TOPICS OFFERED IN 2011-12

For each of the two topics you choose you will be required to either: carry out a small empirical project or conduct a literature review.

For each topic you will be expected to:

1) Attend an introductory discussion

2) Read key articles as agreed with the relevant tutor.

3) Design and carry out an empirical project in consultation with the tutor OR conduct a literature review.

4) Write and submit a report of your project

Assessment

For an empirical project - a 2,000 word report which follows standard report conventions and:

1) introduces the empirical issue to be investigated and demonstrates background reading

2) describes your methods

3) presents analysed data where appropriate

4) discusses the results of your project

For a literature review – a 2,000 word report which

1) summarises the main issues relevant to the title of your essay/review

2) critically examine relevant evidence

3) relates issues to current psychological theory

4) Arrives at a conclusion which is consistent with the evidence
**Topic 1 – Cognition and Emotion - Professor Angus Gellatly**

Cognition, and visual attention in particular, has traditionally been studied without regard to the emotional content of the information being processed, or cognized. In recent years, however, there has been growing interest in the ways in which cognition and emotion influence one another. Early work looked at how mood, or emotional state, influenced memory at either encoding or retrieval. This type of work led to consideration of the role of cognition in clinical states such as depression and anxiety, and eventually to the development of the techniques of cognitive behaviour therapy. Along with these developments came research into how emotion and attention affect each other, especially in relation to temporary or prolonged negative mood states. Increasingly, now, research is aimed at understanding the relationship between attention and emotion in non-clinical participants.

Cognition and emotion is a large field that includes a number of different research areas such as memory, perception and attention. Some of these lend themselves more easily to small empirical investigations than do others but any of them would be appropriate for a literature review.

**References** (these should be supplemented by your own literature/internet search):


**Topic 2 – Visual masking by object substitution - Professor Angus Gellatly**

Visual masking is said to occur when two stimulus displays are presented in close spatial and temporal proximity and the visibility of one of them (the target) is reduced by the presence of the other (the mask). The target is flashed only briefly but the mask display may be presented for a shorter or longer period depending on the requirements of the particular study. Over the years, several supposedly distinct forms of masking have been proposed. In an influential paper, Enns & DiLollo (1997) reported what they claimed to be a new form of visual masking, which they termed object substitution masking.
OSM. They (DiLollo et al., 2000; Enns, 2004) have contrasted OSM, supposedly involving substitution in conscious experience of one perceptual object by another, with what Enns (2004) has called object formation masking (OFM). The latter refers to masking which supposedly results from interference with the early processes involved in perceptually separating the target from the “camouflage” of background and other nearby objects.

OFM is sensitive to factors such as contour proximity and overlap and relative luminances of target and mask displays. It also depends critically on the exact timing of target and mask onsets. OFM is affected very little by manipulations of spatial attention towards or away from the target.

OSM, by contrast, is highly sensitive to attentional manipulations but not to the local spatio-temporal contour interactions thought to give rise to OFM. A standard demonstration of OSM compares two conditions in which target and mask onset simultaneously (common onset). In the briefly masked control (or “no masking” control) condition, they also offset simultaneously (common offset). In the mask condition, the (trailing in time) mask remains present after target offset. Reporting of some target feature is markedly reduced in the second condition relative to the first. Since spatial and temporal contour relationships at onset are identical, the degree of OFM must be equal in both conditions, and the reduction in target visibility is, therefore, taken as a measure of OSM.

I am interested in various aspects of OSM, but particularly in the relevance of the updating hypothesis as an explanation of it (Lleras & Moore, 2003; Gellatly et al, 2010; Pilling & Gellatly, 2010).

References (these should be supplemented by your own literature/internet search):


**Topic 3 - Change Blindness - Professor Angus Gellatly**

Recent research suggests that we are surprisingly poor at noticing large changes to objects, scenes and motion pictures from one instant to the next. For example, Grimes (1996) showed photographs of natural scenes to observers prior to a memory test. While they were studying an image, scanning from one object to another, details of the scene were changed during a saccade. Observers missed even large changes (two people exchanging heads!), furthermore these changes were clearly visible when they occurred during a fixation. Change blindness also occurs during a fixation if the effects of a saccade are simulated by disrupting the retinal transient (i.e brightness change) normally accompanying a change. Examples include inserting a blank screen between the original and changed image, using a ‘mudsplash’ to separate the original and altered image, by a cut or pan in a motion picture, and even by a real-world disruption (Simons & Levin, 1998). Change blindness occurs even when participants know that changes will occur and actively try to find differences.

I would be particularly interested in supervising empirical studies looking at change blindness for objects of varying degrees of visual salience (i.e noticeability) – So, for example, if a single red object appears in or disappears from a display of otherwise all green objects, that would probably be noticed; there would be no change blindness. But how many such salient objects can you have in a display before blindness for a change to one of them starts to occur?

**References** (these should be supplemented by your own literature/internet search):


- Rensink, R.A., O'Regan, J.K. & Clark, J.J. (1997), To see or not to see: The need for attention to perceive changes in scenes, Psychological Science, 8, 368–373.


**Topic 4 – Do familiar faces look younger (except when they look older)?**

- Professor Angus Gellatly

I have an intuition that people we have known when they were young tend to look younger to us than same age people we did not know when they were young. But this suggestion requires a few caveats. First, if you have not seen
someone for several years and in that time they have aged ‘badly’, then they may well look older to you than do people of the same age that you have not known before. This would be a ‘contrast effect’, the ‘badly’ aged face contrasting strongly with their younger self. So the intuition probably applies only to those who have aged ‘well’ or ‘averagely’. Secondly, I’m not sure whether the intuition applies at all ages (if it applies at all!) or only in the later decades of life. In other words, would 20 year olds you knew at primary school look younger than 20 year olds you had never seen before or does this only work for, say, 60 year olds? Thirdly, if the effect exists, does it only work if you recognize the previously known people or even when you do not consciously recognize them.

**References** (these should be supplemented by your own literature/internet search):

The big advantage of this topic is that there very little relevant literature that I know of. The big disadvantage is that there is no very relevant literature that I know of – However, you might start by looking at:


**Topic 5 – Any cognitive topic you can interest me in - Professor Angus Gellatly**

**Topic 6 - Demonstrating Implicit Memory - Dr. Lisa Hinkley**

i) During the 1990s it has become generally accepted that human memory can be subdivided into one system which retains conscious knowledge of facts and concepts (explicit memory) and a second system that deals with skills, including perceptual, language and motor skills (implicit memory). This topic requires you to carry out background reading and then to develop a demonstration of implicit memory phenomena, or to collect some data that tests a hypothesis concerning implicit memory.
References (these should be supplemented by your own literature/internet search)


**Topic 7 - Recovered memory: a critical survey of the literature - Dr. Lisa Hinkley**

i) ‘Recovered memory’ is the idea that people who have suffered psychological trauma, particularly involving abuse in childhood, can lose access to memories of the traumatic episodes, and may then recover them in later life. ‘Recovered access’ is often claimed to occur during psychotherapy, and this has led to the suggestion that the apparent memories are not genuine, but are ‘implanted’ as part of the therapeutic process. The claim that recovered memories are spurious has led to the accusation that a ‘false memory syndrome’ exists. The recovered memory versus false memory syndrome controversy has produced some very heated debate, and numerous lawsuits. The topic of recovered memory touches on a number of major issues in memory research. Is repression possible? Can repressed memories be
recovered? How can memory claims be verified? Can memories be overwritten or modified by the retrieval process.

References (these should be supplemented by your own literature/internet search)

**Topic 8 - Prospective memory - Dr. Lisa Hinkley**
Prospective memory can be defined as remembering to remember (Winograd, 1988). It differs from retrospective memory, where passed actions, events, or knowledge are remembered. Remembering that I called my mother yesterday is a form of retrospective memory, remembering to call my mother tomorrow is a form of prospective memory. After the formation of an intention to act in the future, people usually engage in other activities. Whereas in regular memory tasks participants are explicitly asked to recall or recognise information, in prospective memory tasks there is no direct prompt for recall. The major difficulty in prospective remembering is that people need to remember that something needs to be done. Prospective memory ability does not necessarily correlate with retrospective memory ability, research has shown that people with good retrospective memory may do poorly at a prospective memory task. Baddeley (1990) found that subjects who did well on a test for recall of lists of words (retrospective memory) did poorly at remembering to take pills at specified times (prospective memory). This kind of research suggests that the two kinds of memory are functionally distinct. This topic will involve a literature review/small empirical study/questionnaire which examines a hypotheses regarding Prospective memory.

References


**Topic 9 – Impacts of ageing on language – Dr Rob Davies**

Researchers have tended to study either the development of language abilities in children or the effect of ageing on language in (younger compared to older) adults but not both together, i.e., language development over the lifespan (Craik & Bialystock, 2006). A potentially critical question concerns whether and how adult language skills continue to change as individuals grow older. In the domain of reading, Spieler and Balota (2000) suggest that over the life span there may be: (1.) stability – once language skills are acquired, they remain the same; (2.) changes due to the accumulation of experience such that processes are bundled together to achieve greater efficiency; (3.) changes due to the continuing addition of new words such that language processing tends to be decomposed into routines that could be applied across an ever-growing vocabulary. Intriguingly, the evidence on how, for example, reading changes through the life span is not altogether clear. Some studies suggest that the influence of knowledge about words grows more important in older readers (Spieler & Balota, 2000), fitting possibility (2.) while other studies suggest that the influence of word knowledge does not change (Whiting et al., 2003), fitting possibility (1.). However, what exactly does happen in old age can be seen to be critical, with wide-ranging practical impacts, given the ageing European population and the potential impacts of age-related changes. A potential contribution to research could be made by completing a literature review that clarifies the findings on age effects on language, or by a research study that compares language behaviours in younger and older adults.

If you are interested in this topic you could either complete a literature review of current research on age-related changes or complete an investigation to compare, for example, reading in younger and older adults.

**References**


**Topic 10 – Going from society to the individual in research on reading – Dr Rob Davies**

High levels of adult reading skill (literacy) are associated with increased likelihood that individuals will be employed in jobs with better wages, will have greater awareness of legal rights and will be more actively engaged in civil society (National Endowment for the Arts, 2007; Bynner & Parsons, 2006; UNESCO Institute for Statistics, 2002). Low levels of adult reading skill are associated with increased likelihood that individuals will be employed in less well paid occupations, will have lesser awareness of rights and will be less engaged in civil society. Despite the critical importance of literacy skills, it is estimated that in the UK several million adults read at a basic level or are struggling or otherwise low-skill readers (perhaps 8% of adults in the BCS70 2004 survey, Bynner & Parsons, 2006). And yet it is not well understood how adult learners of literacy read, for example, how students referred to adult literacy classes read, and to what extent their reading development resembles the typical reading development trajectory in children or the developmental path seen in individuals with diagnoses of specific reading difficulties (dyslexia).

Cognitive Psychology can make a contribution by examining the development of cognitive reading processes with reference to the variation in reading skill seen in the wider adult population (see e.g. the paper introducing a journal special issue on the topic, by Venezky & Sabatini, 2002, and reports cited therein). The key conceptual link is between (1.) what is observed to happen at the societal level, for example, the practice of reading in young adults and the factors that shape that practice (National Endowment for the Arts, 2007; Twist, Schagen, & Hodgson, 2007), and (2.) experimental observations examining the cognitive consequences of those reading practices in the individual (Chateau & Jared, 2000; Cunningham & Stanovich, 1990; Stanovich, West, & Harrison, 1995; Stanovich & Cunningham, 1993).

Research is required to evaluate the characteristics of reading skill in low-literacy adults, the effectiveness of current teaching methods and interventions, and the individual determiners of success – including personality, motivation and intelligence – in literacy classes. The practical challenges of completing such research stem from the complexity of the roots of low adult reading skills, and the (corresponding) heterogeneity of the group, viewed as a participant sample. However, the practical impacts of improved methods of teaching and intervention may be great. If you are interested in this topic you could either complete a literature review of current research on adult reading development or complete an investigation to test out an idea for examining reading skills in adults.

**References**


**Topic 11 – What should cognitive psychologists study next and how should they do it? – Dr Rob Davies**

Cognitive Psychology has traditionally focused on trying to explain the cognitive basis of human capacities like perception, memory and language. Investigation of these capacities has very often involved the testing of theories about information processing using lab-based tasks that elicit well-defined behaviours like the speed or accuracy of keypress responses to visually presented stimuli. Some of the reasons for this approach can be seen in a historical account of the birth of the discipline (Miller, 2003; Rozin, 2006). The work has been very successful and has had a huge practical impact (see, e.g., impacts on education, Rayner, Foorman, Perfetti, Pesetsky, & Seidenberg, 2001). Much of the research that was initiated with the ‘cognitive revolution’ in the 1950s (or earlier, if one considers the work of Cattell, Donders, James and others) continues to produce interesting and useful insights into human nature. The question for this topic concerns the direction that future research should take.
What should cognitive psychologists study next and how should they do it? (Another way of phrasing the question is: What have we been missing?) Recent discussion papers by Paul Rozin (2006, 2009) consider what researchers have been doing and what things they should consider investigating. There is clearly room to pursue new targets, and Rozin highlights some promising candidates. The next question then concerns how we should pursue those targets. An interesting discussion by Seth Roberts (Roberts, 2010) suggests how innovation in science can come from completing cheap, small-scale (e.g. studies with a sample size of one), studies to explore the varieties of human behaviour.

If you are interested in working out what psychologists should research next you could either complete a literature review to show how a potential target for research interest has been neglected or complete an investigation to test out an idea for examining a new target. This topic requires you to either carry out a small empirical project or conduct a literature review.

References


Topic 12 – Self-reference effect – Dr Clare Rathbone

The Self-reference effect (SRE) refers to the finding that encoding information with reference to the self leads to better memory performance (Rogers, Kuiper & Kirker, 1977). For example, if you ask people to judge whether the word ‘CHEERFUL’ describes themselves, compared to whether the word ‘FRIENDLY’ is written in capitals letters, they will be more likely to remember the word ‘CHEERFUL’ when their memory is later tested. The theory behind this involves research on levels of processing (e.g. Craik & Tulving, 1975), the idea being that relating information to the self leads to a ‘deep’ level of processing (compared to thinking about whether a word is in capital letters, which would involve a ‘shallow’ level of processing). Deeper levels of
processing lead to better memory performance, and thus encoding information with reference to the self aids memory performance. The SRE is also demonstrated when people rate whether words describe themselves, compared to whether words describe another person (e.g. the Queen). However, if the other person is very close to the participant (e.g. their mother), then the SRE is weakened. Results show that people are almost as good at remembering words they encoded with reference to their mothers as words they encoded with reference to themselves (e.g. Bower & Gilligan, 1979). This might be because thinking about whether a word describes your mother also involves a deep level of processing. We know a lot more about our mothers than the queen, and so we have a more elaborate and complex knowledge structure about our mothers, which helps us to organise mother-related information. These elaborate and organised knowledge structures promote a deeper level of processing, and are suggested to lead to the self-reference effect. After all, we know more about ourselves than pretty much anything else – it is therefore likely that we have a very complex and detailed set of knowledge about the self through which information can be related and encoded at a deep level.

I am particularly interested in the idea that some information about the self might be more organised and elaborate than other types of information about the self (for example, the present self compared to an idea of who you were in the past). I would be interested in supervising an empirical study of this nature, or assisting with a more general literature review.

This topic requires you to either: carry out a small empirical project or conduct a literature review.

If you choose to study this topic you will be expected to:
1) Attend an introductory discussion
2) Read key articles as agreed with me.
3) Design and carry out an empirical project in consultation with me OR conduct a literature review.
4) Write and submit a report of your project.

References (these should be supplemented by your own literature/internet search):


**Topic 13 – The Reminiscence Bump – Dr Clare Rathbone**

People don’t remember events in an even distribution across the lifespan. If you ask adults over the age of 40 to recall events from their lives, a higher than expected proportion of these events will come from young adulthood (ages 15 – 30). This so-called ‘reminiscence bump’ is found cross-culturally and through a range of different memory tasks (including memories generated to neutral word cues, memories of favourite songs, and the events that people would focus on if writing their autobiography).

There are several different explanations for the reminiscence bump (for a review see Rubin, Rahhal & Poon, 1998). Suggested explanations include: the novelty account (events from young adulthood tend to be more novel than events in later life, and novel things are remembered better), the biological account (we encode things better when we are young adults due to optimum encoding conditions in the brain), and the self account (young adulthood is involves important development of the self and it is necessary to retain information about this time to promote a stable adult sense of identity). Other researchers suggest that normative life events (e.g. marriage, having children, graduating from university) are responsible for organising our memories and promoting retrieval of culturally expected events (Berntsen & Rubin, 2004). A literature review on this topic could evaluate the evidence for these different accounts.

This topic requires you to conduct a literature review.

If you choose to study this topic you will be expected to:
1) Attend an introductory discussion
2) Read key articles as agreed with me.
3) Conduct a literature review.
4) Write and submit a report of your project

**References** (these should be supplemented by your own literature/internet search):


**Topic 14 – Imagery Perspective – Dr Clare Rathbone**

When people remember autobiographical memories from their lives, they are often associated with visual images of the event in question (a memory of seeing a friend’s tears of happiness at a wedding, for example). These images can be seen from different perspectives: sometimes people see themselves in the memory (seeing an event from an ‘observer’ perspective) and sometimes the memories are re-experienced through the person’s own eyes (a ‘field’ perspective).

Results from a range of studies suggest that when people consider life events from an observer perspective (either memories from the past or imagined events in the future), these events are judged as less related to the present self, and instead associated with one’s life in a broader and more abstract sense. For example, patients who were prompted to take an observer perspective for the memory of a first psychotherapy appointment felt they had made significantly more progress in treatment than those prompted to take a field perspective (Libby et al., 2005). Furthermore, research suggests that taking an observer perspective when imagining a future activity can make people more inclined to partake in that future activity (e.g. voting behaviour, Libby et al., 2007).

Imagery perspective is also involved in the emotional appraisal of events, with work from cognitive and clinical domains suggesting that taking an observer perspective reduces the emotional intensity of an event (Holmes, Coughtry & Connor, 2008; McIsaac & Eich, 2004). Of particular relevance to clinical populations, Holmes et al. (2008) showed that imagining positive events from a field perspective improves mood, compared to imagining positive events from an observer perspective.

This is a relatively new area of work and a literature review on this topic could aim to integrate the work from the social-cognitive domain (e.g. Libby et al., 2005; Sutin & Robins, 2008) and the clinical domain (e.g. Holmes et al., 2008).
References (these should be supplemented by your own literature/internet search):


