

# MEMORY STUDIES

## *Creating a new discipline of memory studies*

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### **Abstract**

The multidisciplinary field of memory studies combines intellectual strands from many domains, including (but not limited to) anthropology, education, literature, history, philosophy, psychology and sociology. Our article has four parts. We first consider definitions of memory and note that the single term itself is not particularly useful. Rather, scholars must specify the type or variety of memory under investigation. Second, we consider the breadth of memory studies and briefly survey disciplines in addition to those listed above that may prove interested parties to the new field. Third, we argue that the field of memory studies is just emerging, and that its proper development will require creation of a systematic set of methodological tools (qualitative and quantitative) that may be borrowed from various social sciences and adapted to new purposes. Finally, we describe two undergraduate programs in memory studies that have been developed at Washington University in St. Louis, USA and that might be used as models for similar programs.

### **Key words**

collective memory; program in memory studies; science of memory; varieties of memory

The founding of this new journal recognizes the emerging field of memory studies, one that draws on a range of disciplinary traditions to examine the forms and functions of representing the past. The concept of memory is used by scholars in many different disciplines and in a multitude of senses. On the one hand, interest and excitement about memory can provide a unifying theme, as exemplified in this journal, but on the other hand, the bewildering diversity of uses of the term may lead to miscommunication and frustration. Scholars from different disciplines may use the term memory (and related concepts) in quite different senses. Memory studies is currently a multidisciplinary field; our hope for the future is that it will become interdisciplinary.

The purposes of this article are fourfold. First, we consider (as requested by the editors) proper definitions of memory. Second, we discuss the range and breadth of memory studies as a field. Third, we consider methods in memory studies. Fourth, we describe a program in memory studies that we and our colleagues have developed at Washington University in St. Louis, USA and discuss how it might represent a model for those who are beginning to develop similar programs.

## WHAT IS MEMORY?

The editors of *Memory Studies* posed this question to contributors. Certainly it represents an appropriate starting point, but in truth there is no good single answer. The problem is that the subject is a singular noun, as though *memory* is one thing or one type, when in actuality, the term is almost always most useful when accompanied by a modifier.

Philosophers have been writing about problems of memory for 2500 years, and psychologists have been studying the issues empirically for about 125 years. Considering the history of psychological study of memory is instructive. Ebbinghaus (1913[1885]) began his experimental studies by assuming that he was studying memory (and he was), but these days researchers would argue that he was focusing on only a particular type of memory (or perhaps a mixture of types) in his savings method using serial recall. Over the years, scholars have fractionated memory into various processes and systems. In psychology, for example, distinctions have been made between short-term and long-term memory; episodic, semantic and procedural memory; perceptual and conceptual processing in memory; and on and on. Tulving (2007), in a semi-serious essay, asked, 'Are there 256 kinds of memory?' (the question in quotes is the title of his chapter). He arrived at this number by keeping a list of phrases over many years in which *memory* was the noun and some other term was the modifier. He happened to write the essay when the number of terms hit 256, but if there is one fact of which we can be certain, it is that his list underestimates the actual number of terms. Certainly the future will see his list expanded. Sampling almost randomly, the list includes auditory memory, distributed memory, diencephalic memory, false memory, involuntary memory, motor memory, state-dependent memory and unconscious memory. These are all terms from psychology or neuroscience; corresponding technical terms probably exist (and will emerge) in history, sociology and other disciplines.

The fact that so many terms exist to describe various kinds of memory reflects the centrality of the subject to so many fields. Considering just the scientific study of memory, we can list nearly a dozen different approaches. Students of animal learning and behavior have a long and honorable tradition of studying animal learning and memory, both in conditioning paradigms (e.g. classical or Pavlovian conditioning) and under more naturalistic, ethological conditions (e.g. how birds and squirrels retain and find the food they have hidden; how fish and eels, among other animals, are able to return to their spawning grounds, often after many years). Neurobiologists consider changes in the nervous system as a function of experience, particularly changes in synaptic plasticity. Cellular biologists examine these changes at the cellular level. Systems neuroscientists

examine brain networks and structures that underlie various forms of memory. Behavioral neuroscientists use animal models to study the contributions of various structures (e.g. the hippocampus and surrounding tissue). Cognitive neuroscientists use techniques of brain imaging (functional magnetic resonance imaging, positron emission tomography, event-related potentials) to chart the course of neural activity while human subjects encode and remember events. Neuropsychologists study memory disorders caused by diseases of the brain (e.g. Alzheimer's disease) or from tumors or head injury. Cognitive psychologists study learning and memory using behavioral experiments in which people are given memory-related tasks and their performance (correct recall or recognition; speed of responding; errors in responding) is measured. Clinical psychologists consider remembering of traumatic episodes as a source of disturbance of functioning, and some therapies are intended to alleviate these traumatic memories. Forensic psychologists design experimental and other research as it pertains to issues in the legal system. Scientists interested in artificial intelligence also analyze memory as they design computer programs to exemplify intelligent behavior. The approach of cognitive science considers computer models of memory.

All the issues sketched above fall under the general heading of scientific approaches, but of course they begin with different starting assumptions, use different paradigms and examine different issues. In a recent volume, Roediger et al. (2007) identified 16 critical concepts in the science of memory, and they asked leading scholars from many different scientific fields to address them from the perspective of the field they represented (e.g. neurobiology or cognitive psychology). One additional author summarized and integrated each of the 16 sections and provided an overview. The list of concepts discussed in the volume were: memory, learning, coding and representation, plasticity, context, encoding, working memory, consolidation, persistence (storage of information through time), retrieval, remembering, transfer, inhibition, forgetting, memory systems and phylogeny and evolution. Students of the new field of memory studies might ask which of these concepts is critical to their endeavors. We hazard the guess that most of the concepts are directly relevant, although, of course, one would need to read about and understand the concept before its usefulness would be apparent to the broader field of memory studies.

The title of the Roediger et al. (2007) volume is *Science of Memory: Concepts*. The editors' hope was to bring together many sciences of memory under one umbrella, to foster conversations among researchers who use different methods, attend different meetings and read different journals. Time will tell whether a unified science of memory is possible; old habits die hard, and many scientists feel that their approach to the subject (about memory or any other topic) is the one true path. Still, the effort is worth making. Byrne (in press) has edited a four-volume set of books on scientific approaches to memory that similarly covers a huge variety of topics.

We view the broader field of memory studies as in a somewhat similar, although less formally developed, state as the science of memory. As in the sciences of memory, the broad field of memory studies involves various traditions existing in diverse parts of the intellectual landscape. We do not see memory studies as developing into a science of memory, certainly not in the short term, but we can hope for a more systematic

study of the topic. Memory studies currently represents a huge tent in which scholars from many perspectives and fields can find a home, using their quite disparate methods and means of inquiry. Still, as we argue below, we do not think the field will make cumulative progress until breakthroughs are made in both systematic methodologies and in new theoretical approaches. One task for the editors of, and contributors to, this journal is to help bring some coherence to the field. The remainder of our article is aimed at this target.

## THE BREADTH OF MEMORY STUDIES

Beyond the nexus of efforts that we include under the heading of scientific studies, the topic of memory seems to touch nearly every academic field, at least in the humanities and social sciences. Perhaps the broad fields of history and literature are at the center, although philosophy would also be a strong contender. However, even fields such as architecture, law and political science provide interest in, and may contribute to, memory studies. We consider memory studies in a number of fields, albeit rather briefly in each case.

Historians all over the world are interested in producing an account of the past. They draw on written sources, memoirs, eyewitness descriptions, physical artifacts and other sources in providing their accounts. Because the accuracy of these sources is often open to question, the historian must sift among the various sorts of evidence to discern patterns and arrive at well-documented claims. The 'facts' from individual sources may stick out as inconsistent with other evidence, and so on. Modern historians have questioned the notion of an independent, perspective-free, history, noting that the history of the 'same event' may be portrayed quite differently depending on author and perspective, even when the same sources are used. For example, the environmental historian Cronon (1992) has reflected on how two respected professional historians, using the same general set of archival materials, could arrive at quite different narratives about the Dust Bowl in 1930s America. For other examples of this type, consider the striking differences in the history of the Second World War written by Russian, American, British, French, Japanese, Italian and Australian authors. What is central and heroic from one perspective is sometimes viewed as secondary and even morally questionable from another. For example, as Wertsch (in press) has noted, when Russians and Americans are asked to identify five critical turning points of the Second World War, they come up with quite different lists. In addition, the overall narratives of the Second World War as taught in school and as ingrained in the collective memory of the people often stand in stark opposition to one another (Wertsch, 2002).

Literary scholars are also intensely interested in memory-related issues, from several vantage points. The accuracy (or tendentiousness) of autobiographical memoirs represent one case in point. Usually, memoirs are written late in life, sometimes without the aid of diaries or notes, so their veracity (especially of distant recollections of complex events) may be questioned. In addition, every part of the world has its own history, culture and myths, and the preferred narrative forms for making sense of the

past may vary across peoples. For example, narratives that focus on a golden age from the past (often a golden age destroyed or 'stolen' by some opponent) differ from narratives organized around victimhood, and both of these differ from narratives about progress that organize so much of collective memory in a place like the USA. Even in one country, such as the USA, quite different narratives about the past have emerged in places such as Massachusetts, Virginia, Texas and California.

Wertsch (2002) has argued that underlying 'schematic narrative templates' organize much of how a group recounts its past. In Russia, for example, the 'expulsion of foreign enemies' narrative template is invoked when talking about many events from the past. Employing this narrative template means that events are emplotted such that they start in a setting where Russian people are living peacefully in their own land, minding their own business. A great threat then appears in the form of a foreign enemy. This threat is massive and may come close to destroying Russian civilization, but in the end the Russian people rise up and, through great effort and sacrifice, manage to expel the foreign enemy. This template provides a tool in what Bartlett (1932) termed the 'effort after meaning' and provides a collective interpretation of the Mongols of the 13th century, King Charles XII of Sweden in the 17th century, Napoleon in the 19th century, Hitler in the 20th century, and even communism in the Soviet period. National narratives of one sort or another (Wertsch, 2005) help organize historical memories of a people and are embedded in the literature, the customs, the politics and the ways of thinking of peoples all over the earth.

Novelists also wrestle with issues of memory. Characters in novels remember their past, so the memories created by the novelist must be realistic, neither too vague nor too specific. And of course novelists draw upon their own memories of events to create the new events, much as individuals do when imagining the future. That is, just as many of the same brain mechanisms that are involved in remembering the past are used in envisioning the future (Szpunar et al., 2007), so too must novelists use their memories and knowledge from past experience when creating imagined lives and events in their novels.

Philosophers have dealt with issues of remembering at least since the time of the ancient Greeks. Perhaps the apex of philosophical interest in memory was during the 18th and 19th centuries, represented by works of the great British empiricist philosophers such as David Hume who wrote about how events from the outside world might be represented in mind. Philosophical treatises on memory continue to be written, although today's philosophers of mind seem more interested in problems of perception and conceptual knowledge than memory per se (although see Casey (1987) and Hacking (1995) for exceptions to this generalization).

For the field of psychology, memory is a prime topic. Every introductory psychology text has a chapter on learning (or learning and behavior) and on memory. The former is usually concerned with various types of conditioning phenomena and the latter concentrates on human memory processes, usually as represented via laboratory experimentation. Within psychology, perhaps a dozen journals exist that are devoted to memory (sometimes with other cognitive processes, such as the *Journal of Memory and Language*). Forty years ago, almost all psychological research concerned with

memory involved various laboratory paradigms that revealed phenomena that may not be of much interest to students in the broader field of memory studies. However, in recent years the range of topics brought under the purview of empirical psychology has greatly increased, so that studies of narrative memory, flashbulb memories, déjà vu, eyewitness recollection, memories in stressful situations such as rape and war, are often studied (see Roediger, in press, for a sampling of chapters on these topics and many others). Psychologists also study how memory changes with age, how social groups come together to remember tasks, how people influence one another in their recollections and memory processes during psychotherapy, among other topics. Today, a vibrant empirical psychology deals with these and many other wider considerations of remembering, topics that should interest all serious students of memory studies.

Yet another field where practitioners show a keen interest in issues of learning and memory is education. Key processes in educating children involve how to best present information to engage students' learning and to help them retain information. Fields such as educational psychology explicitly consider this topic. In addition, many of the almost unconscious attitudes that students have about the past of their country and their people come through textbooks, teachers and the educational process. Every modern state devotes massive resources to presenting an official national history, and this inevitably involves using a narrative that enhances some features and minimizes or ignores others. In the USA, for example, history textbooks have until recently considered in a relatively benign manner both the topics of slavery and treatment of Native Americans. Certainly, the history of both blacks in the USA and Native Americans would be quite different if written from the perspective of the affected peoples relative to how these subjects are portrayed in history textbooks of the majority culture in (say) high-school history classes.

The fields reviewed above – history, literature, philosophy, psychology and education – probably constitute the core disciplines for a new field of memory studies. However, scholars in many more fields have some interest in the study of memory. We consider a few others here, albeit briefly, and we do not pretend to provide an exhaustive list.

## Politics and political science

Politics the world over seizes on remembered history to make points. When the USA contemplated invading Iraq (and the debate continues as this is being written), proponents of the invasion often invoked the memory of the Second World War, when countries in Europe did not contain Hitler's aggression through pre-emptive action. However, opponents of the Iraq invasion invoked memories of the Vietnam War, which is now almost universally viewed as a foreign entanglement in which the USA should never have become involved. In his analysis of historical 'analogies at war,' Khong (1992) argues that leaders in the USA consistently invoked Korea and Munich in thinking through strategy in the Vietnam conflict and missed the lessons of Dien Bien Phu. A great deal more remains to be explored when it comes to the power of the 'lessons of history' to shape political thought and decisions. In this case, as in many

others, the 'politics of memory' (De Brito et al., 2001) of each nation is filled with conflicting messages that can be used by politicians to justify or bolster opinions about political actions.

## Architecture

Architects are asked to build monuments to celebrate the past, so they must ask themselves about the appropriate physical representation to cue some aspects of the past and not others. Monuments and statues are typically built to commemorate great events or great people; rarely are statues built to remember the scalawags of history or of wars that were lost. Exceptions do exist, as in the example of Germans building a museum to commemorate the Holocaust in Berlin or of Americans building the Vietnam War memorial (a great wall with the names of all Americans who died in the war carved on it). Interestingly, plans for both these memorials were controversial. In Germany, the first attempt at a plan for the Holocaust memorial was mired in controversy and was cancelled. The process had to start over with a blank slate, and the battles over the proper memorial did not stop until the museum was complete. The successful creation of memorials and historical displays (e.g. the *Enola Gay* exhibit at the Air and Space Museum in Washington, DC) is often highly contested by proponents who wish to remember certain aspects of history and to dismiss or ignore others. (The *Enola Gay* was the airplane that dropped the first atomic bomb on Japan in 1945.)

## Law

Civil and criminal law are, in essence, highly codified forms of memory for the principles and cases that have emerged over centuries. This generalization is particularly true in systems of case-based law, as in the USA and some other countries. In trying a new case before a judge or jury, lawyers on each side seek to invoke the memory of similar cases whose key features resemble the one under consideration, cases that were decided favorably from the point of view of the particular attorney. Law, like other fields, is rife with issues of memory, including 'public memory' (Havel, 2005). Such issues as eyewitness testimony and the reliability of eyewitness memory have roiled the legal system, as have cases of recovered memories of sexual abuse.

## Sociology/media studies/communication

Memory studies in sociology can trace its history to the 1930s in the writings of Halbwachs (1980), and over the past few decades it has become a concern for media and communication studies as well. Much of the research in these disciplines has been on how social differentiation and political power shape accounts of the past. For example, sociologists are concerned with how the formative experiences of a generation (usually in its young adult years) shape its account of historical events and how this, in turn, shapes the social and psychological characteristics of the generation itself.

Sociologists have also examined how elite segments of society differ from others in changing ideas about the past.

The role of media, monuments and public performance in shaping public memory has also been a topic of interest to scholars and practitioners. For example, 'Watergate in American memory' is to a significant degree shaped by the media treatment of the events that brought Richard Nixon's presidency to an end (Schudson, 1992).

## Business

Companies have frequent turnover of top executives and top management. Often the hard-won knowledge of the company's past successes and failures – what worked, what didn't work and why – are lost when executives retire. Leaders of companies often discuss the need for developing a 'corporate memory', and one technique used is having older members of the corporation mentor and instruct the younger members. Still, a common complaint in the business world is a lack of a good means to institute corporate memory in the younger generation so that they will become good, knowledgeable leaders in the future.

In the field of marketing, memory for advertisements is often the key indicator of success or failure of an ad campaign. Surveys and focus groups are asked about their recollections of ads for various products, with good ad campaigns being those that show high levels of recall or recognition. Of course, the critical assumption is that memory for ads will translate into sales of the product, but there is no guarantee of this relationship. An ad might be remembered because it is distinctive, funny or especially annoying, without that leading to increased sales. Still, marketing and advertising represent a big part of modern culture and our brains doubtless soak up and retain thousands of images produced through advertising.

## Neuroscience

Neuroscientific approaches to memory may seem a bridge too far to cross for the field of memory studies. Although cellular and molecular neuroscience may play less of a role in memory studies, we believe that systems neuroscience (and neuropsychology) may well be critical. Disorders of memory and cognition from brain damage may have shaped historical events when kings or other rulers suffered memory defects or thought disorders. Analysis of such historical cases must rely on current knowledge of neuroscience. Alzheimer's disease and other dementing illnesses are playing a large role in modern society as people live longer. These diseases impose terrible consequences on both the individuals with the disease and their caregivers, as well as placing a huge burden on the health care systems of most countries. Alzheimer's disease robs people of their most prized possessions, their memories, and a literature is growing up around this illness, mostly in the form of books written by caregivers watching their spouses or parents gradually lose their memories and their sense of self.

On a different front, advances in neuroimaging have provided key knowledge of memory and decision processes that may one day provide insight into problems of

interest to students of memory studies (such as structures and processes involved when a person suffers a traumatic flashback memory).

## Anthropology

Cultural and social anthropologists are concerned with transmission of culture from one generation to the next (among other topics). Such social memory processes form the border between anthropology and psychology. For example, Boyer (2001) has provided fascinating studies of the transmission of religious ideas, both in natural contexts and in careful experimental studies. Certain types of spiritual beings (corresponding to our concept of ghosts) have wide currency in many religions and cultures and can be easily transmitted from person to person and group to group. This cultural transmission occurs despite the fact that these spirits have properties that do not align with bodies in the physical world (such as being largely invisible and being able to walk through solid objects). Boyer shows in experiments that when certain other unnatural properties are suggested for fictitious beings, they fail to be retained and readily transmitted. Apparently, the human mind has evolved to consider certain types of spiritual or religious beings as natural and others as unnatural, with surprising consistency across many cultures.

This section has provided a sweeping (yet necessarily superficial) overview of a variety of disciplines that might be included in the field of memory studies. We have not touched on uses of the term *memory* in all fields, but hope we have covered the primary ones. Of course, we do not believe that all the fields listed above will contribute equally to development of memory studies as a scholarly discipline. To clarify that statement, we believe that all the fields discussed offer interesting ideas and problems for memory studies. However, we believe that if the field is to develop into a sound, cumulative (even scientifically oriented) field, rigorous methods that can yield replicable results will be needed. As we discuss below, we see the methods of social scientific fields as being critical to development of memory studies.

In our view, some uses of the term *memory* are simply outside the scope of the field of memory studies. For example, immunologists write about 'memory cells' in the immune system, which are responsible for immunity conferred by a vaccine. Exposure to a weak antigen creates antibodies to combat the disease; the knowledge of how to create these antibodies is encoded in the immune system's memory cells, so that if a person is exposed to (say) smallpox even 40 years after being vaccinated for it, the memory cells will pump out antibodies that will destroy the infection. The immune system is said, metaphorically, to remember past infections in this manner. Similarly, the female reproductive system shows a form of memory, or priming. Women having a second or later baby often go through stages of labor much faster than women having a first child, as though the system 'remembers' (or at least is primed to do) what it is supposed to do. These examples of quasi-memory effects are discussed at length in Roediger (2003). In an even more distant vein, engineers speak of certain materials having 'memory', because, even when deformed or melted and hence completely changing their shape, they will later return to their original form. These extensions of

the term 'memory' seem to crop up everywhere. How many readers have slept on a 'memory foam pillow'? Regardless of these many extended uses of the term, most of us would agree that these expressions have little to do with memory studies, at least in human culture.

## METHODOLOGICAL AND THEORETICAL ISSUES

Because memory studies spans so many disciplines, the methods used are quite diverse. They include scholarship in the humanities, such as careful examination of primary historical sources and archival studies, as well as case studies, interviews, surveys and eyewitness reports from social sciences. In psychology and in neuroscience, true experimental manipulations are sometimes used. Of course, different kinds of inferences can be made from these diverse techniques. One challenge we see for the future of memory studies as a discipline is to develop a rigorous and systematic set of methodologies that will provide for a wide range of analyses. As discussed in the previous section, because 'memory' is a term used so widely (perhaps too widely), a critical issue is to provide a more systematic foundation to this new discipline.

This article is not the place for us to go into detail about methodological recommendations; rather, we simply would note that systematizing and improving the methodological foundations of the field are prerequisites for cumulative progress. At the moment, much of the scholarship in memory studies consists of analyses of memory-related issues from various corners of the world using whatever evidence is readily at hand, without an effort to dig deeply and to consider converging sorts of data that might be collected. We believe that both rigorous qualitative and quantitative approaches developed by humanists and social scientists in particular fields for the study of other issues will be applicable to memory studies, too. Someday we may envision a book entitled *Methods in Memory Studies*.

The same general point may be made regarding theoretical and conceptual issues. The field of memory studies will need to develop unique theoretical perspectives to bear on the critical issues in the field. As Wertsch (2002) has pointed out, scholars interested in memory studies and the topic of collective memory have often borrowed uncritically terms from the study of memory in individuals. In some treatises, terms such as 'repression' of the Holocaust during the 1950s or 'collective amnesia' (Chang, 1997) for a particular event are used. However, such characterizations are often at best oversimplifications and at worst caricatures. Although Jews and other people may not have discussed the Holocaust widely in the 1950s, it was certainly not repressed in the sense of being banished from consciousness and incapable of being remembered. Similarly, the 'amnesia' of a collective usually means that a topic was not discussed, not that it was forgotten in the way that an amnesic patient would forget events. These uses might be considered broad metaphors, but as much may be lost as gained in using such terms.

We suspect that memory studies is too broad a field to have overarching theories to unify and attempt to explain the huge number of phenomena of interest. Rather, we

suspect what will develop is the situation represented by the psychology of memory. In psychology, many theories of memory performance exist, with particular theories often attempting to explain a rather modest and circumscribed set of facts and phenomena. The same will doubtless be true in memory studies as it matures as a field. New concepts and terms will be coined, new theories created. As in the case for methods, we believe careful borrowing from extant theories (such as those surrounding social memory phenomena, flashbulb memory issues and the like) may represent good starting places, but the field will need to develop novel concepts to cover the phenomena of interest.

Tulving's (2007) list of 256 terms provides a number that seem applicable to memory studies. Without pausing to define and discuss them, the ones in the list we find potentially most useful are: active cultural memory, archival cultural memory, autobiographical memory, collective memory, context-dependent memory, cultural memory, discovered memory, dynamic memory, emotional memory, episodic memory, explicit memory, false memory, fear-dependent memory, flashbulb memory, general political memory, historical memory, implicit memory, involuntary memory, meta-memory, narrative memory, particular political memory, personal semantic memory, public autobiographical memory, reconstructed memory, recovered memory, self memory, semantic memory, social memory, tacit memory, transactive memory, traumatic memory, unconscious memory and working memory. Time will tell whether this set of concepts (a relatively small part of Tulving's whole list) will be useful in memory studies.

To sum up this section, we see development of methodologies and theories that pertain specifically to issues in memory studies as prolegomena to the success of the field. To paraphrase Ebbinghaus's (1913[1885]) famous quote about psychology, memory studies has a long past but its real history is short. In fact, unless and until proper methods and theories are developed to lead to a coherent field, memory studies as a proper discipline may still be awaiting its birth.

## MEMORY STUDIES AT WASHINGTON UNIVERSITY

Ten years ago, the authors of this article decided to create a professorship and a program in memory studies at Washington University, St Louis. The Henry Luce Foundation was receptive to the idea of endowing a professorship in memory studies and Pascal Boyer was recruited to fill the post. Under his leadership and with the help of Larry Jacoby and the authors of this article, two new programs in memory studies have been created. The first is a two-year program in memory studies for undergraduate students, who are selected from applicants. We also have a minor in memory studies that these undergraduates may complete during their four-year course of study at the university. The students have a major field of study (often in philosophy, psychology, education or anthropology) in addition to the minor in memory studies. Faculty members who participate in the memory studies program come primarily from the departments of anthropology, education, English, history, neuroscience, philosophy and psychology.

The two-year program 'Memory in Mind and Culture' consists of four semester-long courses taught consecutively the first two years. The first is 'Introduction to Memory Studies', which provides a wide-ranging introduction of many topics of memory such as amnesia, cognitive aging, the neural bases of memory, repressed memories, mnemonic devices and their effectiveness, and political uses of the past. In the second semester, students take 'Introduction to Psychology', but also take an additional one-hour seminar devoted to readings on memory that follow, roughly speaking, the topics being taught in the introductory course. For example, during the child development section of the course, students read articles on how memory develops. During the social psychology section, they read about social memory processes. Not every topic in 'Introduction to Psychology' has a memory component, but most do, and on the other weeks the instructor picks a topic likely to be of great student interest (e.g. studies of flashbulb memories). The third course (taken in the fall of the student's second year) is 'Memory from Neurons to Novels', which is devoted to methodological issues. This is taught by a philosopher and an anthropologist, with others providing guest lectures and exemplifying a variety of research techniques through their work. The final course, taken during the second term of the student's second year at the university, is an independent study and research course. The student selects a mentor (by mutual consent) and creates an original research project under the mentor's tutelage.

Students who elect a minor course of study in memory studies (as opposed to a major course of study, in the US system) are required to take another two courses in addition to those listed above. These courses may be elected from a set that comes primarily from courses in English, history, philosophy and psychology, all with memory-related themes.

These memory studies programs at Washington University are relatively new and are beginning as an experiment. If the programs are successful, one might envision an undergraduate major (or perhaps a second major) in memory studies. At the graduate level, one might envision a certificate program in which graduate students would complete courses and requirements for their PhD in a specific discipline, but then also complete interdisciplinary courses and research across several departments to achieve a certificate in memory studies. These plans lie in the future, however. We are aware of few if any programs like ours, and so outline it here as a possible model of how a memory studies program (or set of programs) may be developed, at least within the context of an American university curriculum.

We have found that one necessary ingredient in creating a program in memory studies is to build in flexibility. Faculty members come and go, some courses are not taught frequently, and so on. Therefore, we have tried to cast our net widely and to include a number of different courses that can satisfy requirements. Another critical ingredient for the success of memory studies programs is to have relatively frequent talks, guest speakers, workshops and the like. Faculty teaching memory-related courses often come from distinct intellectual traditions. Having opportunities to meet and to discuss one's work, to identify hidden assumptions, and to share ideas and problems are the keys to helping build a solid program.

## CONCLUSION

The new interdisciplinary (and multidisciplinary) field of memory studies is an exciting intellectual adventure, one that is just beginning. Many great academic enterprises begin with cross-fertilization of thought permitted by scholars stepping out of their narrowly defined fields and engaging the problems of other disciplines from a new perspective. This potential for creative ferment now exists in memory studies, and we believe the field has a very bright future.

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