of all members of the University of Waterloo is based on honesty, trust, fairness, respect and responsibility.

Discipline: A student is expected to know what constitutes academic integrity, to avoid committing academic offenses, and to take responsibility for his/her actions. A student who is unsure whether an action constitutes an offense, or who needs help in learning how to avoid offenses (e.g., plagiarism, cheating) or about "rules" for group work/collaboration should seek guidance from the course professor, academic advisor, or the Undergraduate Associate Dean. When misconduct has been found to have occurred, disciplinary penalties will be imposed under Policy 71 – Student Discipline. For information on categories of offenses and types of penalties, students should refer to Policy 71 - Student Discipline,

<http://www.adm.uwaterloo.ca/infosec/Policies/policy71.htm>

Grievance: A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. Read Policy 70 - Student Petitions and Grievances, Section 4,

<http://www.adm.uwaterloo.ca/infosec/Policies/policy70.htm>

Appeals: A student may appeal the finding and/or penalty in a decision made under Policy 70 - Student Petitions and Grievances (other than regarding a petition) or Policy 71 - Student Discipline if a ground for an appeal can be established. Read Policy 72 - Student Appeals, <http://www.adm.uwaterloo.ca/infosec/Policies/policy72.htm>