

## Introduction

For more than fifty years, repeated interactions with the amnesic patient H.M. have revealed that despite profound memory impairments, he successfully participates in sophisticated and complex conversations. Accordingly, linguistic abilities of individuals with amnesia have traditionally been considered to be fully intact, leading to the view of amnesia as a deficit exclusively of memory (Milner et al., 1968; Lackner, 1974). More recent investigations have called this view into question (MacKay et al., 1998; MacKay & James, 2001). Using data collected at approximately the same time as the above observations, these studies document linguistic deficits (at morphological, semantic, syntactic levels) in H.M. Although the everyday use of language in amnesia has not been formally studied, H.M.'s pragmatic use of language appears well persevered allowing him to orchestrate diverse communicative resources and strategies to engage in and manage complex interactions despite profound memory and, in comparison, more subtle linguistic deficits. In an effort to understand the nature and use of diverse communicative resources by individuals with amnesia, this paper examines the use of one such resource, reported speech, in the interactions among individuals with amnesia and a speech language pathologist (SLP); presents data analysis of the forms, functions, and temporal domains of the reported speech episodes (RSE); and provides an initial analysis on a corpus of data from an unprecedented number of individuals with amnesia.

## Background

Reported speech (RS) is a discourse phenomenon wherein speakers represent speech and thought from other times and places, bringing together in one utterance multiple speakers and contexts (Hengst et al., 2005). The common and pervasive nature of RS in conversational interactions has made it a robust communicative resource for study by linguists interested in its semantic and syntactic forms (Sakita, 2002), sociolinguists focused on the functions it serves within everyday interactions (Tannen, 1989), and speech-pathologists interested in its use to support successful communication in individuals managing aphasia (Hengst et al., 2005). From a clinical perspective, Hengst et al. observed that RS, when used by individuals with aphasia, stood out as a communicative practice that seemed to contribute to the engaging and natural feel of conversations.

RS has not yet been studied from a memory perspective. Tulving (2002) argues that episodic memory is a highly specialized form of human memory that permits "cognitive time travel" whereby a person may travel backward from the current moment to a personal episode in the past or may travel forward to anticipate episodes in the future. The shifts in the temporal domain in which multiple contexts and speakers are threaded together in one utterance, make RS a particularly visible display of such "time travel". In amnesia, the hallmark deficit is in acquiring new declarative memory which prevents individuals from, among other things, recalling and recollecting recent events of their daily lives normally (Eichenbaum & Cohen, 2001; Gabrieli, 1998). Although episodic memories prior to the onset of amnesia are routinely intact, there are no studies exploring the use of RS in the communicative practices of individuals with amnesia or the extent to which the use of RS by individuals with amnesia as a communicative resource may support or contribute to the intact feel of their conversational interactions.

## **Methods**

Data for this paper were collected as part of a broader study on the discourse practices of individuals with amnesia (Duff et al., 2005). An interactional discourse elicitation protocol (see

Hengst et al., 2003) was used to structure the session and elicit multiple samples of four discourse types: 1) conversation 2) story telling (frightening experience, J.F.K.'s assassination, family story); 3) picture description (cookie theft, Normal Rockwell, World Trade Center); 4) procedural (favorite sandwich, shopping in an American grocery store, changing a tire). The protocol allowed for collection of videotaped sessions of participants interacting with an SLP. The analysis of RS was conducted on discourse obtained throughout the session, including all task and between-task interactions.

### Participants:

Participants included nine participants with amnesia, 42-58 years old, with severe, chronic, adult-onset, anterograde memory impairment and nine healthy comparison participants matched for age and education. Etiology of amnesia included anoxia/ hypoxia (n=7) and herpes simplex encephalitis (n=2). Memory impairments were severe (mean of 65.33 on the Weschler Memory Scale-III, or > 3 S.D. below population means). General intelligence and language measures were all within normal limits.

### Data Analysis:

Analysis of RS involves four phases. Researchers: 1) using a broad definition of reported speech, review and mark transcripts for all reported speech episodes (RSEs); 2) recode RSEs to omit those that were simply reading (e.g., clinician reading instructions) and non-explicit representations of other's speech (e.g., "We talked for hours."); 3) using the framework developed by Hengst et al., (2005), categorize the remaining RSEs into one of five types (e.g., direct, indirect, indexed, projected, undecided) and identify the resources used to signal reported speech (e.g., linguistic markers, voicing shifts); 4) develop a framework for documenting the temporal domain of the reported context (e.g., pre-amnesia, post-amnesia, during the session, or future) and use it to code the temporal domains used in each RSE.

### **Results**

To date, analysis of phase one is complete, and phases two-four have been initiated. RSEs were distributed across individual participants, with every participant producing at least one episode. Using the broad definition of RS, the data yielded 656 RSEs for the individuals with amnesia, 1034 RSEs for the comparison participants, and 787 and 802 RSEs for the SLP in her interactions with the two participant groups, respectively. Currently, the recoding of phase two has been completed on about one third of the transcripts (4 amnesic and 2 comparison sessions), and for these approximately 20% of the initial RSEs were retained. Preliminary analysis of these remaining RSEs indicate that amnesic participants employed diverse RS forms (e.g., direct, projected) and signaling devices (e.g., shifts in voice) and constructed RSE representing multiple temporal domains. We are currently in the process of completing data analysis phases three and four, and given our current level of progress, should have the full analysis completed by March 2006. Data from all phases will be included in the presentation as well as a discussion, with examples, of the functional uses of reported speech in amnesia and the similarities and differences in its use between groups.

### **Discussion**

Our initial impressions are that there are subtle differences that differentiate the amnesic participants' use of RS from that of the comparison participants. Regardless of whether or not

this initial impression holds, the close analysis of RS presented here promises to contribute in interesting ways to our understanding of the relationship between memory and language and to the evolving portrait of the linguistic and pragmatic abilities of individuals with amnesia. In addition, close examination of the discourse of individuals with amnesia may provide a clinical tool for understanding and targeting its use in successful communicative interactions for individuals with more complex cognitive-communication disorders due to traumatic brain injury and Alzheimer's disease.

## References

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