

CASE REPORT

Autobiographical Memory in a Case of Multiple Personality Disorder

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Previous research on multiple personality disorder (MPD) has been concerned with between-personalities amnesia, and little attention has been paid to within-personality memory function. This study examined the autobiographical memory of a multiple personality patient, I.C., with cueing procedures that have proven useful in previous studies of normal and abnormal memory. Results indicated that I.C. was able to retrieve autobiographical episodes from the recent past, although her performance differed in several respects from that of matched controls. The study also revealed a striking deficit in I.C.'s autobiographical memory for childhood: She was unable to recall a single episode from prior to the age of 10 in response to various retrieval cues, whereas control subjects had no difficulty recalling numerous childhood episodes. This phenomenon of extended childhood amnesia has not been reported previously in studies of MPD.

One of the most prominent features of multiple personality disorder (MPD) is a dense amnesia between and among personalities. Although the *Diagnostic and Statistical Manual of Mental Disorders* (3rd ed., rev.; American Psychiatric Association, 1987) does not include amnesia as a criterion for diagnosis of MPD, it has been recognized since early case reports that cross-personality amnesia is one of the most striking and frequent characteristics of the syndrome (e.g., Coriat, 1916; Janet, 1907; Prince, 1910; for reviews, see Bliss, 1986, and Schacter & Kihlstrom, in press).

Consistent with the early clinical observations, Putnam, Guroff, Silberman, Barban, and Post (1986) reported evidence of between-personalities amnesia in 98% of their series of 100 cases. Recent research has delineated experimentally several important characteristics of the phenomenon. For example, it has been shown that amnesia can be asymmetrical: Some but not all personalities are amnesic for each other's experiences (Ludwig, Brandsma, Wilbur, Bendfeldt, & Jameson, 1972). Moreover, even when a particular personality cannot consciously or explicitly remember the experiences of another, some implicit memory (Graf & Schacter, 1985; Schacter, 1987) can be observed: Information acquired by one personality can

facilitate the performance of another on tests that do not require explicit recollection of a prior learning episode (Ludwig et al., 1972; Nissen, Ross, Willingham, Mackenzie, & Schacter, 1988).

In contrast to the empirical attention that has been devoted to between-personalities memory function in MPD patients, relatively little attention has been paid to within-personality memory function. Clinical and experimental observations suggest that individual personalities have relatively intact access to their own experiences (e.g., Dick-Barnes, Nelson, & Aine, 1987; Ludwig et al., 1972; Silberman, Putnam, Weingartner, Braun, & Post, 1985). Systematic attempts to characterize within-personality memory function in MPD patients have not yet been reported, however.

In this article we report a case study of an MPD patient in which we examined the autobiographical memory of the main personality. *Autobiographical memory* refers to recollection of personal experiences from an individual's everyday life (Rubin, 1986). Cognitive psychologists have recently exhibited a growing interest in the autobiographical memories of normal subjects (e.g., Crovitz & Schiffman, 1974; Kihlstrom & Harakiewicz, 1982; Rubin, 1982; see Rubin, 1986, for a review) and memory-impaired patients (Butters & Cermak, 1986; Schacter, Wang, Tulving, & Freedman, 1982; Tulving, Schacter, McLachlan, & Moscovitch, 1988; Zola-Morgan, Cohen, & Squire, 1983). Whereas between-personalities impairments of autobiographical memory are an essential feature of MPD patients, almost nothing is known about within-personality autobiographical memory.

We focused on two related aspects of autobiographical memory. First, we wanted to determine whether the temporal distribution of autobiographical memories that our patient pro-

This research was supported in part by Grant BRSG S07 RR07002, awarded by the Biomedical Research Support Grant Program, Division of Research Resources, National Institutes of Health, and by Grant MH-35856 from the National Institute of Mental Health. We thank Sue Stephens for assistance in the sessions with I.C. and Steven Barkley for assistance in data analysis.

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duced in response to selected retrieval cues showed the pattern characteristic of normal subjects: Most memories come from the recent past, with an increasingly smaller proportion from the more distant past (Crovitz & Schiffman, 1974). Second, we sought to investigate carefully the patient's autobiographical memories of her childhood. There is growing consensus that traumatic childhood experiences are closely connected to the onset of dissociative episodes in MPD patients (Bliss, 1986). Accordingly, it is possible that there are abnormalities in MPD patients' memory for childhood. To investigate these issues, we used cueing procedures that have been developed to study autobiographical memory (Crovitz & Schiffman, 1974; Robinson, 1976) and also administered a protocol for probing memories of early childhood (Mayman, 1968).

Case Report

Patient's Background

The patient, I.C., is a 24-year-old White woman who was brought to the emergency room of a general hospital by the police in February 1987 after exhibiting behavior that was deemed to be dangerous to herself. She is an attractive woman, married, with a 3-year-old daughter. I.C. has completed 3 years of college but is not presently an active student. She is currently unemployed. I.C. was raised in a small town, one of three children of fundamentalist parents. There is evidence of molestation by her father that began in adolescence and continued for at least 3 years.

According to the police report, I.C. was observed walking in the middle of a crowded highway. When approached, she ran across the highway and proceeded to bang her head against a brick wall. She was reported to be extremely strong; it took two officers to subdue her and transport her to the emergency room. On arrival at the emergency room, I.C. appeared confused and denied being aware of the incident. A physical examination was negative for neurological abnormalities.

The incident that brought I.C. to the emergency room was not the first that brought her to the attention of local law enforcement. For approximately 1 month prior to the hospitalization, the police had made three documented contacts with I.C. Each instance was precipitated by a call from her husband stating that she was attempting to hurt herself or was in some other way acting extremely strangely. In each case, the situation was handled on the scene. Additionally, the current episodes involving the police follow two hospitalizations at local psychiatric hospitals within the past year. Both previous hospitalizations were brief, and the discharge diagnoses were anxiety disorder and conversion disorder, respectively. According to her husband, her problems were becoming significantly more severe. He reported that on a regular basis, she seemed to become distinctly different people. Her voice, temperament, and entire manner would change. On switching back to I.C., she would always deny memory or awareness of any personality changes. At the time of the emergency room contact, the husband's concern was that her switching was resulting in increasingly dangerous behavior. Although he recognized that she likely had been changing personalities previously, it was only recently that she began hurting herself when she switched.

Since the index admission described earlier, I.C. has been hospitalized under court-ordered treatment and followed on an outpatient basis for an inclusive 18 months. Over these 18 months, she has had moderately long periods of normal functioning (more than 3 months). That is, even though she may have dissociated, the episodes were brief and she was not a danger to herself. However, I.C. has also experienced episodes during which she has dissociated on an almost daily basis and has become extremely dangerous to herself. She has attempted suicide (by putting what she thought was a loaded gun in her mouth and pulling the trigger), has arrived in another city without knowing how she arrived there, and has received intravenous feedings after refusing any form of nutrition for 96 hours.

One of us (M.B.) has worked closely in a therapeutic relationship with I.C. Various personalities have been identified in that work, including "Heather," an adolescent who is attempting to destroy I.C.; "Joan," a sexually active lesbian; "Gloria," a drug abuser; and "Alpha," a bodiless personality who appears to be in executive control. Although various personalities are aware of each other and aware of I.C., I.C. is aware only of the time lapses that occur when she dissociates. She reports to be totally unaware of the existence and actions of the other personalities.

Identification of the primary personalities and their relationships to I.C. and each other occurred during the initial 3 weeks of hospitalization. The personalities presented themselves both spontaneously and in hypnosis with M.B. Although some personalities were readily identified by posture, voice, mannerisms, and so on, others would make their presence known with a remark like "I'm not I.C., I'm 'Joan'." Since the initial identification of a small number of primary personalities, a variety of other personalities have been identified.

What makes the I.C. case unique is that when she is functioning normally, she is a world-class performer and has participated effectively on the international circuit. Her natural abilities are such that even during extended hospitalizations, she has been able to remain among the best in her field.

Psychological Testing

On the 5th day after her index admission to the hospital, psychological testing was initiated. Testing lasted for portions of 3 days and included both measures of personality and cognitive functioning.

Wechsler Adult Intelligence Scale-Revised (WAIS-R). Testing with the WAIS-R (Wechsler, 1981) showed that I.C. had a verbal IQ of 105, a performance IQ of 120, and a full-scale IQ of 113. Her highest score (17) was on picture arrangement, a measure of social awareness, for which she received maximum credit. Her lowest scale score (8) was obtained on information, a measure of one's general knowledge base, a score far below what one would expect from someone who had completed 3 years of college.

Minnesota Multiphasic Personality Inventory (MMPI). On the MMPI, I.C. obtained a Welsh code of 48 "2697 '0531/F" LK. The profile was valid, with $F - K = 4$. The profile obtained by I.C. is one that has been shown to be associated with MPD (Solomon, 1983).

Rorschach. The comprehensive system was used for admin-

istration and scoring (Exner, 1986). The results of her Rorschach are similar to the criteria set by Wagner, Allison, and Wagner (1983) for diagnosing MPD and to the findings of MPD presented by Lovitt and Lefkof (1985).

Method

Although I.C. generally resisted the diagnosis of MPD, she acknowledged that she suffered from problems of memory, especially the memory lacunae associated with her "blackouts." Accordingly, she was referred to the Amnesia and Cognition Unit of the Psychology Department at the University of Arizona for specialized testing intended to document her memory impairment in detail. Our strategy was to adapt a number of procedures for sampling autobiographical memory and to compare her performance to that of a normal control group. We had hoped to carry out this investigation in each of the several alter egos and to examine the pattern of explicit and implicit memory transfer between them (Schacter, 1987; Schacter & Kihlstrom, in press). At the time of writing, however, the other personalities had not proved amenable to experimental control (e.g., by hypnosis) in either the clinical or laboratory setting. Therefore, this investigation focused on documenting memory deficits in the primary personality.

A total of 30 control subjects participated in the study. The controls were women in various stages of their college careers who volunteered for the experiment in response to an announcement on a campus bulletin board and advertisements that were placed in two campus newspapers. They were paid \$5 for their participation. The mean age of the control subjects (24.35 years; range = 19–29 years) was closely matched to I.C.'s age at the time of testing (25 years).

Design and Materials

Autobiographical cueing. To investigate I.C.'s autobiographical memory, we used the Crovitz and Schiffman (1974) cueing procedure. In this task, subjects are presented with a common English word as a retrieval cue and are asked to produce a memory of a specific episode from their past that is related to the cue. Subjects are also required to date the memories that they have retrieved. We introduced two modifications of the basic procedure. First, we used three different types of cues that were used and described originally by Robinson (1976): object (e.g., box and milk), activity (e.g., throw and run), and affect (e.g., happy and doubt). We randomly assigned eight cues of each type, taken directly from Robinson, to separate lists designated as A and B, thus yielding two lists composed of 24 cues each (all cues are published in Robinson's report). Second, we tested subjects under both unconstrained and constrained cueing conditions (cf. Kihlstrom et al., 1988; Schacter et al., 1982). In the unconstrained condition, subjects were instructed to retrieve a memory from any period in their lives: minutes, hours, days, weeks, months, or years ago. In the constrained condition, subjects were instructed only to retrieve memories that predated a specified time period. There were two constrained cueing conditions, in which subjects were instructed to produce memories from (a) before their 12th birthday/sixth grade in school (*constrained-12 condition*) or (b) before their 10th birthday/fourth grade in school (*constrained-10 condition*). The precise temporal landmarks that we used were motivated by our observations of I.C.'s performance in the unconstrained condition.

I.C. was tested initially in the unconstrained condition with List A. She was again given List A 2 weeks later but was now constrained to retrieve only memories from before the age of 12. In a third session that was conducted 2 weeks after the second, List B was given, and I.C. was constrained to retrieve only memories from before the age of 10. We randomly divided the 30 control subjects into 3 groups of 10 that participated in either the unconstrained, constrained-12, or constrained-10

conditions, respectively. Like I.C., subjects in the unconstrained and constrained-12 conditions were tested with List A, and subjects in the constrained-10 condition were tested with List B.

Survey of early recollections. To further explore I.C.'s memories of her early childhood, we used nine cues from the Mayman (1968) protocol for eliciting therapeutically relevant early recollections. Subjects were asked to provide their (a) earliest memory, (b) next earliest memory, (c) earliest memory of mother, (d) next earliest memory of mother, (e) earliest memory of father, (f) next earliest memory of father, (g) earliest happy memory, (h) earliest unhappy memory, and (i) most special early memory. We gave I.C. this task at the end of the first session, after the unconstrained version of the autobiographical cueing task. We gave control subjects in each of the three conditions the Mayman task after completion of their respective autobiographical cueing tasks.

Procedure

At the beginning of the first session, I.C. was told that we were interested in learning about her memory for past episodes in her life. She was informed that a series of words would be read to her, that she would have 1 min to think of a specific episode in her life that was related in some way to the cue, and that she should try to retrieve a different episode for each cue. The experimenter further instructed I.C. to provide a brief description of the memory and to date it as accurately as possible. The experimenter then read each cue aloud to I.C. After completion of the cueing task, I.C. was told that the experimenter would now focus on her early memories. I.C. was informed that brief phrases would be read to her and that she should try to retrieve an early memory of the type specified by each phrase. The experimenter provided an example, and emphasized that I.C. should not provide memories that were based on stories told by relatives or on images from photographs or home movies. This session and all others were recorded in their entirety on audio tape. The audio tapes were used in order to determine subjects' latency to retrieve autobiographical memories. Tapes were played back and the experimenter used a stopwatch to time the interval between when the experimenter stated the retrieval cue and when the subject first indicated that she had retrieved a memory.

In the second session, the autobiographical cueing task was administered as described earlier, except that I.C. was now instructed to try to retrieve only memories from before the sixth grade or 12th birthday. This constraint was included because of I.C.'s failure to retrieve any memories from before the sixth grade in the unconstrained condition. In the third test session, the task was identical in all respects except that I.C. was constrained to try to retrieve memories from before the fourth grade (or 10th birthday) because she had not done so in the second session.

Control subjects were given the same task instructions as I.C., except that they were told that the purpose of the experiment was to investigate the organization and retrieval of real-world memories. Each control participated in a single session.

Results

Unconstrained Autobiographical Cueing

Table 1 presents the proportion of memories that were produced from three different time periods: from the most recent 12 months, from more than 1 but less than 10 years ago, and from more than 10 years ago. It should be noted, first, that the performance of the control subjects departed substantially from that of the subjects in Robinson's (1976) experiment. Robinson's subjects showed a strong recency bias, with the typical memory drawn from the last 2 years. Similarly, Crovitz and

Table 1
Percentage of Autobiographical Memories in Three Age Periods (Unconstrained Condition)

Age of memory	I. C.	Control
≤ 1 year	66.7	44.4
2–9 years	29.2	19.1
≥ 10 years	4.1	36.5

Note. I. C. is multiple personality disorder patient.

Schiffman (1974) found that the bulk of their subjects' memories, retrieved through a similar unconstrained procedure, were from the most recent year of their lives (see also Rubin, 1982; Rubin, Wetzler, & Nebes, 1986). Our control subjects, however, yielded a more bimodal distribution of memories. In contrast to the control subjects, I.C. showed a strong recency bias in recall, paralleling that obtained by other investigators in younger college student subjects (Crovitz & Schiffman, 1974; Robinson, 1976; Rubin, 1982; Rubin et al., 1986).

Table 2 displays the median dates of memories produced to object, activity, and affective cues and the associated response latencies. I.C., like the younger subjects studied by Robinson (1976), tended to produce more recent memories in response to affective cues and fewer recent memories in response to object cues. This contrasts markedly with the performance of her own age peers, who showed no differences between type of cue. Interestingly, I.C. was slower than controls in responding to both object and activity cues but was somewhat faster in responding to affective cues.

Data concerning the relation between age of autobiographical memories and retrieval latencies are presented in Table 3. After a procedure devised by Robinson (1976), each subject's set of retrieved memories were divided, according to their age, into the most recent third, middle third, and most remote third of the set of memories. Robinson found that the most recent and most remote memories were retrieved faster than were memories from the middle of the temporal distribution. As the data in Table 3 indicate, we observed a similar pattern in I.C.

Table 2
Median Age and Response Latency of Autobiographical Memories by Type of Cue (Unconstrained Condition)

Type of cue	I. C.	Control ^a
Object		
Age ^b	30.0	85.3
Latency ^c	12.5	5.8
Activity		
Age	12.0	93.4
Latency	12.5	9.1
Affect		
Age	2.0	87.3
Latency	7.5	9.6

Note. I. C. is multiple personality disordered patient.
^a Mean of medians. ^b Months prior to test. ^c Seconds.

Table 3
Median Response Latency (in Seconds) of Autobiographical Memories as a Function of Age Category (Unconstrained Condition)

Cue type	Most recent	Middle	Most remote
I. C.			
All	10.5	16.5	5.5
Objective/activity	14.5	15.0	5.5
Control			
All	9.5	7.4	8.2
Objective/activity	8.6	7.2	7.6

Note. I. C. is multiple personality disordered patient.

but not in controls of her own age. Overall, collapsed across type of cue, I.C.'s mean median retrieval latency (10.8 s) was comparable to that shown by Robinson's subjects (10.3 s) but slower than that of age-matched controls (7.9 s).

Overall, the results of the unconstrained cueing task revealed that I.C.'s retrieval of autobiographical memories was similar to that of young college-student subjects but deviant when compared to controls her own age. One particularly suggestive difference was that the oldest memory reported by I.C. came from when she was 12 years old, in the sixth grade of school. In contrast, 9 out of 10 control subjects produced at least one memory that predated the 12th birthday (sixth grade), and 8 out of 10 produced at least one predated the 10th birthday (fourth grade). However, it is difficult to interpret the fact that I.C. did not retrieve any memories from early or middle childhood in the unconstrained task, because she was not explicitly asked to do so. The results of the two constrained cueing tasks provide the pertinent data.

Constrained Autobiographical Cueing

Consider first the data from the constrained-12 condition (Table 4). Here again, I.C. differed markedly from control subjects in several respects. First, she was able to retrieve autobiographical memories for only 21% (5/24) of the cues, whereas controls retrieved memories in response to 86% of them (the proportion rises to 90% if one control subject, who failed to respond to 45% of the cues, is excluded). Second, there was a striking difference in the distribution of recollections across early (< 6 years old), middle (7–9 years old) and late (10–12 years old) childhood: All of I.C.'s autobiographical memories came from the period when she was 10 to 12 years old, whereas control subjects were able to retrieve memories from each period of childhood (only 33% of their recollections came from age 10–12).

A third difference between I.C. and controls in the constrained-12 condition emerges from consideration of retrieval latencies to the five cues that were successful in eliciting memories from I.C. (Table 5). I.C. was consistently and considerably slower to produce autobiographical memories in response to these cues than were control subjects. Her average response latency to these cues (26 s) lies more than 3 standard deviations from the mean of the control subjects' medians ($M = 9.85$,

Table 4
Percentage of Autobiographical Memories in Three Age Periods (Constrained-12 Condition)

Age of subject	I. C.	Control
10–12 years	100.0	32.9
7–9 years	0.0	34.7
≤6 years	0.0	32.4
% cues yielding memories	20.8	86.2

Note. Constrained-12 condition = condition where subjects are instructed to produce memories from before their 12th birthday. I. C. is multiple personality disordered patient.

$SD = 5.66$). In fact, for two of the five cues, I.C.'s retrieval latencies lie completely outside the range of latencies produced by controls.

Consistent with these observations, I.C. reported that four of the five memories that she produced were ones that she could not recall having retrieved previously; they were new "discoveries" from an otherwise amnesic period of her life. I.C.'s abnormally slow retrieval times, which contrast with her normal latencies in the unconstrained cueing condition, may be attributable to the fact that she was retrieving previously inaccessible material, whereas the control subjects were retrieving previously accessible material.

The results of the constrained-10 cueing condition indicated that I.C. was unable to retrieve a single memory from prior to age 10. Her inability to recollect any episodes in this condition proved so stressful for the patient that testing had to be discontinued after 20 cues had been presented: I.C. was upset, confused, and showing signs that she was about to experience a dissociative episode. In contrast, control subjects had little difficulty producing memories from prior to age 10 in response to the same cues. Overall, controls retrieved autobiographical episodes in response to 89.5% of the cues, and the lowest proportion of successful retrieval attempts by a single subject was 71%.

Survey of Early Recollections

I.C. also exhibited clear differences from control subjects on the Mayman (1968) task (Table 6). The median age of the mem-

Table 5
Retrieval Latencies (in Seconds) to Cues Yielding Memories in I. C. (Constrained-12 Condition)

Cue	I. C.	Control	
		<i>M</i>	Range
Happy	21.0	8.0	5–60
Game	24.0	6.0	3–27
Tense	40.0	10.5	4–18
River	31.0	6.0	2–13
Run	14.0	12.0	3–32

Note. Constrained-12 condition = condition where subjects are instructed to produce memories from before their 12th birthday. I. C. is multiple personality disordered patient.

Table 6
Performance on Earliest Recollections Task

Response	Age of I. C.	Age of Control
Earliest memories	12*	3.96*
First memory of father	16	4.06
Median response latency (in s)	32	16.59

Note. Age is in years. Age of control is mean age of all control subjects combined. I. C. is multiple personality disordered patient.
* Median.

ories that she reported on this task, expressed in terms of the patient's age when the episode occurred, was 12 years, with a range of 10 to 17 years. In contrast, the mean median age of recollections reported by controls was 3.96 years, with a range of 2.00 to 6.00 years. There was almost no overlap in the temporal distribution of recollections produced by I.C. and control subjects: The earliest age from which I.C. could produce a memory was 10; there were only 11 instances in the 267 observations generated by controls in which a memory from the age of 10 or older was produced in this task. Perhaps the most striking example of I.C.'s abnormality on this task concerned her earliest recollection of her father, which she dated to age 16. The average age of this recollection in controls was 4.06, and no control subject in our sample reported that her earliest memory of her father dated from later than the age of 11.

Discussion

The major finding of the present study is that the MPD patient I.C. showed a striking deficit in autobiographical memory for childhood experiences. I.C. was unable to recollect a single episode from prior to 10 years of age and exhibited extremely limited memory for the period from 10 to 12 years of age. As far as we know, our results represent the first empirical demonstration of such a deficit in an MPD patient.

The data concerning autobiographical memory for post-childhood experiences in the unconstrained cueing task were less clear. Overall, I.C. had no difficulty generating memories from her postchildhood years, although she was somewhat slower than the control subjects. I.C.'s temporal distribution of retrieved memories, however, showed a recency bias that differed from the age-matched controls who participated in our study, even though it was similar to the recency bias observed in college undergraduates who participated in the studies of Crovitz and Schiffman (1974) and Robinson (1976).

Some ideas about this finding emerge from consideration of the discrepancy between the Robinson (1976) and Crovitz and Schiffman (1974) results on the one hand and the data from our control subjects on the other. In the former two studies, the subjects were all undergraduates aged 18–21 and most were (presumably) freshmen or sophomores. In such a sample, it seems likely that the recent transition from home and high school to college (Cantor & Kihlstrom, 1987) was quite salient to the subjects and may have served as a landmark that focused

attention on the most recent period of their lives, thereby resulting in a recency bias (cf. Pillemer, Rhinehart, & White, 1986). In our older sample, however, there would be less likelihood of a recent landmark or transitional period of similar magnitude that would serve as a focal point for retrieval. Consistent with this hypothesis, a significant ($r = 0.74$) correlation was observed between the age of control subjects at the time of testing and the median age of the memories sampled by the cueing procedure. For the 5 youngest control subjects, the mean median age of the reported memories in the unconstrained condition was 24.2 months, in contrast to 146.4 months for the 5 oldest subjects, $t(8) = 2.89$, $p < .05$. These results confirm that our younger subjects were more likely to show the recency effect. With respect to I.C., we suggest that her recency effect, too, may be attributable to focusing on a recent, landmark-defined transitional period: I.C.'s first MPD-related hospitalization occurred approximately 12 months prior to the test session, and her life since that time has differed markedly from before. Although this hypothesis is somewhat speculative, it is worth noting that previous research has suggested a role for autobiographical landmarks in functional amnesia (Schacter et al., 1982).

Turning to I.C.'s impaired childhood recollections, it is well known that normal adults have difficulty remembering experiences that occur before the age of 3 to 4 years, a phenomenon known as *childhood amnesia* (e.g., Schachtel, 1947). The deficits exhibited by I.C. might be conceptualized as an exaggeration of this normal phenomenon, that is, as an extended childhood amnesia. Although we have no firm basis for theorizing about what factors produced this amnesia, it may be related to the beginnings of sexual abuse during the period of early adolescence. This hypothesis suggests a further possibility: The personality that we refer to as I.C., who currently presents herself as the main personality, may be an alter personality who emerged during the initial abuse episodes to "help" the patient cope with traumatic stress (e.g., Bliss, 1986). If this were so, it would not be surprising that I.C. could not retrieve any memories from prior to the age of 10, because she did not "exist" during those years. It is intriguing to speculate, however, that these early memories may be accessible by means of one of the other personalities, a current alternate who perhaps constituted the original core personality.

Although our results demonstrate clearly that autobiographical memory for childhood can be deficient in an MPD patient, they do not indicate whether this deficit is specific to MPD. It is conceivable, for example, that non-MPD patients with childhood histories of abuse, or patients with psychiatric conditions other than MPD, may exhibit problems in retrieving childhood memories that are similar to those observed in I.C. Because our control subjects had no known psychiatric histories, investigation of whether the kind of deficit observed in I.C. is specific to MPD patients awaits further research. The main contribution of our study is to establish firmly the existence of the deficit.

An additional unresolved issue concerns whether I.C.'s childhood amnesia is restricted to autobiographical episodes. It is safe to assume that during the amnesic period, I.C. learned and retained language, general knowledge, and numerous basic skills. We do not know, however, whether I.C.'s retention in these domains is entirely normal. The finding that I.C. per-

formed poorly on the Information subtest of the WAIS-R suggests some memory deficits for nonautobiographical information. It is not clear, however, whether this is attributable to childhood amnesia or to later dissociative episodes. Further study of this issue would likely enhance our understanding of the nature of amnesia in MPD patients.

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Received March 2, 1989

Revision received April 15, 1989

Accepted April 20, 1989 ■