

**WELCOME TO THE  
MIND, BRAIN AND  
BEHAVIOUR  
TUTORIAL SERIES**

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**TODAY'S TUTORIAL**

- Tutor introduction
- "Getting to know you" exercise.
- What to expect from the Mind, Brain and Behaviour tutorial series.
- Important course information.
- Behavioural neuroscience discussion.

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**YOUR NAME**

- Your email
- Your room number
- Communication-via the discussion board too!

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## GETTING TO KNOW YOU

- ❖ The groups you are in now will be your groups for the whole semester
- ❖ Spend a few minutes swapping emails!!!
- ❖ Pair up with a partner and find out say three bits of information about them
  - ❖ Name
  - ❖ Why they are doing psychology
  - ❖ Something weird/wacky/cool about them!

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## MBB TUTORIALS

- ❖ One tutorial each week for the remainder of semester.
- ❖ 80% attendance hurdle requirement.
- ❖ Tutorials will provide information that is complimentary to all lectures: behavioural neuroscience, sensation and perception, and learning and cognition.
- ❖ Quantitative research methods in psychology.
- ❖ Essay preparation

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## MBB TUTORIALS

Assignment due 8am Friday 1 May via Turnitin

| LECTURES             |          |                   |          |            | LABS                    |
|----------------------|----------|-------------------|----------|------------|-------------------------|
| WEEK (Starting date) | Tuesday  | Wednesday         | Thursday |            |                         |
| 1                    | 2 March  | Intro             | BN       | BN         | No Lab                  |
| 2                    | 9 March  | BN                | BN       | BN         | Intro/BN                |
| 3                    | 16 March | BN                | BN       | BN         | BN                      |
| 4                    | 23 March | BN                | BN       | BN         | QM                      |
| 5                    | 30 March | S&P               | S&P      | S&P        | S&P*                    |
| 6                    | 6 April  | Non-teaching week |          |            |                         |
| 7                    | 13 April | S&P               | S&P      | S&P        | S&P                     |
|                      | 20 April | S&P               | S&P      | S&P        | QM                      |
| 8                    | 27 April | S&P               | S&P      | S&P        | QM                      |
| 9                    | 4 May    | L&C               | L&C      | L&C        | QM                      |
| 10                   | 11 May   | L&C               | L&C      | L&C        | L&C                     |
| 11                   | 18 May   | L&C               | L&C      | L&C        | L&C                     |
| 12                   | 25 May   | L&C               | L&C      | Conclusion | Wrap up/Report Returned |

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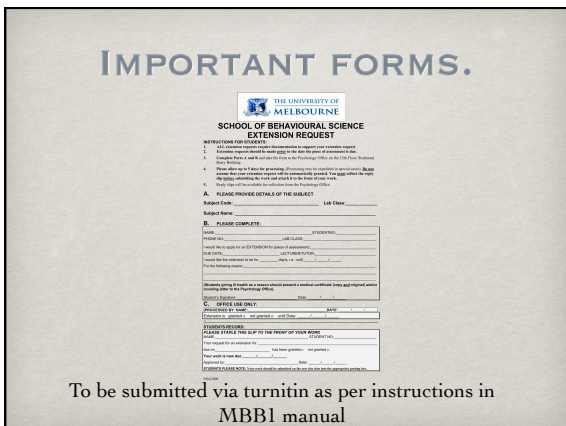
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To be submitted via turnitin as per instructions in MBB1 manual

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## IMPORTANT FORMS.

### TEMPORARY LAB TRANSFER

**INSTRUCTIONS FOR STUDENTS:**

- You must obtain this form for the course you intend to transfer to.
- You must complete the form and return it to the appropriate department or faculty office for approval.
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**A. PLEASE YOUR INSTRUCTOR / ASK COMPLETE**

Department / Faculty: \_\_\_\_\_ Lab: \_\_\_\_\_

Student Name: \_\_\_\_\_

Student ID: \_\_\_\_\_

Lab Section: \_\_\_\_\_

Lab Group: \_\_\_\_\_

**B. APPROVAL**

Approved by: \_\_\_\_\_

Date: \_\_\_\_\_

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## RESEARCH EXPERIENCE PROGRAM (REP)

- It's a hurdle requirement
- REP Requirements:
  - Complete a minimum of three hours of participation in research projects.
  - Include a minimum of one hour each of NQ (Non-Questionnaire) and Q (Questionnaire) studies as part of these three hours
  - Register on-line for the projects you are interested at ([www.unimelb.sona-systems.com](http://www.unimelb.sona-systems.com)). You'll receive completion credit through this system too.
  - IMPORTANT! You have already been emailed your login details. Check your student email address (the username you use to access LMS) and log in before your next tutorial.**
  - Hours need to be completed by 5pm of **Friday 22 May 2015 (week 11)**.

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## QUESTIONS

- Do you have a question about tutorials or MBB 1 in general? Now is the time to ask.

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## BEHAVIOURAL NEUROSCIENCE DISCUSSION

❖ Jason has told you about Frontal lobotomy/ leucotomy. Historically, these procedures have been widely used in an attempt to alleviate psychiatric symptoms. Let's explore the topic further...

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Howard Dully

cut the fibre connections to and from the pre-frontal region. This was done by inserting a "leucotome" through a burr hole and moving the instrument in a coronal plane (Fig. 15.64). As a rule these operations were performed bilaterally. Prefrontal leucotomy was introduced by the Portuguese neurologist Egaz Moniz in 1936 (476) and was thenceforward strongly advocated by the Americans Walter J. Freeman and James W. Watts (202, 203). In the two decades following its introduction, tens of thousands of severely disturbed psychiatric patients underwent leucotomies all over the world (330, 723). For his discovery, Moniz was awarded the Nobel Prize in 1949. The principal target group of the intervention consisted of chronic, hospitalised patients, suffering from depression, anxiety states and obsessive-compulsive disorders. Although Moniz (477) qualified prefrontal leucotomy euphorically as "highly effective and always safe", it soon became clear that the intervention produced serious changes in personality, including apathy, slowness, lack of initiative, carelessness, poor judgement and inhibited behaviour in social situations (803). From a neuroanatomical point of view, the operations were very crude, with poor control of the actual place of the section, due to the considerable interindividual variations of brain size and shape, and skull-brain relationships. Furthermore, there were unintended side effects, such as haemorrhages, sometimes found far from the site of the section (468, 469) (Fig. 15.65). Fortunately, the advent of effective psychopharmaceuticals put an end to the era of prefrontal leucotomy.



Egaz Moniz



Taken from Nieuwenhuys, Voogd and van Huijzen (2008) *The Human Central Nervous System*

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## WALTER FREEMAN

- A brief overview of Walter Freeman's practice of lobotomy:  
<http://youtu.be/0aNILW6ILk>
- *Special Note: there's some footage of a transorbital lobotomy in this video. If you would prefer not to watch, then you can take a 5 minute break.*

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## THE CASE OF HOWARD DULLY

- 12 Year old boy
- Brought in for the procedure because his stepmother described him as "unbelievably defiant". Retrospective accounts indicate that the veracity of this report was questionable at best...  
*"He objects to going to bed but then sleeps well. He does a good deal of daydreaming and when asked about it he says 'I don't know.' He turns the room's lights on when there is broad sunlight outside."*
- After Howard's stepmother's numerous visits with Dr. Freeman, he suggested that "the family should consider the possibility of changing Howard's personality by means of transorbital lobotomy."

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## A VIEW FROM A LOBOTOMY PATIENT'S PERSPECTIVE

- Howard Dully on his own experience:  
<http://youtu.be/q1-aCbnc4fg>

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## GROUP DISCUSSION: TAKING A CLINICAL PERSPECTIVE

- What are your thoughts on psychosurgical interventions in terms of when they *should* and *should not* be used?
  - Think about this in terms of the mental health spectrum (i.e. think about severe and intractable depression vs. the case of Howard Dully)
- Does a patient's *ability* to provide informed consent matter? Following on from this, does a patient's *willingness* to provide informed consent matter?
- What else should be considered before psychosurgery is performed?
- Who should decide if psychosurgery is performed on a given patient?

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## PSYCHOSURGERY IN VICTORIA

Some food for thought...

We've considered a historical psychosurgical 'epidemic' to this point. This data shows applications to the Psychosurgery Review Board in Victoria from 1988-2012.

What can the small number of applications tell you about the modern treatment of mental disorder?

Are infrequent instances of Psychosurgery okay or should there be none at all?

| Year | Applications received | Year | Applications received |
|------|-----------------------|------|-----------------------|
| 1988 | 2                     | 2001 | nil                   |
| 1989 | 1                     | 2002 | nil                   |
| 1990 | 2                     | 2003 | nil                   |
| 1991 | 2                     | 2004 | nil                   |
| 1992 | 1                     | 2005 | nil                   |
| 1993 | 2                     | 2006 | nil                   |
| 1994 | nil                   | 2007 | 1                     |
| 1995 | 1                     | 2008 | 2                     |
| 1996 | 3                     | 2009 | 1                     |
| 1997 | nil                   | 2010 | 5                     |
| 1998 | nil                   | 2011 | 1                     |
| 1999 | 1                     | 2012 | 2                     |
| 2000 | 1                     |      |                       |

\*Psychosurgery Review Board. (2012). 2011/12 Annual Report of the Psychosurgery Review Board. Retrieved from <http://www.psrhb.vic.gov.au/images/stories/inhr/publications/annualreports/psr12012.pdf>

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### Group discussion: how this applies to research

- ❖ Many of the important breakthroughs in our understanding about the function of the brain have come from scientists using dissection, vivisection and brain stimulation techniques using electrodes in animals. At various times these techniques were considered amoral.
- ❖ A) Which techniques do you consider to be unacceptable?
- ❖ B) Where would our understanding of the brain and brain disease be without research using these techniques?
- ❖ C) Is it ever appropriate to use electrodes in humans?

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## NEXT WEEK

- ❖ An examination of the link between neurobiology and our experience of the world. Prepare to get close and personal...
- ❖ **Remember to find your research experience program email message and login to the REP online system before the next tutorial.**

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