PSYCHOLOGICAL SCIENCE

A JOURNAL OF THE ASSOCIATION FOR PSYCHOLOGICAL SCIENCE aps

Research Article

Forgetting the Unforgettable Through Conversation

Socially Shared Retrieval-Induced Forgetting of September 11 Memories

Alin Coman,[1] David Manier,[2] and William Hirst[1]

[1]New School for Social Research, The New School, and [2]Lehman College, City University of New York

ABSTRACT—*A speaker's selective recounting of memories shared with a listener will induce both the speaker and the listener to forget unmentioned, related material more than unmentioned, unrelated material. We extended this finding of within-individual and socially shared retrieval-induced forgetting to well-rehearsed, emotionally intense memories that are similar for the speaker and listener, but differ in specifics. A questionnaire probed participants' memory of the September 11 terrorist attacks. Questions and responses were grouped into category-exemplar structures. Then, participants selectively rehearsed their answers (using a structured interview in Experiment 1 and a joint recounting between pairs in Experiment 2). In subsequent recognition tests, response times yielded evidence of within-individual retrieval-induced forgetting and socially shared retrieval-induced forgetting. This result indicates that conversations can alter memories of speakers and listeners in similar ways, even when the memories differ. We discuss socially shared retrieval-induced forgetting as a mechanism for the formation of collective memories.*

Although the initial perception, interpretation, and encoding of an event will shape how it is subsequently remembered, conversations intervening between initial encoding and subsequent remembering can provide a context for speakers to implant new memories, alter existing ones, and induce forgetting—in themselves and in their listeners (see Hirst & Echterhoff, 2008, for a review). Induced forgetting occurs because information conversational participants are capable of remembering does not surface in a conversation, producing omissions Cuc, Koppel, and Hirst (2007) called "silences" (Marsh, 2007; Zerubavel, 2006). Surprisingly, not only are the unrecalled memories forgotten more often than recalled memories, but this forgetting is greater when the unrecalled memories are related to the recalled material than when they are unrelated to that material (Anderson, Bjork, & Bjork, 1994).

Retrieval-induced forgetting can be found reliably when a person is directed as to what (or what not) to remember (Anderson & Levy, 2002). In the standard within-individual retrieval-induced forgetting experiment, participants study category-exemplar pairs such as *animal-cat*, *animal-dog*, *vegetable-broccoli*, and *vegetable-pea*. They then receive retrieval practice by completing cued words (e.g., *animal-d*___). Practice selectively focuses on some pairs (*animal-dog*), but not on other related pairs (*animal-cat*), and does not involve whole sets of pairs (e.g., all the *vegetable* pairs). This design establishes three types of retrieval-practice items: practiced items (Rp+), unpracticed items related to practiced items (Rp−), and unpracticed items unrelated to practiced items (Nrp). Numerous studies have found that selective practice induces forgetting in a subsequent recall or recognition test, with retrieval-induced forgetting indicated by the telltale pattern of Nrp items being remembered better than Rp− items (for a review, see Anderson & Levy, 2007).

Underscoring the generality of the phenomenon, Cuc et al. (2007) showed that within-individual retrieval-induced forgetting occurs even when there are no explicit instructions about what to practice. Cuc et al. used stories as stimulus material, creating paired associates by structuring the stories around episode-event pairs; for instance, the episode *going to Coney Island* contained the events *eating hot dogs* and *riding the roller coaster.* Although Cuc et al. first used sentence completion to guide selective practice, in another experiment they asked pairs

Address correspondence to Alin Coman, Department of Psychology, New School for Social Research, 80 Fifth Ave., New York, NY 10011, e-mail: comaa121@newschool.edu.

Psychological Science RESEARCH, THEORY, & APPLICATION IN PSYCHOLOGY AND RELATED SCIENCES

of unrelated individuals to recall the previously studied story jointly in a free-flowing conversation. The resulting selective remembering allowed the events in the original story to be classified in terms of practice types (Rp+, Rp−, and Nrp) and conversational role (speaker, listener). Using this classification scheme, it was established that even when tested in the context of free-flowing conversations, speakers exhibited within-individual retrieval-induced forgetting in the final recall test.

The coding scheme also allowed Cuc et al. (2007) to establish that what a speaker says can induce forgetting in a listener. That is, even when Rp+ items were mentioned by only one person in the pair (the speaker), the other participant (the listener) showed the same pattern of retrieval-induced forgetting; that is, the unmentioned Rp− items were more difficult to remember than the unmentioned Nrp items. Cuc et al. called this form of retrieval-induced forgetting *socially shared retrieval-induced forgetting*. They reasoned that listeners could covertly retrieve memories concurrently with the speaker and, in doing so, evoke the processes underlying within-individual retrieval-induced forgetting. Cuc et al. identified concurrent retrieval as a critical factor because they had previously observed socially shared retrieval-induced forgetting when listeners monitored the speaker for accuracy, but not when they monitored the speaker for fluidity of response (cf. Tulving & Hastie, 1972). Cuc et al. argued that one can remain agnostic as to the controversies surrounding the theoretical accounts of processes underlying within-individual retrieval-induced forgetting (e.g., Anderson & Spellman, 1995; Camp, Pecher, & Schmidt, 2007; Racsmány & Conway, 2006) and still explore the conditions under which concurrent retrieval and socially shared retrieval-induced forgetting occur.

To date, studies of socially shared retrieval-induced forgetting have investigated forgetting only when speaker and listener hold a memory of the same event. However, a speaker can provoke a listener to remember even when they do not share the same memories. For example, if a speaker recalls a traffic accident, this selective recollection could evoke in a listener a memory of a different traffic accident, even if that memory is never expressed in the conversation. Moreover, the speaker may not only elicit covert retrieval on the part of the listener, but may also shape how and what the listener covertly remembers. If the speaker recollects the courtesy of the ambulance personnel, but fails to recollect the helpfulness of passersby, the listener might concurrently, but covertly, retrieve the attitude of the ambulance personnel in his or her own accident, but fail to recall, even covertly, how passersby reacted. If retrieval-induced forgetting is a consequence of selective remembering, then both the speaker and the listener should have difficulty subsequently recollecting the role passersby played in their distinct accidents.

We propose, then, that a conversation may induce participants to forget in similar ways even when memories differ. To test this significant extension of the previous work on socially shared retrieval-induced forgetting (Cuc et al., 2007), we asked pairs of unrelated individuals to recount to each other their flashbulb memories of the terrorist attacks of September 11. We wanted to determine whether these conversations would reshape speakers' and listeners' respective memories in similar ways. Inasmuch as flashbulb memories are both well rehearsed and frequently discussed, we doubted whether a single conversation would produce substantial forgetting. We therefore collected response times to a recognition probe, with the aim of examining not retrieval-induced forgetting, but retrieval-induced inaccessibility (Hicks & Starns, 2004; Spitzer & Bäuml, 2007).

We chose flashbulb memories of September 11 for several reasons. First, these memories possess the characteristics needed to explore our claims, in that (a) most Americans hold such memories and (b) the underlying reception event differs from individual to individual. Second, people frequently believe that they will never forget or have trouble remembering their flashbulb memories (though research suggests otherwise; see Hirst et al., in press). Given such claims, flashbulb memories provide a challenging test of the role of conversation in inducing accessibility problems. Third, flashbulb memories, especially if one includes the events across the day, can be structured as paired associates. Each event follows a generalized script, with the particularities of the event captured in slots in the script (Nelson & Fivush, 2004). These slots are the same across events. For instance, a generalized script might have *time* and *location* as categorical slots. The time slot could be filled in with 8:00 for when a person woke up and 9:05 for when he or she first heard about the attack. If we apply the logic of retrieval-induced forgetting, practice on the pair *TIME–woke up at 8:00* in the absence of practice on the pair *TIME–heard about the attack at 9:05* should induce forgetting of the latter pair.

Experiment 1 tested whether this pattern of within-individual retrieval-induced forgetting could be demonstrated for flashbulb memories of September 11. If so, we could then, in Experiment 2, test our central claim that similar retrieval-induced inaccessibility can be found for speakers and listeners in a conversation, even when the events being remembered (overtly or covertly) differ.

EXPERIMENT 1

When dealing with a real-world event such as the attacks of September 11, there is no need for a study phase. In place of the study phase, we used a standardized questionnaire to determine what participants remembered about their activities on that day.

Method

Participants

Twenty participants were recruited through posters displayed around the New School campus (located in Manhattan) and postings on a Web-based classified-ad site, Craig's List. Participants were native English speakers who lived in the New York City area on September 11, 2001.

Stimulus Materials

Stimulus materials were tailor-made for each participant from his or her responses to a standardized paper-based questionnaire probing for details of that participant's day on September 11. (The questionnaire can be found on the Web at http://www.newschool.edu/nssr/psychology/Flash_Memory_Questionnaire.pdf.) The questions fell into eight narrative categories relevant to the events on that day. Six of these categories, the experimental categories, were built around the canonical features Brown and Kulik (1977) associated with flashbulb memories: for example, *time*, *location*, and *communicating the event to another person*. The other two categories served as filler material. One filler category, for instance, included questions about the terrorist attack itself. The questionnaire requested information about four to six events (e.g., *woke up*, *learned of the attack*) for each category (e.g., *location*: "Where were you when you . . .?"). We use the term *category set* to refer to four pairs consisting of a label referring to a given category (e.g., *location*) and an answer to a question related to that category (e.g., "at home"). For example, the *location* category set included responses to the questions "Where were you when you woke up?" and "Where was the person with whom you first spoke on the phone after the attacks located when s/he spoke to you?" These pairs are structurally similar to the category-exemplar pairs in the study by Anderson et al. (1994).

For each participant, we created eight category sets (six experimental and two filler sets), each containing four responses. As a result, some of the events probed for in the questionnaire did not figure in any category set, given that in some experimental categories we probed for up to six events. These additional events, along with the two filler category sets, served as distractors in the final recognition test. To assess whether a question was relevant to one of the eight category sets, we asked 10 additional participants to sort the questions according to the eight category labels. The resulting classification was used to create the category sets.

For the practice phase, using the category sets as a guide, we devised lists of questions, such as "Where were you when you woke up?" A practice list began with 2 questions associated with one filler category set, followed by 2 questions each from three of the experimental category sets, and finally 2 questions from the other filler category set, for a total of 10 questions. The 6 experimental questions were classified as *Rp+* items, the remaining 6 unpracticed questions from the practiced category sets were classified as *Rp−* items, and the 12 questions in the three unpracticed category sets were classified as *Nrp* items. Four different practice lists were created by counterbalancing which category sets and which questions appeared in the practice list; this counterbalancing ensured that each question had an equal chance of being classified as Rp+, Rp−, or Nrp.

The final memory assessment consisted of a participant-specific yes/no recognition test. A statement based on each of the questions from the original questionnaire appeared on a computer screen, and after 3 or 4 s (depending on the length of the statement), a recognition probe appeared immediately below the still-present statement. For example, "I woke up at" might appear on the screen first, and then "9:00 a.m." might appear below. The recognition probe consisted of at most three words and was either a summary of the participant's response on the original questionnaire or a plausible alternative obtained from the questionnaire responses of other participants. For example, the correct response to "Where were you when you learned about the attack?" might be "at home," whereas a plausible answer might be "at work." The 24 probes based on responses in the experimental category sets were paired with the participant's answers to the original questionnaire, and the correct response to these probes was "yes." For the remaining 16 questions in the questionnaire—the distractors—the correct response to the probe was "no."

Design and Procedure

After participants completed the questionnaire, they were distracted for 25 min (as the experimenter tailored the programming so that the final test phase would reflect the answers to the questionnaire). Next came the practice phase, which took the form of a structured interview. The experimenter read the questions from the practice list one at a time and recorded the responses. Participants had as much time to respond as needed. The final yes/no recognition test followed after 5 min of distraction. In the recognition test, participants individually sat in front of a computer screen and were told to press one of two appropriately labeled keys as quickly as possible to indicate whether or not each recognition probe was consistent with their memory, basing their responses on what occurred on September 11.

Results and Discussion

Inasmuch as we were interested in accessibility, we focused on reaction times (RTs) for hits. For each participant, we eliminated RTs that were 3 standard deviations above or below the participant's mean RT (1% of the data). A repeated measures analysis of variance (ANOVA) on these adjusted data revealed a significant main effect for practice type (Rp+, Rp−, Nrp), $F(2, 38) = 8.55$, $p < .001$, $\eta_p^2 = .31$ (see Fig. 1). Our post hoc analyses focused on rehearsal effects (i.e., Rp+ vs. Nrp) and retrieval-induced forgetting (i.e., Nrp vs. Rp−). We found that RT was quicker for Rp+ items than for Nrp items, $t(19) = 2.73$, $p < .02$, $d = 0.60$, and RT was also quicker for Nrp items than for Rp− items, $t(19) = 2.30$, $p < .04$, $d = 0.56$.

In analyzing error rates, we focused on "no" responses to probes requiring a "yes" response (misses). An ANOVA revealed a main effect for practice type, $F(2, 38) = 5.63$, $p < .007$, $\eta_p^2 = .22$ (see Fig. 1), although post hoc analyses uncovered only a trend toward significant differences between the error rates for Rp+ items and Nrp items, $t(19) = 1.82$, $p < .09$, $d = 0.50$, and between the error rates for Nrp items and Rp− items, $t(19) = 1.79$, $p < .09$, $d = 0.63$. Inasmuch as these differences were in the predicted direction and consistent with our RT findings, the results overall

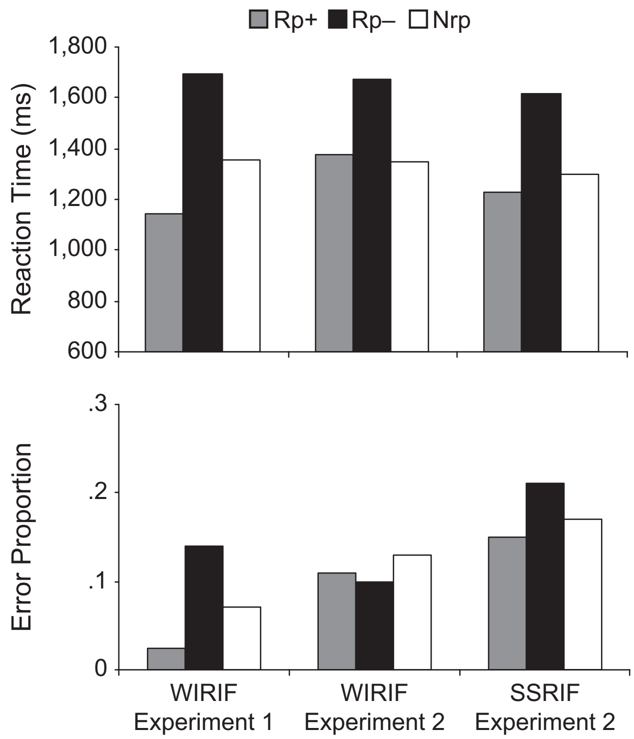

Fig. 1. Reaction times (top panel) and error rates (bottom panel) as a function of practice type in Experiments 1 and 2. Within-individual retrieval-induced forgetting (WIRIF; speaker's forgetting) was examined in both experiments, and socially shared retrieval-induced forgetting (SSRIF; listener's forgetting) was examined in Experiment 2 only (see Table 1). Rp+ = practiced items; Rp− = unpracticed items related to practiced items; Nrp = unpracticed items unrelated to practiced items.

indicate that practice will induce within-individual retrieval-induced forgetting, or at least inaccessibility, for stimulus material involving the category-exemplar structure associated with flash-bulb memories.

EXPERIMENT 2

Experiment 2 employed a free-flowing conversation, allowing us to investigate whether socially shared retrieval-induced forgetting can be found when memories of speakers and listeners differ.

Method

Twenty-two unrelated participants were recruited using the same methods as in Experiment 1. The initial questionnaire and recognition test were also the same as in the previous experiment. However, during the practice phase, instead of controlling selective practice, the experimenter asked the paired participants to recount to each other their personal experiences on September 11, in front of the experimenter. There were no instructions about the form this conversation should take or what should be included in the conversation. If the conversation did not generate discussion about enough categorical features or events, the experimenter made minimally invasive requests, such as "talk to each other about the early morning." Such interventions, which occurred in 82% of the conversations, ensured that the conversations were wide-ranging enough to meet the design requirements for assessing retrieval-induced forgetting. Conversations lasted on average 7 min. To keep the length of time a participant spent in the laboratory within reason, we scheduled Experiment 2 to take place on 2 days, rather than 1. Participants completed the questionnaire on the first day and then returned a day later for the conversation and final memory test.

Conversations were tape-recorded and transcribed. For each pair of participants, two coders identified the responses each participant gave to each of the questions in the questionnaire. Then, again, for each participant in the conversation and for each response gathered from the initial questionnaire (e.g., the response to Question 1), the coders determined whether (a) the participant mentioned his or her own response in the conversation (i.e., was the speaker), (b) the participant listened to the other participant mention his or her response (i.e., was the listener), or (c) neither the participant nor the partner mentioned his or her response. On the basis of this analysis, using the scheme presented in Table 1, the coders then determined for each participant and each response which conjunction of practice type (Rp+, Rp−, or Nrp) and conversational role (speaker or listener) was appropriate. No disagreements arose

TABLE 1

Classification of Questionnaire Response* R_n^A *for Participant A in Pair A-B as a Conjunction of Conversational Role and Practice Type in Experiment 2

	Conversational role	
Practice type	Speaker	Listener
Rp+: either R_n^A or R_n^B is mentioned in the conversation	Participant A mentions R_n^A	Participant A listens to participant B mention R_n^B (It is assumed that A concurrently, albeit covertly, remembers R_n^A.)
Nrp: neither R_n^A nor R_n^B nor any other items from the category set are mentioned by either A or B	The Nrp classification is the same for speaker and listener	The Nrp classification is the same for speaker and listener
Rp−: neither R_n^A nor R_n^B is mentioned, but a related response from the category set is mentioned	Participant A mentions a related response	Participant A never mentions a related response from his or her questionnaire, but listens to B mention a related response from B's questionnaire

Note. R_n^A and R_n^B refer to the responses of participant A and participant B, respectively, to probe *n* in the questionnaire. For 9% of the category sets, both R_n^A and R_n^B were mentioned in the conversation. We did not analyze the data for these category sets.

between the coders. The coding scheme yielded data structured similarly to that of Experiment 1, but in this case for both speakers and listeners.

Results and Discussion

Do speakers who mention their memories of September 11 not only induce themselves to forget their related, unmentioned memories, but also induce their listeners to forget their own related, unmentioned memories (memories unique to these listeners)? If a speaker mentions that she woke up at 9:00, will this recall induce her to forget that she learned about the attack at 9:10, and will it also induce a listener to forget that he learned about the attack at 10:25? Will this induced forgetting be greater than the forgetting observed for Nrp items? To answer these questions, we conducted four separate repeated measures ANOVAs. We examined the RTs and error rates separately for within-individual retrieval-induced forgetting effects and for socially shared retrieval-induced forgetting effects (see Fig. 1).

The within-individual analysis of RTs revealed a trend for an effect of practice type, $F(2, 36) = 2.64$, $p < .08$, $\eta_p^2 = .13$. Inasmuch as we had specific predictions about the differences among RTs for the three item types, we justifiably conducted planned comparisons using paired-sample t tests (Stevens, 1996). We found that RTs were quicker for Nrp items than for Rp− items, a significant difference indicating that speakers' utterances produced retrieval-induced inaccessibility for the speakers, $t(18) = 2.63$, $p < .02$, $d = 0.56$. As for socially shared retrieval-induced forgetting, the ANOVA of RTs revealed a significant main effect of practice type, $F(2, 30) = 7.45$, $p < .002$, $\eta_p^2 = .33$. Planned comparisons revealed that RTs were quicker for Nrp items than for Rp− items, $t(16) = 2.61$, $p < .02$, $d = 0.52$. For listeners alone, we found a trend for a rehearsal effect (i.e., quicker RTs for Rp+ items than for Nrp items), $t(17) = 2.09$, $p < .06$, $d = 0.36$. The final two ANOVAs examined error rates and revealed no significant differences across different practice types. Considered together, the error rates and RTs suggest that both within-individual retrieval-induced forgetting and socially shared retrieval-induced forgetting was present, as was a small rehearsal effect.

GENERAL DISCUSSION

This study investigated how conversations can alter existing memories. It has extended the findings on socially shared retrieval-induced forgetting by demonstrating that such forgetting arises even when speakers recount uniquely experienced pasts. For socially shared retrieval-induced forgetting to occur, listeners and speakers need not possess the same memory. Even when speakers and listeners have different experiences and different memories, speakers can shape what listeners subsequently remember—and forget—by evoking concurrent remembering in listeners. We are making no claims about the accuracy of the memories probed by our questionnaire, which simply queried the memories of participants at a particular point in time. What we are asserting is that conversations altered the memories assessed by the questionnaire.

Is the observed effect confined to public, emotionally charged events such as the attacks of September 11? If anything, memories of that day should be less susceptible to accessibility problems than everyday memories. The accessed memories may be inaccurate, but they are vividly and readily recalled (Echterhoff & Hirst, 2006). If one can find socially shared retrieval-induced forgetting for distinctive memories of September 11, then one can probably find such forgetting in other situations. It is true that we explored a limited range of features, and there are many ways to categorize a story into constituent features. Our general claim is that, for any given categorizing scheme, if one can find within-individual retrieval-induced forgetting, then one should also find socially shared retrieval-induced forgetting. All that is needed for the latter to occur is for listeners to recall their story concurrently, even if covertly, in a manner similar to the speaker's recollection.

Some aspects of our data may be particular to September 11. To an extent, the concurrent remembering during the conversations may have arisen because of the emotional nature of that day. Just as people are more likely to recount an emotional experience (relative to a nonemotional experience) to other people, they may also be more likely to remember an emotional experience concurrently (Rimé, 2007). In the main, however, the assigned conversational goal for participants to discuss their experiences on September 11 with each other is probably what largely motivated the concurrent remembering. Such a goal can apply to conversations about neutral as well as emotionally charged experiences.

Of course, our use of September 11 probably made it difficult to find forgetting, as opposed to inaccessibility. It may also account for the weak rehearsal effect, in that our participants had already rehearsed this material substantially. One more conversation probably would not have substantially improved memory. That stated, the finding that retrieval-induced forgetting occurred in the absence of a strong rehearsal effect underscores the robustness of the phenomenon. We are not the only ones to find a dissociation between rehearsal effects and retrieval-induced forgetting (Storm, Bjork, Bjork, & Nestojko, 2006). These two phenomena presumably involve different mechanisms; for example, the inhibition mechanisms often associated with retrieval-induced forgetting are probably irrelevant to the mechanisms underlying rehearsal effects.

Questions have been raised about the robustness of retrieval-induced forgetting. For instance, some researchers have failed to observe within-individual retrieval-induced forgetting after a substantial delay between retrieval practice and final testing, and have claimed that the effect is limited to delays of no more than 24 hr (MacLeod & Macrae, 2001). Other researchers, however, have found retrieval-induced forgetting after a week

(Conroy & Salamon, 2006; Garcia-Bajos, Migueles, & Anderson, 2008; Migueles & Garcia-Bajos, 2007; Storm et al., 2006; Tandoh & Naka, 2007). Long-term retrieval-induced forgetting might also be found if selective practice is distributed, rather than massed, as it currently is.

Researchers have also suggested that retrieval-induced forgetting is limited both by the degree to which the to-be-remembered material is integrated (Anderson & McCulloch, 1999) and by the conditions under which the retrieval practice occurs. Regarding the latter constraint, broad search undertaken with sufficient retrieval time will yield facilitation rather than forgetting (Chan, McDermott, & Roediger, 2006). With limited retrieval time and a narrow retrieval search, however, retrieval-induced forgetting can be reliably observed. These latter conditions may characterize the conversational remembering studied here and in Cuc et al. (2007), as the give-and-take and the quick pace of a conversation allow little time for retrieval. As Hirst and Echterhoff (2008) noted, Cuc et al. found much larger impairment following selective retrieval in their conversation studies than in their studies that controlled selective practice in a manner similar to that of Anderson et al. (1994).

The present findings have broad implications. They significantly expand the study of conversation and memory beyond situations in which memories are jointly held, to situations in which memories are uniquely held. Conversations about unique memories probably occur frequently, in that people often discuss similar experiences differing in specifics; such discussions cover both negative experiences, such as traffic accidents and broken romances, and positive ones, such as weddings and college days.

Moreover, the present results have critical implications for issues surrounding the formation of collective memories, that is, shared memories bearing on collective identity (see Coman, Brown, Koppel, & Hirst, in press, and Hirst & Manier, 2008, for reviews of the psychology of collective memory). In particular, our results may further understanding of collective forgetting, in that they demonstrate that speakers and listeners will "forget" the same type of material. Although we have established only an inaccessibility problem, conversationally induced forgetting may lead to true collective forgetting as people repeatedly talk to each other about past events, as they certainly did for September 11 (Mehl & Pennebaker, 2003). However, inaccessibility may be more typical of collective memory than forgetting is (Singer & Conway, 2008). When Cole (2001) examined why the people of Madagascar seemingly forgot the brutality they experienced under French colonial rule, she found that they had not in fact forgotten the brutality; rather, they did not spontaneously access their memories of the colonial conflict. What may be of critical importance, then, is not what people can remember when pressed, but how conversations shape the difficulties people have subsequently accessing their memories.

Social taboos about what to say and not to say in a conversation may play a noteworthy role in shaping memories, particularly collective memories, through socially shared retrieval-induced forgetting (Wertsch, 2008; Zerubavel, 2006). Such taboos may, for instance, constrain the degree to which veterans speak about the gruesome aspects of their war experiences. Our results concerning within-individual retrieval-induced forgetting indicate that such social taboos will make it more difficult for speakers to remember those details that they have avoided talking about. This difficulty should arise even in subsequent private acts of remembering (Wessel & Hauer, 2006). Our results on socially shared retrieval-induced forgetting go a step further and indicate that the socially driven silences in a speaker's narrative will also induce the listener to forget events particular to him or her. In this way, a speaker's censored war stories will shape the way a listener subsequently remembers his or her own war experiences, so that both the speaker's and the listener's memories of the war become sanitized. If the exchange between one speaker and one listener becomes part of a larger social network of exchanges (Watts, 2004), then collective forgetting across a network of individuals could emerge and affect the collective memory of a community. Community members will come to remember—and forget—the world in comparable ways, even if what they individually remember involved different experiences.

Acknowledgments—We gratefully acknowledge the support of National Science Foundation Grant 0819067 and the advice and guidance of Dora Coman and Robert Meksin.

REFERENCES

Anderson, M.C., Bjork, R.A., & Bjork, E.L. (1994). Remembering can cause forgetting: Retrieval dynamics in long-term memory. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *20*, 1063–1087.

Anderson, M.C., & Levy, B.J. (2002). Inhibitory processes and the control of memory retrieval. *Trends in Cognitive Sciences*, *6*, 299–305.

Anderson, M.C., & Levy, B.J. (2007). Theoretical issues in inhibition: Insights from research on human memory. In D.S. Gorfein & C.M. MacLeod (Eds.), *Inhibition in cognition* (pp. 81–102). Washington, DC: American Psychological Association.

Anderson, M.C., & McCulloch, K.C. (1999). Integration as a general boundary condition on retrieval-induced forgetting. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *25*, 608–629.

Anderson, M.C., & Spellman, B.A. (1995). On the status of inhibitory mechanisms in cognition: Memory retrieval as a model case. *Psychological Review*, *102*, 68–100.

Brown, R., & Kulik, J. (1977). Flashbulb memories. *Cognition*, *5*, 73–99.

Camp, G., Pecher, D., & Schmidt, H.G. (2007). No retrieval-induced forgetting using item-specific independent cues: Evidence against a general inhibitory account. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *33*, 950–958.

Chan, J.C.K., McDermott, K.B., & Roediger, H.L., III. (2006). Retrieval-induced facilitation: Initially non-tested material can benefit from prior testing of related material. *Journal of Experimental Psychology: General*, *135*, 553–571.

Cole, J. (2001). *Forget colonialism? Sacrifice and the art of memory in Madagascar* (Ethnographic Studies in Subjectivity No. 1). Berkeley: University of California Press.

Coman, A., Brown, A.D., Koppel, J., & Hirst, W. (in press). Towards a psychology of collective memory. *International Journal of Politics, Culture and Society*.

Conroy, R., & Salamon, K. (2006). Talking about parts of a past experience: The impact of discussion style and event structure on memory for discussed and non-discussed information. *Journal of Experimental Child Psychology*, *95*, 278–297.

Cuc, A., Koppel, J., & Hirst, W. (2007). Silence is not golden: A case for socially shared retrieval-induced forgetting. *Psychological Science*, *18*, 727–733.

Echterhoff, G., & Hirst, W. (2006). Thinking about memories for everyday and shocking events: Do people use ease-of-retrieval cues in memory judgments? *Memory & Cognition*, *34*, 763–775.

Garcia-Bajos, E., Migueles, M., & Anderson, M.C. (2008). *Script knowledge modulates retrieval-induced forgetting for eyewitness events*. Manuscript submitted for publication.

Hicks, J.L., & Starns, J.J. (2004). Retrieval-induced forgetting occurs in tests of item recognition. *Psychonomic Bulletin & Review*, *11*, 125–130.

Hirst, W., & Echterhoff, G. (2008). Creating shared memories in conversation: Towards a psychology of collective memory. *Social Research*, *75*, 78–91.

Hirst, W., & Manier, D. (2008). Towards a psychology of collective memory. *Memory*, *16*, 183–200.

Hirst, W., Phelps, E.A., Buckner, R.L., Budson, A.E., Gabrieli, J.D.E., Johnson, M.K., et al. (in press). The long-term retention of the terrorist attack of September 11: Flashbulb memories, event memories, and the factors that influence their retention. *Journal of Experimental Psychology: General*.

MacLeod, M.D., & Macrae, C.N. (2001). Gone but not forgotten: The transient nature of retrieval-induced forgetting. *Psychological Science*, *12*, 148–152.

Marsh, E.J. (2007). Retelling is not the same as recalling: Implications for memory. *Current Directions in Psychological Science*, *16*, 16–20.

Mehl, M.R., & Pennebaker, J.W. (2003). The social dynamics of a cultural upheaval: Social interactions surrounding September 11, 2001. *Psychological Science*, *14*, 579–585.

Migueles, M., & Garcia-Bajos, E. (2007). Selective retrieval and induced forgetting in eyewitness memory. *Applied Cognitive Psychology*, *21*, 1157–1172.

Nelson, K., & Fivush, R. (2004). The emergence of autobiographical memory: A social cultural development theory. *Psychological Review*, *111*, 486–511.

Racsmány, M., & Conway, M.A. (2006). Episodic inhibition. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *32*, 44–57.

Rimé, B. (2007). Interpersonal emotion regulation. In J.J. Gross (Ed.), *Handbook of emotion regulation* (pp. 466–485). New York: Guilford Press.

Singer, J.A., & Conway, M.A. (2008). Should we forget forgetting? *Memory Studies*, *1*, 279–285.

Spitzer, B., & Bäuml, K.H. (2007). Retrieval-induced forgetting in item recognition: Evidence for a reduction in general memory strength. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *33*, 863–875.

Stevens, J. (1996). *Applied multivariate statistics for the social sciences* (3rd ed.). Hillsdale, NJ: Erlbaum.

Storm, B.C., Bjork, E.L., Bjork, R.A., & Nestojko, J. (2006). Is retrieval success necessary for retrieval-induced forgetting? *Psychonomic Bulletin & Review*, *13*, 1023–1027.

Tandoh, K., & Naka, M. (2007). Durability of retrieval-induced forgetting. *Japanese Journal of Psychology*, *78*, 310–315.

Tulving, E., & Hastie, R. (1972). Inhibition effects of intralist repetition in free recall. *Journal of Experimental Psychology*, *92*, 297–304.

Watts, D.J. (2004). *Six degrees: The science of a connected age*. New York: Norton.

Wertsch, J. (2008). Collective memory and narrative templates. *Social Research*, *75*, 133–156.

Wessel, I., & Hauer, B. (2006). Retrieval-induced forgetting of autobiographical memory details. *Cognition & Emotion*, *20*, 430–447.

Zerubavel, E. (2006). *The elephant in the room: Silence and denial in everyday life*. New York: Oxford University Press.

(Received 7/26/08; Revision accepted 10/20/08)