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Hypnotically Refreshed Testimony:

Enhanced Memory
or Tampering
With Evidence?

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James K. Stewart

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Hypnotically Refreshed Testimony: Enhanced Memory or Tampering with Evidence?

by
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Issues and Practices in Criminal Justice is a publication series of the National Institute of Justice. Designed for the criminal justice professional, each *Issues and Practices* report presents the program options and management issues in a topic area, based on a review of research and evaluation findings, operational experience, and expert opinion in the subject. The intent is to provide criminal justice managers and administrators with the information to make informed choices in planning, implementing and improving programs and practice.

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FOREWORD

Accurate information and solid evidence are vital to our system of criminal justice. The details given by victims and eyewitnesses can sometimes provide the critical lead that points investigators in the right direction toward hard evidence. Eyewitness information, however, is subject to a variety of influences. Fear or psychological trauma can interfere with or even block the accurate recall of the crime.

Over the past decade, police began to turn to hypnosis in some of these cases to develop leads where none seemed to exist. Victims or witnesses were hypnotized in the hope that they could recall such information as the description of suspects or vehicle license numbers. Reports on use of the technique indicated mixed results depending on the subject and information sought.

In recent years, forensic hypnosis has come under increasing scrutiny. Concerns about the heightened suggestibility of hypnotized witnesses and the accuracy of hypnotically-induced recall have challenged its credibility. Some appellate courts have held that testimony refreshed through hypnosis is either not admissible or admissible only under limited conditions. However, the courts have left open the possibility that the witness may testify to matters not covered in the hypnotic session, and some courts have allowed testimony on matters recorded in statements made before the witness was hypnotized.

This Issues and Practices report reviews the scientific evidence on hypnosis and discusses some of the reasons for the controversy surrounding "hypnotically refreshed" testimony. The authors recommend that use of hypnosis be limited to investigative purposes. To assist investigative managers in setting policies for appropriate and responsible use of the technique, they suggest guidelines that can protect both the witness and the authorities. While some professionals may differ with specific points made by the authors, the Institute believes that judges will want to review the research findings that underlie recent court rulings and that police and prosecutors will want to examine the suggested guidelines in light of the decisions governing their own jurisdictions.

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INTRODUCTION

During the last fifteen years, courts across the country have grappled with the questions of when and under what circumstances witnesses should be allowed to testify after having undergone hypnosis to "refresh" their memories. The first important modern decision, Harding v. State, 5 Md. App. 230, 246 A.2d 302 (1968), permitted the introduction into evidence of "hypnotically refreshed" eyewitness testimony, despite scientific controversy about its reliability, but directed the judge or jury to consider that controversy in determining the weight to be given to such testimony.

Numerous decisions on the admissibility of "hypnotically refreshed" testimony have followed. In the late sixties and early seventies, they tended to follow the Maryland pattern. Since 1980, however, most appellate courts considering the question have forbidden the admission of "hypnotically refreshed" eyewitness testimony¹ or conditioned its admission on compliance with detailed guidelines concerning the circumstances under which the hypnosis was conducted.² The Maryland courts also have repudiated their earlier position, in State v. Collins, 296 Md. 670 (1983). By late 1983 at least ten states had banned the use in court of "hypnotically refreshed" eyewitness testimony.

It is no coincidence that most recent appellate decisions considering the question have ruled against the admissibility of testimony based on "hypnotically refreshed" memory. Put simply, the heavy weight of scientific evidence disfavors reliance on "hypnotically refreshed" eyewitness testimony. Such testimony will often be unreliable, for several reasons. First, there is little reason to believe that recollections under hypnosis are more accurate than un hypnotized recollections. Second, hypnotized persons are highly suggestible and often provide inaccurate information in response to subtle and unintended cues given by the hypnotist. Third, evidence obtained from hypnotized persons may often include confabulations--false memories that the hypnotized subject creates to fill in gaps in his recollections, which the subject later believes, and may testify to as true memories. Fourth, while hypnosis may cause hypnotized persons to provide a greater amount of accurate detailed recollections, it also induces a greater

amount of inaccurate detailed recollections. Fifth, hypnosis can reduce the confidence levels required before uncertain recollections are asserted as memories; details about which a person is uncertain before hypnosis may, after hypnosis, be asserted as memories confidently held. Sixth, hypnotized persons often become more confident of their apparent recall after they have been hypnotized, and a substantial body of credible psychological research has established that judges and juries are more likely to believe confident witnesses than witnesses who are apparently unsure of their recollection. Unfortunately, the "hypnotically refreshed" memory may include false memories. Neither the hypnotist nor the court can reliably distinguish among accurate recollections, confabulations, unreliable memories, and false memories that result from a hypnotized witness's response to the context and to the hypnotist's suggestions.

This position paper reviews the evidence and the issues concerning the use of hypnosis in the legal system. The report is organized into six sections. Section I provides an introduction to hypnosis, noting particularly that hypnotized persons are highly suggestible, that persons under hypnosis often "invent" requested information that memory cannot supply, and that it is possible both to lie under hypnosis and successfully to feign hypnosis. Section II, the most technical part of this report, reviews the relevant scientific evidence concerning hypnosis, and suggests the implications of that evidence for the forensic use of hypnosis. Section III reviews a series of critical questions raised by forensic hypnosis, including various ways in which it might be employed, who should conduct the hypnotic interview, and what induction and questioning techniques should be used. Section IV reviews the modern case law concerning the admissibility of "hypnotically refreshed" eyewitness testimony. In general, recent decisions have concluded, in agreement with the authors of this position paper, that "hypnotically refreshed" testimony should not be admissible in court. However, for forensic investigative uses not involving subsequent testimony (and for those jurisdictions in which witnesses are allowed to testify after hypnosis), Section V sets out detailed guidelines³ which, if adopted by courts and carefully observed, should serve greatly to reduce the likelihood that injustice will result from the testimony of witnesses who have undergone hypnosis. Section VI is a brief conclusion.

One final introductory note concerning vocabulary. Words and phrases that are likely to be unfamiliar to lay readers are defined the first time they are used. In addition, a glossary at the end of the report may be consulted when readers wish to refresh their recollection of the meanings of unfamiliar terms.

I. SCIENTIFIC KNOWLEDGE CONCERNING HYPNOSIS RELEVANT TO ITS FORENSIC APPLICATIONS

The reports and recollections of crime victims and witnesses form the basis of most criminal investigations and prosecutions. Law enforcement officials are understandably eager to discover techniques that can enhance victim and witness recollections. Thus, when hypnosis was introduced as a method to aid recall, it was enthusiastically received by many law enforcement officials and was hailed as a major breakthrough in police investigation techniques. Its promise was dramatized by sensational cases like that of the Boston strangler, and the Chowchilla kidnapping case in which a critical license plate number was remembered only under hypnosis. In these and other cases, hypnosis has been instrumental in obtaining incontrovertible physical evidence that facilitated apprehension of the individuals responsible for the crimes.

Cases involving the use of hypnosis to obtain leads to physical evidence should be distinguished from cases where sworn courtroom testimony is based solely on recall following hypnosis. It is the latter cases that present the greatest risk of injustices. Law enforcement officials have used hypnosis to aid the memories of testifying witnesses and victims when physical proof could not be obtained that corroborated vague, fragmented, inconsistent, or uncertain recollections. Unfortunately, it is often difficult to know whether "hypnotically refreshed" memories should be believed.

Hypnosis involves a capacity to experience changes, suggested by the hypnotist, in perception, memory, or mood. In addition, the subject's expectations and the hypnotic situation itself contribute importantly to the nature of these experiential changes and the manner in which they are expressed. It is difficult to distinguish between the bona fide effects of hypnosis on experience and thought processes and the effects that result from the desire of the subject to provide responses consistent with explicit or implicit suggestions about what is wanted. Moreover, a

subject can fantasize, hallucinate, and invent memories with conviction while under hypnosis. It is also possible to lie while hypnotized, or even to feign hypnotic behavior, without the hypnotist's awareness (see Orne and Hammer, 1974).

To clarify why concern has been expressed over the forensic use of hypnosis, this section reviews knowledge about hypnosis deriving from extensive experimental and clinical investigation during the past 50 years and suggests how this information is related to the forensic use of hypnosis to "refresh" memory.

Experience and critical judgment in hypnosis

Hypnosis is characterized by a subject's increased responsiveness to suggestions. Typically these suggestions involve the person's ability to experience alterations of perception, memory, or mood. Regardless of whether the phenomenon is conceptualized as an altered state of consciousness, as believed-in imagining, as role enactment, as fantasy absorption, or as focused attention, hypnosis is a real experience; the hypnotized individual believes in it and is not merely acting as if he did.

By allowing the hypnotist to define what is to be experienced, the hypnotized individual foregoes evaluation both of the nature of the suggestion and his reaction to it. Given a suggestion that is acceptable within the hypnotic context, subjects will attempt to respond without concern for whether the suggestion is logical or meaningful. This increased willingness to accept suggestions in hypnosis inevitably requires that, for the time, subjects suspend critical judgment.

Although most individuals can voluntarily forego some aspects of their reality orientation in an attempt to experience hypnosis, not all are equally capable of responding to hypnotic suggestions. The ability to experience suggestions is called hypnotizability and is a fairly stable attribute of the person. Though hypnotizability varies considerably among individuals, it is not the same as acquiescence, gullibility, or neuroticism (Bowers, 1976).

Despite considerable theoretical controversies over whether hypnosis is a unique state and over the role that social psychological

factors play in accounting for its effects, there is general consensus among researchers that most highly hypnotizable individuals are profoundly affected by the hypnotic process. When hypnosis is induced, even persons with moderate hypnotizability experience changes in their subjective response to hypnotic suggestions, as well as in their relationship with the hypnotist. Consequently, for most individuals, hypnotic suggestions administered in a cooperative setting can be used to alter private experience in a manner that is uncritically accepted by the person. The application of hypnosis in forensic settings is no exception.

The use of hypnosis to "refresh" memory for events that might have been observed inevitably suggests--implicitly or explicitly--that this process will result in additional, accurate recollections. Regardless of how the suggestions of enhanced recall are phrased (e.g., watching the events on an imaginary television screen, or actually reliving the events), the person hypnotized will typically accept the hypnotically created recollections--whether they are accurate or not--as actual memories. This uncritical acceptance is further enhanced by the hypnotized individual's expectations about the ability of hypnosis to aid memory, by a desire to please the hypnotist, and by the nature of the suggestion given to the subject.

Induction, expectations, and the nature of suggestions

The contrast between the simplicity of the hypnotic induction and the dramatic effects that subsequent suggestions can have upon some subjects' experiences has spawned much of the controversy surrounding hypnosis and its effects.

Induction begins with the hypnotist establishing rapport with a cooperative subject, discussing why the subject is to be hypnotized (for example, to aid in recall of events), and clarifying that the subject wishes to be hypnotized. Many different procedures can be used to induce hypnosis. Typically, the subject is instructed to focus attention, to concentrate on the hypnotist's voice, to relax, and eventually to close the eyes and imagine what the hypnotist is suggesting.⁴

Following the hypnotic induction, the subject's attention is intensely focused on the hypnotist, and there is an increased tendency to please the hypnotist and to comply with both explicit and implicit demands. The extent of cooperativeness and compliance are largely determined by the subject's expectations about hypnosis and its effects, but also by the hypnotist's behavior.

Subjects inevitably have expectations and preconceptions. These vary in accuracy and generally reflect hypnosis as it is portrayed in films, novels, and the media. For example, in terms of the forensic use of hypnosis, we recently found that the vast majority (96%) of 167 college students surveyed at the University of Pennsylvania believed that hypnosis could help a person remember things that could not be remembered without it.

These preconceptions can greatly enhance the impact of hypnosis on the subject's willingness to produce the desired and expected effects. Further, the subject's beliefs or expectations can serve as an effective prehypnotic suggestion (see Alexander, 1971). That is, preconceptions about what will occur during hypnosis can produce specific hypnotic effects when the subject is hypnotized, without any additional suggestion by the hypnotist. The hypnotic situation can both generate strong expectations that hypnosis will, for example, facilitate recall, but also may suggest that recall in hypnosis is different--more accurate or more certain--than nonhypnotic recall. The hypnotized individual, accordingly, may alter his recall in ways that seem consistent with these suggestions and expectations. These changes may or may not involve increases in accurate information.

Implicit suggestions and unwitting cues that direct the subject's responses can also occur within the hypnotic interaction. Subjects feel relaxed and less responsible for what they say because they believe that the hypnotist is an expert and somehow in control. The hypnotist in turn makes certain that subjects cannot "fail." Hypnotic technique involves the use of extensive reinforcement through frequent comments such as, "Good," "Fine," "You are doing well," and so on, which are both satisfying and reassuring to the subject. Not surprisingly, subjects want to maintain this level of approval; consequently, when the hypnotist stops expressing approval (as simply by not saying "Good"), he clearly

communicates that something else or something more is wanted. Subjects' behavior can be altered by a modest decrease in the hypnotist's level of approval. Similarly, once details are reported by the subject and accepted as valid by the hypnotist, that very acceptance can persuade the subject to view these "recollections" as accurate—including memories that were previously extremely tentative and about which the subject had little or no subjective conviction, and also memories that might have been created during hypnosis.

Individuals who are hypnotized are generally relaxed, less anxious, and less critical than when not hypnotized. The context of hypnosis allows subjects to say things about which they are uncertain—things that would not be said in contexts where subjects feel responsible for their memories and challenged about their consistency. Thus, the hypnotic situation may serve to increase the amount of information—both accurate and inaccurate—produced by the subject.

Finally, posthypnotic suggestions given during hypnosis can influence a subject's behavior following hypnosis. Implicit posthypnotic suggestions can be as effective as explicit posthypnotic suggestions. For example, if a hypnotist suggests to a subject that he will relive the events in question, and the subject appears to do so, the hypnotist may say, prior to the subject's awakening, that he will later recall everything that has happened including the events in question—thereby implicitly giving a posthypnotic suggestion that what the subject apparently relived actually happened and will subsequently be remembered as such. These effects are likely to persist after hypnosis, regardless of the accuracy of the information reported, and the subject may be unaware that the recollection derives from hypnosis when he later recalls or testifies about the event in question.

Lying and simulation versus fantasy and confabulation

Many lay people have misconceptions about hypnosis (fostered by fiction writers) that are simply not consistent with scientific evidence. Among these are that deeply hypnotized individuals will commit acts that they would not commit in other circumstances; that they can be compelled to tell the truth in hypnosis; and that hypnosis cannot be faked. Though hypnosis can have profound effects on subjective

experience, such as in the control of pain, it is in fact generally not effective for control or modification of voluntary behavior (see Wadden and Anderton, 1982, for a review). For example, hypnotized persons can resist specific suggestions if they choose to do so (see Erickson, 1939). Individuals can deliberately lie even though deeply hypnotized, especially when this would serve the individual's interest (Orne, 1961).

In the absence of strong motivation to deceive, conscious lies in hypnosis, though possible, are rarely a major problem. Because hypnotized persons are often encouraged to experience suggested alterations of perception, memory, or mood, they may honestly report these distorted perceptions or hallucinations as real. For example, a hypnotized subject given a suggestion that a white wall is actually blue will report seeing a blue wall. This is not a lie in the sense of purposeful deception but, rather, can be an honest report of a distorted perception.

Similarly, consider an individual who is trying to remember a person whom he had seen only once at a distance of 100 yards. If, during hypnosis, he is asked to "look at" the person using hallucinated binoculars so that he can "see" him more clearly, the subject may describe the person in detail down to the pattern on his necktie, even though the "perception" of such detail is beyond the physical ability of the human eye at a distance of 100 yards. In other words, the hypnotized subject responds to the suggestion to observe with binoculars by hallucinating or imagining the details. This fantasizing of information that seems plausible is called confabulation.

A vivid illustration of confabulation is offered by Stalnaker and Riddle's (1932) study of memory for prose and poetry. One subject was unable, before being hypnotized, to recall the second stanza of Longfellow's The Village Blacksmith. When hypnotized, this subject "recalled" the following as the second stanza:

The smithy whistles at his forge
As he shapes the iron band;
The smith is very happy
As he owes not any man.

The actual second stanza is as follows:

His hair is crisp, and black, and long,
His face is like the tan;
His brow is wet with honest sweat
He earns what e'er he can,
And looks the whole world in the face,
For he owes not any man.

The last line remembered by the subject is nearly correct, but the first three lines bear little resemblance to any other lines in the poem. Nevertheless, without the actual poem for comparison, these three lines, confabulated in hypnosis, sound quite plausible. In the absence of verification the observer as well as the subject might readily have accepted the entire stanza as accurate.

A pseudomemory of this sort will tend to be accepted by the hypnotized subject as accurate if, as previously noted, there are explicit or implicit demands in the hypnotic situation that suggest it should be accepted as accurate. Comparable distortions and confusions between fact and fantasy may occur when hypnotized subjects try to remember events.

In clinical practice, it is rare to encounter an individual attempting to fake hypnosis. Simulation is a potentially serious problem, however, in forensic uses of hypnosis, particularly with a defendant, who has a powerful interest in persuading the authorities to accept his version of the events in question (see Orne, 1981b; Orne, Dinges, and Orne, 1984). Contrary to popular assumption, untrained individuals can simulate hypnosis and deceive even an experienced hypnotist by behaving in ways that they think a hypnotized subject would behave and by complying with what they think the hypnotist wants (Orne, 1971). Because feigning hypnosis poses no significant problem in clinical practice, some clinicians are convinced that they could easily identify a subject pretending to be hypnotized. Simulation has, however, been extensively studied in hypnosis research (see Sheehan and Perry, 1976), and the evidence clearly indicates that without specially designed procedures, blind observation of many hypnotized and feigning subjects, and subsequent feedback as to their status, even highly trained clinicians or researchers cannot reliably identify individuals who are feigning hypnosis (see Orne, 1977).

Acknowledgment of the problems described in this section -- suspension of critical judgment, suggestibility, confabulation, and feigned hypnosis -- is an essential prerequisite to the use of hypnosis in any applied area, but especially in its use within the criminal justice system as a means of "refreshing" recall. Whether forensic hypnosis should be used, however, depends upon the scientific evidence about its effectiveness as an aid to memory.

II. THE EFFECTS OF HYPNOSIS ON MEMORY, BELIEF, AND CERTITUDE

The forensic use of hypnosis in law enforcement has increased sharply during the last fifteen years, owing both to its perceived usefulness as an investigative tool and to the establishment of a number of hypnosis training programs for police officers (see Hibbard and Worrying, 1981; Reiser, 1980). Various studies have attempted to document the effectiveness of hypnosis in criminal cases (Block, 1976; Kroger and Douc  , 1979; Reiser, 1976; Schafer and Rubio, 1978; Stratton, 1977). These reports consistently claim that hypnosis helped to provide new information or valuable leads in 60 percent to 90 percent of the cases in which it was employed.

Such claims make it easy to understand why there is enthusiasm for using hypnosis in criminal investigations. The cited figures, however, do not pertain to the accuracy of the recall elicited during hypnosis. Rather, as Timm (1982, p.3) has noted, "These field studies are more a reflection of the benefits perceived by those administering the procedure than a more objective evaluation requiring documented corroboration of those new leads." Although such reports suggest that hypnosis may be helpful for investigative purposes, they do not address the dilemmas raised when "hypnotically refreshed" recall is introduced as testimony -- when inaccuracies can have far more serious consequences than during criminal investigations.

Critical evidence is needed on the extent to which hypnosis facilitates recall of accurate (as opposed to inaccurate or confabulated) information, on the degree to which individuals can be biased or influenced when recalling in hypnosis, and on the effects of hypnosis on the relation between the confidence with which information is recalled and its accuracy. Such data have begun to appear in the scientific literature, especially in the past decade (see Smith, 1983; Orne, Soskis, Dinges, and Orne, 1984). Prior to this work, however, hypnosis was used

for many years by psychiatrists to aid recall for emotionally charged memories. Much has been learned from this experience, and our examination of empirical evidence begins here because hypnosis is often believed to be uniquely suited to facilitate recall of traumatic or emotionally blocked events.

Hypnotic age regression and recall of traumatic events

Hypnotic age regression, in which hypnotized persons are given suggestions that they are reliving an earlier age, is frequently employed in hypnosis. There has been controversy over the years whether an age-regressed individual is "reliving" past events or merely role-playing, and whether the accuracy of recall in age-regression is superior to that when not in hypnosis. Recent research has undermined the "reliving" claims and suggests skepticism about the accuracy of age-regressed recall. Because age regression is so commonly used, however, this section reviews relevant basic research in some detail.

In the late 19th century, Sigmund Freud, working with Josef Breuer, used hypnosis to help adult patients suffering from psychological symptoms relive traumatic childhood events that were related to those symptoms (Breuer and Freud, 1895/1955). Freud observed several phenomena that lent credence to the presumed historical accuracy of the events "remembered" in hypnosis. First, in hypnotic age regression, patients often experienced powerful emotional reactions while reliving the traumatic childhood event. Second, they often spontaneously reported minute details, such as scratches on furniture or defects in the wall covering, that gave the appearance of being accessible only to a person who had actually experienced the event. Finally, patients often achieved dramatic relief of their symptoms after "reliving" experiences relevant to the symptoms, while hypnotized.

Freud used these observations to formulate his early theories concerning the sexual basis of hysteria. He eventually realized, however, that much of what was relived or "remembered" in the treatment reflected the patient's sexual feelings and fantasies without necessarily being historically accurate (Freud, 1905/1953, p. 274). Often the "recalled" traumatic episode involved confabulation -- fantasies combined with actual events.

The development of psychoanalysis by Freud took into account the lack of historical accuracy of these "recalled" traumas (see Ellenberger, 1970) and hypnotic age regression continued to be used, though not by Freud, to aid in the recollection of emotionally charged events, such as wartime traumatic neuroses arising from combat experiences. This use of hypnosis by therapists was directed at helping the patient gain relief from a psychological symptom. Whether details of the "remembered" traumatic event were truth, fantasy, or confabulation was unimportant; the "recollection" was accepted as valid within the treatment context if the patient improved following the emotional reexperiencing of the event (see Kolb, 1982).

Given this therapeutic orientation, much of the early research on hypnotic age regression has investigated the extent to which age-regressed individuals actually relived earlier stages of development and responded, both psychologically and physiologically, as though they were regressed to an earlier age. The assertion was made that age regression resulted in a temporary loss of memories of events subsequent to the suggested age (Spiegel, Shor, and Fischman, 1945). Besides these rather exotic claims, there were some anecdotal efforts to show that age regression led to accurate recall of the events relived (e.g., Young, 1926). More systematic studies, however, failed to support either the neurophysiological claims (McCranie, Crasilneck, and Teter, 1955), or the assertions concerning childlike functioning in age regression (Orne, 1951; Young, 1940).

In the early 1960s, critical reviews of the empirical work concerning the issues of reliving versus role playing and that of increased recall versus confabulation concluded that the evidence for reliving events in hypnotic age regression, or for more accurate remembering, was scant at best (see Barber, 1962; Gebhard, 1961; Yates, 1961). Similarly, a replication and extension by O'Connell, Shor, and Orne (1970) of one of the key studies (Reiff and Scheerer, 1959) discovered that many of the positive results were due to unwitting experimenter bias; more important, no evidence was found of bona fide hypnotic memory enhancement when appropriate experimental controls were instituted. Instead, as Freud had observed with recall of traumatic childhood events, the modest increase in recall during hypnotic age regression to childhood was accompanied by increased confabulation.⁵

In summarizing the hypnotic age regression studies we have concluded that:

The hypnotic suggestion to relive a past event, particularly when accompanied by questions about specific details, puts pressure on the subject to provide information for which few, if any, actual memories are available. This situation may jog the subject's memory and produce some increased recall, but it will also cause the subject to fill in details that are plausible but consist of memories or fantasies from other times. It is extremely difficult to know which aspects of hypnotically aided recall are historically accurate and which aspects have been confabulated. The details of material that is confabulated depend upon the subject's total past experience and all available cues relevant to the hypnotic task. Subjects will use prior information and cues in an inconsistent and unpredictable fashion; in some instances such information is incorporated in what is confabulated, while in others the hypnotic recall may be virtually unaffected. (Orne, 1981b, p. 72)

It would appear that hypnotic age regression for the purpose of reinstating full and accurate recall of either traumatic or nontraumatic events from childhood is not reliably effective, despite its compelling appearance. Though there is no reason to assume that hypnotic age regression to childhood is any different from age regression to a year or a month ago, it is worth reviewing the few studies concerning the effect of hypnosis on recall of relatively recent, emotionally charged events, because these are closely related to the forensic use of hypnosis.

Investigators have exposed individuals to emotionally arousing stimuli or events, and then tested for increased recall with hypnosis minutes, hours, or days later. Emphasis has been placed on encouraging relaxation and calmness -- to overcome the memory blockage that may result from the emotional nature of the situation. Though the initial investigation by Rosenthal (1944) found that hypnosis improved recall (beyond nonhypnotic recall) of material learned in an anxious state, more recent studies have not confirmed this finding (Burch, 1974; DePiano and Salzberg, 1981; Helwig, 1978; Shaul, 1978).

Given the small number of studies and differences among them, it is not possible to draw firm conclusions regarding the efficacy of hypnotic age regression for aiding recall of recently witnessed traumatic events, though initial impressions are negative. More work is needed, however, to determine whether hypnosis can overcome the effect of emotional circumstances that block recall, as well as to evaluate different techniques that might be useful for this purpose.

Hypnosis to improve memory for verifiable facts

The central issue concerning "hypnotically refreshed" recall in the criminal justice system is the extent to which hypnosis can improve memory beyond that possible without the aid of hypnosis. This question has been the focus of over two dozen scientific experiments during the past 50 years. Although space does not permit critical review of each of these studies, the general conclusions to be drawn from them and their conceptual limitations are discussed in this section.

These studies have a number of characteristics in common:

- (a) hypnotic recall is compared with nonhypnotic recall for information originally observed a few minutes to a few weeks earlier;
- (b) the stimulus information is not emotionally charged and is well controlled and verifiable to permit confident assessment of the accuracy of recall; and
- (c) recall results are quantified and statistically analyzed to avoid impressionistic conclusions.

Despite differences among the studies in methodological sophistication, experimental design, the treatment condition, the subject groups, and the type of stimulus materials used, there is a remarkable consistency in the results of these investigations. If the material to be remembered is not particularly meaningful, hypnosis does not aid recall beyond normal nonhypnotic recall levels. If, however, the to-be-remembered material is contextually meaningful, hypnosis appears to

increase the number of details reported, at least from some individuals in some situations.

Recall of non-meaningful materials. More than 40 years ago, White, Fox, and Harris (1940) found that hypnosis improved the recall of contextually meaningful material, such as pictures and poetry, beyond nonhypnotic remembering but had no differential impact on nonsense syllables. Others have obtained similar findings (Rosenthal, 1944; Dhanens and Lundy, 1975).⁶

Nearly every study that has used nonsense syllables as memory stimuli has reported no effect from a hypnotic intervention (e.g., Barber and Calverley, 1966; Dhanens, 1973). Similar negative results have been reported for stimuli comprised of single or paired words that were not meaningfully connected (Das, 1961; Salzberg and DePiano, 1980). The few exceptions to these negative results come from Rosenthal (1944) for words learned under stress and from Augustynek (1978, 1979) who claimed that hypnosis improved recall of all types of material, but this claim was based upon inadequately controlled observations.

Recall of meaningful materials. By contrast, some studies that have used contextually meaningful stimulus materials, such as poems, pictures, stories, and films, have observed an apparently significant degree of improvement in recall aided by hypnosis (e.g., DePiano and Salzberg, 1981; Stalnaker and Riddle, 1932). However, not every study of meaningful materials has found positive results, particularly when hypnosis was tested against various attempts to increase non-hypnotized individuals' motivation to remember (Cohen, 1972; Cooper and London, 1973; Shaul, 1978). Furthermore, in experiments where hypnosis was compared to motivating instructions and found to be more effective, the results were confined to hypnotizable individuals (Dhanens and Lundy, 1975; Stager, 1974). Recent investigations of hypnotic memory enhancement concerning simulated accidents or mock crimes also run counter to the view that hypnosis enhances recollection of meaningful information. Though Griffin (1980) reported that hypnosis substantially improved accurate remembering of witnessed mock crimes, other, better controlled experiments involving witnessed accidents (Putnam, 1979; Sturm, 1982; Zelig and Beidleman, 1981), witnessed mock crimes (McEwan and Yuille, 1982; Sanders and Simmons, 1983; Sheehan and

Tilden, 1983; Timm, 1981), facial recognition (Sanders and Simmons, 1983; Wagstaff, 1982a; Wagstaff, Traverse and Milner, 1982), victim-reported mock crimes (Timm, 1982), and actual crimes (Sloane, 1981) have not supported this view.

One possible explanation for the lack of hypnotic memory enhancement in these studies of simulated crimes and accidents is the manner in which memory was measured; in nearly all studies with negative results, memory was elicited by means of a structured set of questions, rather than by permitting an open-ended free recall. Similar methods of structuring that put even mild pressure on the subject to remember details were also used in much of the hypnotic age regression research, where increased confabulation rather than enhanced memory was found.⁷ Thus, apparent gains in accurate recall through hypnosis are lost when questions are structured to meet the needs of the interviewer.

The alternative, however, the use of free narrative recall, is not without potential problems of its own. In the studies previously mentioned, when free narrative recall was used to document increased recall under hypnosis, the emphasis was typically only on recall of accurate information. The classic Stalnaker and Riddle (1932) study with recall of poetry and prose, for example, that was used earlier to illustrate confabulation, was based on the amount of accurate information remembered, without regard for potential increases in inaccurate information.

Even if people recall more information when hypnotized, the fact that the amount of accurate information recalled increases does not necessarily mean memory has been enhanced. Instead, it may be that subjects' reduced critical judgment in hypnosis results in their willingness to report more things about the to-be-remembered event -- including details that they would normally reject as too uncertain to report -- and that this leads to an increase in both accurate and inaccurate information. Such increases are likely to be the result of changes in what researchers call the subject's "report criterion" -- that is, the level of confidence about recollections at which individuals are willing to report them as memory.

This issue has been recognized and techniques have been devised to control for it in studies of waking memory enhancement (see Erdelyi, 1970; Erdelyi and Kleinbard, 1978). The problem has yet to be adequately dealt with, however, in hypnosis studies. Though recent investigations have evaluated both accurate and inaccurate recall, as well as total recall, response criterion shifts have not been either adequately measured or controlled.

A particularly troublesome problem with "hypnotically refreshed" recall is that false recollections are often experienced not as guesses, but rather, as contextually appropriate and meaningful memories. The individual may remember some fragments and create plausible details that fill in the gaps in the narrative. This "filling in" is confabulation.

In the Stalnaker and Riddle (1932) study of the effect of hypnosis on the accuracy of memory, the researchers reported a modest increase in accurate recall during hypnosis of poetry originally learned in childhood. On the surface, the amount of improvement seemed far more extensive; this was because subjects in hypnosis filled in the gaps with plausible though incorrect poetry segments, making it appear as though they were "remembering" a great deal more.

In the Stalnaker and Riddle study, hypnosis resulted in the subjects reporting some additional accurate information that was not previously offered. Hypnosis also resulted, however, in the subjects confabulating a good deal more inaccurate information. There is no evidence that either subject or observer can distinguish between accurate recollection and such pseudomemories unless the facts can be verified. In life situations, where the material to be remembered is not known, there is a tendency to accept plausible recollections at face value. Furthermore, if one is able to verify a portion of these recollections (such as the last line of the stanza), there is a tendency to infer uncritically that the entire memory report is accurate. Thus, the problem is not merely the inaccuracy of the confabulations, but that they are likely to be accepted as accurate by the hypnotized individual. Timm (1981) presents an example of confabulated details "recalled" in hypnosis by a victim of a mock crime.

Though confabulation has been recognized as an important phenomenon that requires assessment in hypnosis memory studies, the broader problem of control of response criterion shifts has not been adequately dealt with. The only study, thus far, that attempted to control for response criterion shifts when comparing non-hypnotic procedures for enhancing memory with the effect of hypnosis, using meaningful material, was reported by Dywan and Bowers (1983). They found that hypnosis modestly increased accurate recall but also produced a much greater increase in inaccurate recall. Of the new information "recalled" in hypnosis, over two-thirds was actually incorrect despite the subjects' confidence that this material was accurately remembered! The implication of the Dywan and Bowers study is that hypnosis produces a response criterion shift and not an actual increase in memory.

In conclusion, there is some evidence that hypnosis may increase the reporting of some items of information over and above the non-hypnotic recall. This increase apparently includes a corresponding, and perhaps greater, increase in inaccurate information being reported. The extant evidence suggests that the hypnotic context itself pressures subjects to recall in such a way as to make them particularly vulnerable to confabulation and to subsequently report with confidence counterfactual information.

The influence of subtle cues on hypnotic recall

The potential gain in correct recalls and the negative consequences (confabulation, lowered response criterion) of asking persons to remember events appear to be greater and occur more rapidly when recall is in hypnosis. This is likely due to some combination of the increased suggestibility, relaxation, cooperativeness, and lowered critical judgment of hypnotized subjects. Each of these factors can contribute to the increased desire of the hypnotized individual to provide what is wanted. This attribute of hypnosis is especially troublesome when the interviewer conveys, wittingly or unwittingly, a bias to the hypnotized individual concerning the events to be recalled. Even very subtle communications from the hypnotist can influence the subject with neither the subject nor the hypnotist realizing that this is happening (Orne, 1981a).

Of course, inadvertent influences by the interviewer can occur even without hypnosis, particularly when the witness is asked to comment upon specific details of an event. A critical question concerning hypnosis, however, is the extent to which it significantly increases the impact of biasing procedures on the memories reported by the subject.

Putnam (1979) reported the first systematic investigation of this issue. After viewing a mock accident, his subjects were questioned about details of the event; half were interviewed in hypnosis and half not in hypnosis. All subjects received 6 of 15 questions in a leading format, designed to suggest a specific answer.⁸ Hypnotized subjects were neither more accurate nor more inaccurate than nonhypnotized subjects in their answers to non-leading questions (i.e., no evidence for hypnotically enhanced recall). Hypnotized subjects, however, made significantly more errors on leading questions; they were more likely to accept and later, after hypnosis, report as memories, inaccurate information conveyed through leading questions. Thus, hypnosis served substantially to increase the witness's responsiveness to inaccurate information conveyed through subtle cues. Zelig and Beidleman (1981) attempted a replication of this finding using a more emotionally involving accident as a stimulus. Their results were virtually identical to those of Putnam (1979), though Sheehan and Tilden (1983), using a different leading question technique and fewer questions, did not find significant differences. Finally, a recent study by Sanders and Simmons (1983) of memory for a mock crime not only replicated the results of Putnam (1979) and Zelig and Beidleman (1981), that hypnotized subjects made significantly more errors on leading questions and were no more accurate on non-leading questions than were non-hypnotized subjects; but their results also revealed that hypnotized subjects were significantly more likely to feel confident enough about their recollections to testify in court despite the fact that the information they were confident about was significantly less accurate than subjects not receiving hypnosis. Sheehan and Tilden (1983) have also shown an increase in subjects' confidence in their memories following hypnosis without a concomitant increase in the accuracy of recollection.

In criticizing the Putnam study, Reiser (1979), a leading proponent of the forensic use of hypnosis, argued that such studies are not relevant

to forensic hypnosis because trained investigators in real life situations avoid leading questions. Unfortunately, it is extremely difficult and perhaps impossible to avoid the use of leading questions in actual practice. For example, the question, "Was the man behind, in front, to the left, or to the right of the blue car?" is appropriate only if there was a man and there was a blue car. It is better, therefore, to ask, "Was the person behind, in front, to the left, or to the right of the car?" This still assumes, however, that there was a car. Perhaps it was a jeep or a light truck. It is, therefore, better to ask, "Was the person behind, in front, to the left, or to the right of the vehicle?" Even this question assumes that there was a person and a vehicle. If either of these was not involved, what sounds like a very objective question is in fact, a leading question insofar as it suggests an inaccurate answer. In other words, it is not possible to determine whether a question is leading without knowing the accurate facts in advance -- a circumstance that seldom obtains in the real world.

The scientific evidence suggests that leading questions during hypnosis can profoundly modify the recollection of experimental stimuli. Perhaps even more relevant to the use of hypnosis in the criminal justice system is whether leading questions during hypnosis can modify memories of events that occurred prior to, and independent of, the experimental session. A recent study by Laurence and Perry (1983) has addressed this issue. As part of a larger investigation, they determined that subjects had slept through a particular night, and then during hypnosis had them relive the night in question. As the deeply hypnotized subject relived being asleep, he was told by the hypnotist that it was early in the morning and then was asked a leading question as to whether he heard some loud noises. Many hypnotized subjects accepted the suggestion inherent in this leading question, and reported hearing noises (such as a car backfiring), and being awakened by them. Subsequently, subjects were told to remember all that had happened. Approximately half of the subjects later reported, in the wake state, that they awoke on the night in question, early in the morning, due to some loud noises. Laurence and Perry noted that subjects were so convinced about their pseudomemories that "Even when they were told [during debriefing] that the hypnotist had actually suggested the noises to them during hypnosis, these subjects still maintained that the noises had actually occurred" (p. 524). Thus, the memories created by the

leading question in hypnosis were experienced as if they were pre-existing recollections that were unrelated to the hypnotic experience.

In sum, because an individual is typically more compliant in accepting suggestions from the hypnotist, less critical in evaluating the suggestions that are given, and more responsive to experiencing suggested events in hypnosis, pre-existing memories may more easily be altered by subtle and often unwitting implicit suggestions. Perhaps the most disturbing consequence of the hypnotized subject's increased tendency to be influenced or biased is not the potential for increased inaccurate remembrances, but rather, the extent to which memories created during hypnosis are confounded with earlier recollections and the extent to which hypnosis increases the subject's conviction that his memories -- regardless of their accuracy or source -- are reliable.

Changes in confidence and credibility due to hypnosis

The witness's or victim's confidence about recollections is crucial for testimony in court but less important for investigative purposes, especially when corroborating physical evidence is later found. In court the confidence an accuser or witness places in his recollections bears directly upon his credibility and the extent to which he can withstand cross-examination.

Very few investigations of hypnotic memory enhancement have tested subjects' confidence concerning details of their recollections. Fortunately, ratings were obtained in most of the studies using simulated accidents or mock crimes as memory stimuli, and the results are generally consistent.

Sheehan and Tilden (1983), for example, found that the confidence that subjects placed in their memories, as well as the degree to which they were certain that their answers were correct, was significantly increased for all hypnotized subjects. The effect was particularly marked among the more highly hypnotizable individuals. This increase in confidence was not accompanied by a corresponding increase in accuracy beyond that found for nonhypnotic remembering. Timm (1982) reported that hypnotizable individuals who recalled in hypnosis were more certain that their inaccurate recollections were accurate than were

unhypnotizable subjects who recalled without hypnosis. Other studies have shown similar results (Dywan, 1983; Putnam, 1979; Timm, 1981; Zelig and Beidleman, 1981).

It appears, therefore, that hypnosis can either increase the inaccuracy of recollections without diminishing confidence in these "memories," or it can increase confidence without increasing accuracy, or both. The amount of confidence and certitude an individual associates with his remembrances is more a function of hypnotic responsiveness than accuracy (Sheehan and Tilden, 1983; Zelig and Beidleman, 1981). Whereas with nonhypnotic memory, confidence and accuracy are generally correlated (see Loftus, 1979), hypnosis dissociates accuracy of memory from the confidence that a person places in his memory reports (e.g., Sanders and Simmons, 1983). In other words, hypnosis creates a situation where misplaced confidence in memories can easily occur, which is much less likely to be the case if hypnosis had not been used.

This is clearly illustrated in a field study by Sloane (1981), carried out in collaboration with the Los Angeles Police Department. Witnesses and victims of actual crimes were hypnotized to aid their recollections, and their memory reports and confidence were compared to those of un hypnotized witnesses and victims who were questioned in a similar manner. While the memory reports were not more accurate or otherwise improved when hypnosis was used, the hypnotized subjects nonetheless reported considerably greater confidence in their memories -- findings fully consistent with those of laboratory studies.

Such misplaced confidence means that the hypnotized individual becomes a more credible witness by virtue of having been interviewed in hypnosis. This is so because the confidence that an individual places in his memory reports has been shown to affect his perceived credibility; greater confidence yields greater credibility (e.g., Lindsay, Wells, and Rumpel, 1981). Moreover, credibility can be enhanced by other factors, such as the amount of peripheral detail a witness provides even though he may be incorrect on substantive matters (e.g., Neisser, 1982; Wells and Leippe, 1981).

This last point is particularly troubling in terms of the forensic use of hypnosis. Even if efforts are made to reduce the possibility of biasing the hypnotized subject, and even if there is no appreciable change in confidence as a result of hypnosis -- an outcome that is difficult to assess in applied situations -- the witness is still likely to become more credible to judges and jurors through the use of hypnosis because more detailed information is typically reported. That is, the shift to a laxer response criterion that appears to occur with hypnosis and the increased confabulation that also often occurs (even with a free narrative recall) result in more detail being reported. Some may be accurate and some may not, but without independent corroboration of each detail reported, there is no way of ensuring that the hypnotized person is more accurate or more worthy of being believed just because he produces more plausible, detailed information. The same problems exist for accepting as credible the recall of a victim or witness in hypnosis who provides an emotionally moving recollection when little or no emotion was apparent before the use of hypnosis.

In summary, the data reviewed indicate that hypnosis creates changes in memory and the confidence placed in it. These changes are not desirable, however, because hypnosis frequently increases inaccurate (as well as accurate) memories, and the changes cannot be undone once the technique has been used.

Such changes are likely to be greatly enhanced in law enforcement situations, where the witness or victim is intensely motivated to help the authorities, where the belief is instilled that hypnosis will elicit accurate information, and where the hypnotist reinforces the subject when material of interest is brought forth in hypnosis. Furthermore, after hypnosis has been used to "refresh" recollections, there is no way of determining whether the new "memories" or the increased confidence in them shown by the witness are due to accurate reports of previously unremembered events. The new "memories" could as easily be pseudomemories, and the new confidence could as easily be misplaced. Examples of these kinds of problems in forensic cases are discussed in the literature (e.g., Orne, 1979; Spiegel, 1980).

The widespread belief that hypnosis will enhance memory, and the increased detail, emotion, and confidence that typically characterize

recall after hypnosis, serve to make the person's testimony more certain, regardless of its accuracy; this, in turn, is likely to make the testifying individual less vulnerable to cross-examination and more credible to the trier of fact! Although hypnosis holds some limited possibility for increasing accurate recall in some circumstances, these other changes, and the potential for increased biasing due to the hypnotist's suggestions, make it inappropriate to use hypnosis prior to testimony in court. Testimony based upon "hypnotically refreshed" recall may seriously jeopardize those efforts within the legal system to permit a full and fair evaluation of the facts.

III. THE FORENSIC USE OF HYPNOSIS

The legal concerns over the admissibility of "hypnotically refreshed" recall as the basis of testimony came about because of increased use of hypnosis by law enforcement officials. Consequently, the manner in which hypnosis is used in forensic contexts greatly shapes the nature of the controversy. The empirical data reviewed above bear directly on three broad issues concerning forensic hypnosis: the situations in which hypnosis is used; the perspective of the individual who actually administers the procedure; and the nature of the specific technique used to suggest memory enhancement with hypnosis.

Risks in different forensic applications

Hypnosis was first introduced in American courts at the beginning of the 20th century in an attempt to ascertain the truth, much in the way that certain drugs were later touted as "truth serums." It was soon discovered, however, that neither hypnosis nor these drugs provided a reliable method for determining factual information. The use of hypnosis to document truth was therefore rejected by the courts (e.g., People v. Ebanks, 117 Cal. 652, 49 P. 1049 (1897)). The revival of the forensic use of hypnosis coincided with the growing acceptance of hypnosis as a therapeutic technique and with its official recognition by the American Medical Association in 1958 and by the American Psychological Association in 1960 (Hilgard, 1965). Attorneys and law enforcement agencies began to explore the value of hypnosis as a forensic technique, especially for helping victims' and witnesses' recall,⁹ eventually resulting in its use in a great variety of criminal and civil cases.

The empirical evidence suggests that extensive use of hypnosis in law enforcement may harbor potential problems. Although all forensic uses may appear superficially similar, different situations entail vastly differing risks for miscarriages of justice. One basic criterion for

evaluating the appropriateness of hypnosis in different contexts is the extent to which information concerning the events in question may be communicated intentionally or inadvertently to a hypnotized subject and thereby appear in confabulated hypnotic recall, which is later confused by the subject with previous nonhypnotic memories.

Hypnosis is most likely to provide useful information with minimum risk in investigative situations when the facts in question are not known or presumed by law enforcement authorities, the public, or the media -- the license plate number sought in the Chowchilla kidnapping (Kroger and Douc , 1979) is a good example of this. Where there are few or no preconceptions, hypnosis may directly or indirectly enhance memory, and the relaxed environment of a sensitively conducted hypnotic session may help to diminish anxiety that may otherwise interfere with attempts to recall. If used solely to obtain clues that ultimately lead to the collection of independent evidence, the use of hypnosis is a means to an end that is no different from the use of other unreliable sources by the police.

In contrast to the investigative uses are situations where hypnosis is employed to help provide eyewitnesses who can testify in court. As the emphasis shifts away from the investigative search for clues that may lead to reliable independent physical evidence and more toward preparation of witnesses to give eyewitness testimony, hypnosis presents increasingly greater difficulties for the administration of justice.

The most extreme risk of miscarriage of justice is the case in which hypnosis is used to "refresh" a witness's or victim's memory about aspects of a crime that are presumed or known to the authorities, the media, or the hypnotist. In such cases, a "memory" can be created in hypnosis where none existed before, and the witness's memory may be irreversibly contaminated (see Orne, 1981b, for examples). The hypnotized person may obtain information about the event from the media, from comments made prior to, during, or after an interrogation, or from the hypnotic session itself. Based on what is currently known about hypnosis and its effects on memory, there is a significant likelihood that this information will form the basis of confabulation and will become inextricably intertwined with the subject's own memories of the event.

The altered memory tends to persist, and the more frequently the subject reports the events, the more firmly established the altered memory will become. These "hypnotically refreshed" memories are often accompanied by increased confidence and are consequently often not subject to fair testing through cross-examination or application of standard indicia of reliability.

Another inappropriate use of hypnosis in the courts is to increase a witness's apparent reliability and confidence. The authorities frequently encounter witnesses who tell somewhat different stories each time they are asked to recall what occurred. These differences may concern important details. The effect of hypnosis on such witnesses can be dramatic. Even if the subject is only modestly responsive to hypnosis, reviewing the events in the hypnotic context and having the memories legitimized by a supportive hypnotist will often fix in the witness's mind one particular version of the testimony, which is then faithfully and reliably reproduced by the witness on the stand. In these cases hypnosis need not produce any new information, but the procedure can bolster a formerly unreliable witness whose credibility might easily (and perhaps deservedly) have been undermined by cross-examination.

Further, scientific evidence to the contrary, there is a widely held belief among the public in general, and within the law enforcement community in particular, that hypnosis is a means of getting at the truth. One of the reasons why hypnosis appeals strongly to law enforcement officials may be their hope of using it as a kind of lie detection procedure, especially with witnesses who are not fully trusted. Unfortunately, as discussed earlier, individuals are capable of lying during hypnosis and are capable of feigning hypnosis successfully if they choose to do so. The observer of the hypnotic session, however, is very likely to accept statements of an apparently hypnotized individual at face value. Hypnosis used in this fashion may seriously mislead both law enforcement officials and prosecutors, causing them prematurely to close off potentially fruitful avenues of investigation, and sometimes to initiate inappropriate or unjustified indictments.

Finally, there is no justification for the authorities hypnotizing suspects in a case. Because individuals may successfully simulate

hypnosis and even hypnotized individuals are capable of willfully lying, a suspect's report in hypnosis is not useful for the purpose of exoneration. Similarly, confessions obtained during hypnosis are not admissible because the use of such a technique to elicit a confession involves undue coercion (Leyra v. Denno, 347 U.S. 556 (1954)).

Issues of involvement and qualifications of the hypnotist-interviewer

The empirical data on the nature of hypnosis and its effects bear upon not only when hypnosis should be used but also how it should be used. Research findings indicate that hypnosis can greatly increase the likelihood that the individual will be inadvertently led or misled by the hypnotist. Within the legal controversy over the admissibility of "hypnotically refreshed" recall, the question has been raised as to who is qualified to administer hypnosis in criminal investigations.

Some law enforcement groups feel that police officers trained in "forensic hypnosis" are best qualified to perform it. They point out that police, as professional criminal investigators, are trained and experienced in following legal procedures, and routinely interview people who have undergone traumatic experiences. Police officers are also more likely to be available for hypnosis and subsequent testimony, and the cost is apt to be less than that involved in employing a hypnotist not in law enforcement.

Major professional groups concerned with the use of hypnosis, by contrast, have taken the position that only trained mental health professionals should be permitted to use hypnosis in a forensic context.¹⁰ This position emphasizes that mental health professionals are committed above all to helping clients avoid interventions that would harm them. Although most law enforcement investigators deal with victims and witnesses compassionately, their professional orientation is fundamentally different from that of the clinician. While they may be working with a victim or witness, they are working on a case, and it is their progress in solving this case that determines their professional success or failure.

Mental health professionals experienced in hypnosis are not only more aware of what may harm an individual and of the potential for

biasing the person in hypnosis, but they are qualified to evaluate psychopathology, including those disorders that may result from traumatic experiences.¹¹ Most importantly, however, they are less likely to have information or preconceptions about details of the case, and to the extent that they lack information, they are not in a position to bias, unduly influence, or contaminate the hypnotized individual's recollections. Thus, if hypnosis is to be used in an attempt to "refresh" memory for investigative purposes, it should be administered by an expert who has minimal preconceptions about the to-be-remembered event and little investment in the ultimate disposition of the case.¹²

Issues of hypnotic technique

The free narrative recall procedure with minimal direction from the hypnotist is the technique least likely to introduce inaccuracies and systematic bias, though the risks of confabulation and response criterion shifts remain. Once this free report has been obtained, specific questions can be asked, with the recognition that these are more likely to create inaccurate recollections that the subject accepts as accurate. In addition, these may serve to increase the individual's confidence in his recollections without any substantive change in accuracy.

The specific type of memory metaphor used with hypnosis depends upon the circumstances. Age regression, discussed earlier, may be desirable for a traumatized person to permit him to deal constructively with the horror of the events to be remembered (though this procedure may not be the treatment of choice therapeutically, and what is recalled is not necessarily historically accurate). A number of recall metaphors and hypnotic techniques are available, but one in particular has been frequently used in forensic settings and requires consideration. This is the videotape or television metaphor of memory and recall. With this technique the hypnotist

indicates that the subject in imagination, will be watching a special documentary film on television from a safe, secure, and comfortable place. This special documentary can be speeded up, slowed down, stopped, reversed, with close-ups possible on any person, object, or thing in the film. The sound can be turned up high so that anything that is said,

even a whisper, can be heard very clearly. This will be a documentary film of the incident in question and will depict accurately and vividly everything of significance and importance the subject perceived and experienced in relationship to that crime scene. And even though what occurred was very traumatic, the subject watching the TV documentary will be able to remain calm and relaxed, feeling detached from what is happening on the television set. The subject will be observing it as a reporter, covering an event to be written up accurately for a news story. (Reiser, 1980, p. 159)

Proponents of the television technique tend to believe that, in addition to the usual conscious memory, all sensory inputs are continuously recorded by the "subconscious mind" ("The subconscious mind is alert and on duty 24 hours a day, seven days a week; it never sleeps" -- Reiser, 1980, p. 11). Moreover, this material -- not normally available to consciousness -- is assumed to be retrievable with hypnosis. Whether this view of memory and hypnotic recall is taken literally, or merely employed as a powerful metaphor, the subject is likely to accept this superficially plausible notion uncritically. In fact, as presented, the TV metaphor includes both an implicit suggestion that the details of the event are (as opposed to "may be") in the person's memory, and an explicit suggestion that the recollections that are obtained in hypnosis will be vivid and factually accurate.

The striking impact of the television technique becomes clear if one considers the state of mind of a witness about to testify concerning events that occurred 6 months ago. If by chance an actual videotape recording of the events were available and the witness had the opportunity of viewing the videotape shortly before the trial, one could predict with a high degree of assurance that the witness's memory would indeed be refreshed and that the testimony would be given with far greater accuracy and certainty than would otherwise be possible. Further, the witness would not see himself as testifying from the videotape, but rather as reporting the events he saw 6 months ago.

If a real videotape were available, it would be largely academic whether the memories stemmed from the original event or from the

videotape, because the tape would be the most reliable evidence and its effect would be a somewhat stronger version of reviewing notes made at the time of the event. In contrast, watching an imaginary "documentary" during hypnosis may produce the subjective experience of observing the events of 6 months ago but it is certainly not an accurate, reliable representation of the facts. Telling people in hypnosis that they are watching a "documentary" is a powerful suggestion that what they see and report is what actually happened.

Given the increase in responsiveness to suggestions that ensues with hypnosis, the suggestion of watching a "documentary" also places considerable pressure on the subject to bring forth additional helpful details and to believe that they actually occurred. When he subsequently testifies, he will testify from what is believed to be the recollection of the original event. In fact, however, his testimony will be based on memories created or altered during hypnosis, which may be at gross variance with both pre-hypnosis recollection and the actual facts.

In an effort to improve the accuracy of hypnotic recall and minimize confabulation, some hypnotists have given explicit suggestions to the effect that the subject should recall accurately and report only the events that really happened, no more and no less. Such an instruction is impressive to lay observers, but it is contradicted by the forensic context of hypnosis, which pressures the subject to provide more details. Unfortunately, in such a context, the net effect of the conflicting demands of these suggestions will not be any increase in accuracy of recall but only an increase in the subject's conviction that his recall is accurate.

Finally, witnesses who have been hypnotized often assert later that their new recollections preceded rather than followed the hypnotic session. Exceptions occur when the subject had absolutely no recollection prior to hypnosis; he may then correctly identify the absence of prior recall. Even in such situations, however, one may find subjects who insist that they actually remembered the event or detail before being hypnotized but did not talk about it. Similarly, a subject may vividly remember someone wearing a blue shirt prior to hypnosis, and on the imaginary videotape "see" that the individual had "actually worn" a red shirt. Sometimes such a discrepancy is sufficiently striking

that it is recalled, but the subject then tends to accept the hypnotic version as true. On the whole, however, the sources of memories become confused, and no instructions or suggestions can reliably prevent this from occurring in real life situations.

These are the issues at the core of the controversy over "hypnotically refreshed" recall when it is the basis of testimony in a court of law. Similar controversies have developed in Canada (Perry and Laurence, 1983), in Australia (Sheehan, 1982), and in the United Kingdom (Wagstaff, 1982b; Waxman, 1983). The scientific evidence concerning hypnotic memory enhancement and the forensic techniques employed to produce it have frequently been at odds, and this discrepancy has led to numerous legal challenges and adjudications over the admissibility of testimony following a hypnotic intervention designed to "refresh" memory.

IV. THE LEGAL CONTROVERSY: ENHANCED MEMORY OR TAMPERING WITH EVIDENCE?

The basic issue that has had to be adjudicated by the courts during the past 15 years concerns the admissibility of testimony of witnesses and victims following pretrial hypnosis to "refresh" recall. Those wishing it excluded as a matter of law have argued that the procedure is unreliable, and therefore inadmissible as evidence. The counterargument is that hypnosis is one of several procedures to refresh recall and it should be admitted into evidence; the trier of fact should decide its credibility and reliability. (For a thoughtful review of these issues, see Udolf, 1983.)

The first landmark decision was that of the Maryland Court of Special Appeals in Harding v. State, 5 Md. App. 230, 246 A.2d 302 (1968), where testimony based upon hypnotic recollection of a prosecuting witness was admitted and allowed to go to the jury. In this case, it was undisputed that the memory testified to was brought forth for the first time in hypnosis. Though the trial court recognized that "hypnotically refreshed" memory might not be fully factual and cautioned the jury not to attach greater weight to the testimony based upon hypnotic recall, the testimony was nevertheless admitted into the trial, and upheld on appeal, because refreshing memory with hypnosis was conceptualized as not different in principle from refreshing memory in acceptable ways, such as by looking at notes or memoranda.

A number of courts faced with similar issues followed Harding and admitted testimony based upon "hypnotically refreshed" recall (e.g., Kline v. Ford Motor Co., Inc., 523 F.2d 1067 (9th Cir. 1975); State v. Jorgensen, 8 Ore. App. 1, 492 P.2d 312 (1971); State v. McQueen, 295 N.C. 96, 244 S.E.2d 414 (1978); United States v. Adams, 581 F.2d 193 (9th Cir. 1978)). There were, however, serious shortcomings in the Harding approach, which did not become clear until later. Most notable was its failure to provide an adequate record of the scientific opinion and consensus on the reliability of "hypnotically refreshed" recall.

Consequently, when the Minnesota Supreme Court was faced with ruling on the admissibility of testimony concerning recollections adduced at a pretrial hypnotic interview in the case of State v. Mack, 292 N.W.2d 764 (1980), the court engaged in a comprehensive review of the expert opinion on hypnosis to aid memory. The court recognized that "the fact that a witness' memory results from hypnosis bears on the question of whether her testimony is sufficiently competent, relevant, and more probative than prejudicial, to merit admission at all" (p. 10-11).

After examining expert scientific opinion, the Minnesota Supreme Court ruled against the admissibility of testimony from a witness whose memory was "refreshed" through the use of hypnosis. The court cited the lack of reliability (in terms of accuracy) of hypnotically induced recall, the increased suggestibility of individuals who are attempting to recall in hypnosis, and the increased confidence and credibility that can result from a hypnotic intervention.

Since the Minnesota ruling, appellate courts in Maryland, Massachusetts, Pennsylvania, Michigan, California, Arizona, Nebraska, New York, and Indiana have taken a similar point of view and have excluded testimony based upon "hypnotically refreshed" recall (State v. Collins, 296 Md. 670 (1983); Commonwealth v. Kater, 388 Mass. 519 (1983); Commonwealth v. Nazarovitch, 436 A.2d 170 (1981); People v. Gonzales, 108 Mich. App. 145 (1982); People v. Shirley, 641 P.2d 775 (1982); State v. Mena, 624 P.2d 1274 (1981); State v. Palmer, 313 N.W. 2d 648 (Neb) (1981); Strong v. State, 435 N.E.2d 969 (Ind.) (1982); People v. Hughes, 33 Cr.L. 2341 (1983) with only the Wyoming Supreme Court admitting it (Chapman v. State, 638 P.2d 1280 (Wyo.) (1982)). In most of these cases, the question of admissibility of testimony from a person who has undergone pretrial hypnosis was subjected to the criterion of Frye v. United States, 293 F.2d 1013 (D.C. Cir. 1923). This widely applied "general acceptability test" concerns whether a special procedure has gained acceptance among the relevant scientific community. In applying the Frye criterion, recent appellate court rulings have tended to recognize that use of hypnosis to "refresh" recall is not accepted as a reliable technique among the relevant scientific community.¹³

Perhaps the best illustration of the extent to which expert opinion has affected the adjudication of the issue is the changes that have taken place in the state of Maryland concerning the admissibility of testimony from a previously hypnotized witness. The Harding case was the initial precedent in favor of admissibility. However, the Maryland Court of Special Appeals ruled again on the issue in Polk v. State, 48 Md. App. 382, 427 A.2d 1041 (1981), and modified its original position to require the trial court to make specific rulings and evaluations if hypnosis is involved in the retrieval of memories to be presented in court, based upon the Frye criterion.

Not long after this, the Maryland Court of Special Appeals applied the Frye criterion to "hypnotically refreshed" recall and resolved the matter in State v. Collins, 296 Md. 670 (1983), and completely reversed its original position in Harding, concluding:

After a complete and careful review of the record in this case, as well as the decisions of other jurisdictions and the scientific literature which has been called to our attention, we are convinced that applying the standards explicated in Frye for the use of hypnosis to restore or refresh the memory of a witness is not accepted as reliable by the relevant scientific community and that such testimony is, therefore, inadmissible. To the extent that previous cases in this jurisdiction have permitted the admissibility of hypnotically induced testimony, we hereby overrule those cases. (pp. 20-21)

Thus, the state that originally permitted such testimony to go to the trier of fact subsequently precluded its admissibility as a matter of law.

Though state courts that have ruled on the matter thus far have tended to exclude testimony resulting from pretrial hypnosis, they differ about whether testimony from a witness who has been hypnotized to "refresh" memory should be inadmissible altogether, or whether recollections made by the witness prior to hypnosis are admissible. Recently the Arizona Supreme Court modified its earlier decision of

total exclusion, reached in the Mena case, to permit testimony to "matters that the witness was able to recall and relate prior to hypnosis" (Collins v. Superior Court of State of Arizona, 31 Cr.L. 2156 (1982) p. 2157).

Unfortunately, witnesses rarely are able to distinguish correctly between recollections made prior to hypnosis and those reported during and after hypnosis (see Orne, 1979). Similarly, the individual may, as a result of hypnosis, become more confident or certain of the factual accuracy of recollections made prior to hypnosis. The extent to which such problems occur can best be judged if an adequate record exists and other procedural guidelines are carried out before, during, and immediately after the hypnosis interviews. Thus, the Maryland decision in State v. Collins not only ruled hypnotically influenced testimony inadmissible but also required that even when hypnosis is used for strictly investigative purposes -- to obtain leads -- such guidelines must be followed.

One court has based the admissibility criterion on such safeguards. In State v. Hurd, 432 A.2d 86 (N.J.) (1981), the New Jersey Supreme Court adopted guidelines for consideration of testimony following pretrial hypnosis. The New Jersey court opted for a different approach from that taken by its predecessors to the issue of admitting "hypnotically refreshed" testimony. Such testimony was neither excluded per se, nor automatically admitted into court. Rather, "we hold that testimony enhanced through hypnosis is admissible in a criminal trial if the trial court finds that the use of hypnosis in the particular case was reasonably likely to result in recall comparable in accuracy to normal human memory" (p. 25). Further, the court held that this question could not be resolved unless the guidelines, originally proposed by Orne in Quaglino v. California, 77-1288, cert. denied, 99 U.S. 599 (1978), were followed; consequently, in New Jersey, compliance with the guidelines is a prerequisite to adjudication of the admissibility of "hypnotically refreshed" testimony.¹⁴ Although most recent state supreme court rulings have held that testimony must be excluded concerning matters dealt with in a pretrial hypnosis session, nearly all have recognized the legitimate use of hypnosis for investigative purposes.

V. GUIDELINES FOR THE INVESTIGATIVE USE OF HYPNOSIS

The present state of scientific knowledge is consistent with court rulings proscribing use of "hypnotically refreshed" eyewitness testimony in criminal trials. It is, therefore, most appropriate to restrict the forensic use of hypnosis to investigative situations where the potential gains are likely to be greater than the risks, provided that suitable guidelines are followed.

As a practical matter, various jurisdictions have taken very different approaches to dealing with the consequences of hypnotically induced recollections. Depending upon the relevant court ruling, different aspects of the guidelines will become essential in resolving the significance that a court would attach to the hypnotic intervention.

First, in those jurisdictions where witnesses are still allowed to testify concerning their "hypnotically refreshed" recollections, the guidelines make it possible to assess the extent of impermissible suggestiveness that may have occurred during the hypnotic session, and the identification of the most serious abuses of hypnosis.

Second, it is generally agreed that hypnosis should not be used simply to fix one particular version of the events in the witness's mind, thereby making him confident that it actually happened that way. However, hypnosis carried out for this precise purpose is often presented later as though it were done with the investigative intent of eliciting new information. The guidelines permit an assessment of what actually occurred and allow inference to be made about the appropriateness of the hypnotic session.

Third, in those jurisdictions where witnesses are not permitted to testify concerning matters about which they have been hypnotized, the guidelines are essential for the authorities to document that certain issues were not reviewed or touched upon during hypnosis.

Fourth, some jurisdictions, notably the states of Massachusetts, New York, and Arizona, permit witnesses or victims to testify to events that they recalled prior to hypnosis even if the events were discussed in hypnosis; they are not permitted, however, to testify concerning any memories that changed subsequent to hypnosis. Since individuals can rarely determine reliably whether a given recollection occurred before or after hypnosis, the procedures outlined in the guidelines are essential to assess what pre-hypnotic recollections actually were and what effects the hypnotic session is likely to have had.

Regardless of the legal requirements that make it prudent to use the guidelines, it is important to keep in mind that the nature of hypnosis and of its effects on memory leads to the possibility that beliefs of the hypnotist or subject may be transformed into inaccurate memories that the subject reports, believes, and subsequently is willing to testify to under oath. There is currently no available method, including these guidelines, for eliminating this possibility or for accurately determining in real life situations the amount of increased recall versus increased distortion that may occur following hypnosis, because ground truth cannot be known with certainty.

Despite these limitations, the use of hypnosis for investigative purposes following the proposed guidelines appears to offer potential benefits -- for new leads -- that may outweigh the risks of false information or misplaced confidence. This use can be justified, however, only in cases where a suspect has not been identified to the subject, where there has not been widespread publicity involving speculations about the perpetrator, and where law enforcement officials do not have compelling beliefs about what actually transpired. It becomes crucial to follow procedures that provide a detailed record of precisely what has or has not been discussed in the hypnotic interview, and to show that every effort has been made to minimize the potential effect of hypnosis in distorting memory.

To protect the law enforcement agency, the rights of the defendant-to-be, and the health and welfare of the witness or victim to be hypnotized, as well as to allow for the possibility that he can subsequently testify to matters not dealt with in hypnosis, the following

guidelines for using hypnosis are proposed. Earlier variants of these guidelines have been adopted by the Federal Bureau of Investigation (Ault, 1979), by the criminal investigative branches of the armed services, and, as mentioned above, by the New Jersey and Maryland courts.

Qualifications and knowledge of the hypnotist

The forensic use of hypnosis should be performed by a psychiatrist, psychologist, or an equivalently qualified mental health professional who has had training both in the clinical use of hypnosis and in its forensic applications. This individual should be an impartial expert whose professional status is independent of the law enforcement investigators, prosecution, and defense (though it is likely that a given expert will have had prior professional contact with these persons).

The expert ideally should know little or nothing about the case. In most situations, however, it is virtually impossible to prevent communications from law enforcement personnel or legal counsel concerning those aspects of the case that they view as important to its disposition. The best solution, accordingly, is to permit no information to be given orally to the hypnotist from individuals involved directly in the case but to require written communications that specify those details that are considered essential for the expert to know in order to carry out the hypnosis interview. This procedure will ensure the possibility of subsequently evaluating the extent of the information available to the hypnotist -- information that might be unwittingly communicated to the subject. If the hypnotist has learned about the case from outside sources, such as press accounts, he should record such information in writing prior to the hypnosis session (withdrawing from the case if this prior information is unduly prejudicial).

Complete videotape recordings

All contact between the hypnotist and the individual to be hypnotized should be recorded on videotape from the moment they meet until their entire interaction is concluded, including the prehypnosis interview, the hypnosis interview, and the posthypnosis discussion. Casual comments exchanged before or after hypnosis may act as

prehypnotic or posthypnotic suggestions and are as important to record as the hypnotic session itself. The camera should be aimed to get both the hypnotist and the subject in the picture. A time recording should be incorporated into the record of the session to ensure its continuity. Audio recordings are substantially less useful for the subsequent evaluation of possible biasing, and stenographic transcripts provide no opportunity to record the nonverbal and paraverbal (tone of voice, pauses, etc.) cues by which information and expectations are often communicated to subjects undergoing hypnosis.

Limitations on those present during the interview

Only the hypnotist and subject should be present during any phase of the preinduction, hypnosis, or posthypnosis session. This is important because it is all too easy for observers inadvertently to communicate to the subject what they expect, what they are startled by, or what they are disappointed by (even if the subject's eyes are closed and he has been told to hear only the hypnotist's voice). If investigators or representatives of the prosecution or the defense wish to observe the hypnosis session, they may do so only if they use a one-way screen or a remote television monitor to watch the interview -- to prevent jeopardizing the integrity of the session.

Deviations from this guideline must be evaluated carefully. In some situations adequate videotape recording may require the presence of a technician in the room to operate equipment.¹⁵ This individual should not have any prior knowledge of the case and should document this in writing. Other special situations, such as a child who requests or who an involved clinician believes requires the presence of a parent during the session, must be evaluated on a case-by-case basis. The primary consideration here, as in other aspects of conducting the hypnosis session, must be the protection of the witness or victim who has consented to serve as a hypnotic subject.

A more difficult problem arises when no one person possesses all the requisite expertise needed to conduct the hypnosis interview. A psychiatrist or psychologist skilled in clinical uses of hypnosis may lack experience with forensic interviewing techniques. In this situation, a law enforcement professional who is skilled in avoiding leading questions

and who has no knowledge of the specific case¹⁶ might conduct the actual interview following hypnotic induction by the clinician and transfer of rapport. The clinician, however, should remain responsible throughout and should terminate hypnosis. A law enforcement professional who participates in the interview should, like the clinician, be given a written summary of the facts he is to know about the case and should submit, in advance of the hypnotic session, a written statement detailing any other prior knowledge that he may have concerning the case.

Prehypnosis evaluation

At the beginning of the session a psychological evaluation of the subject should be carried out by the mental health professional, and the existence of a full, written, informed consent for the procedure confirmed. Before the induction of hypnosis, the mental health professional should elicit from the victim or witness a detailed narrative description of the facts as the subject remembers them, being careful to avoid adding any new elements through direct or indirect suggestions. This preliminary procedure is important because it provides a recorded baseline for evaluating the subject's memories of the incident before anything has been added or changed through hypnosis. Moreover, witnesses are sometimes able to recall more or different memories while talking to a psychologist or psychiatrist than during interrogation by an investigator.

If significant new information emerges during this prehypnosis interview, consideration should be given to stopping the procedure at this point and thus avoiding some of the problems inherent in the use of hypnosis. If the decision is made not to induce hypnosis, the subject should then be interviewed nondirectively as to what he believes happened during this interview, because, having come for the purpose of being hypnotized, the subject may believe that he was hypnotized. In any case, the videotaped record of the entire interaction should be preserved. If the decision is made to proceed with the induction of hypnosis, the subject should be questioned first as to his expectations so that their effect may be evaluated subsequently and any remaining serious misconceptions about hypnosis or its effects may be corrected.

Finally, care must be taken not to suggest explicitly or implicitly before (or during) hypnosis that all memories are accurately recorded in the brain or that a particular technique will bring forth these memory traces in their original form. To do so serves as a powerful suggestion that causes most subjects to either "recall" additional less accurate information in hypnosis, or place undue faith in their recollections, or both.

Appropriate hypnotic induction and memory retrieval techniques

Hypnosis should be induced by one of the standard methods and incorporate sufficient test suggestions to allow assessment of the subject's hypnotic responsivity. Following the induction of hypnosis, the psychiatrist or psychologist should suggest an appropriate cognitive strategy to aid focusing on the events in question, and first obtain a free narrative report. During this report, the hypnotist should encourage the narrative flow but avoid interrupting, asking questions, or otherwise adding any new elements to the witness's description of his experiences, including those discussed in the preinduction interview, lest the nature of the witness's memories inadvertently be altered or constrained by a reminder of his prior, nonhypnotic memories. Once the subject begins to describe the events in question, minimal verbalization by the hypnotist is desirable. When the subject pauses, comments such as, "Go on," "Continue," "Yes?" "Mm hm?" -- indicating the clinician's interest in what the subject says but avoiding communicating concern about specific content -- are particularly useful.

If the free narrative fails to elicit needed details, a more directive technique may be employed subsequently, but it should be kept in mind that questioning or otherwise pressuring about specific details will inevitably increase the number of items reported but also increase the probability of inaccurate details being supplied.

In terms of the specific cognitive strategy that the hypnotist uses to focus the subject's attention on the events in question, it is important to note that hypnosis should never be used to encourage a witness to report details when it was physically impossible for such details to have been observed -- as when a witness is asked to zoom in on the face of someone who was never viewed except at a distance of 90 yards in semi-

darkness or to remove the mask from a perpetrator whom the subject had never seen without a mask! In other words, hypnosis does not retrospectively allow the individual to transcend normal perceptual abilities, and to suggest anything of this kind to the subject, even metaphorically, invites confabulation and increases the likelihood of creating pseudomemories.

Lastly, it should be emphasized that the issues that these guidelines address are not resolved merely because hypnotically induced recollections are brought forth during the therapeutic use of hypnosis, such as in the treatment of traumatic neuroses. If such recollections are to form the basis of subsequent testimony, it is essential to follow the guidelines. Some clinicians have argued that the exclusion of testimony following the therapeutic use of hypnosis would deny patients, such as rape victims, the right to their treatment of choice -- hypnosis. Hypnosis has not, however, been considered the treatment of choice by any of the leading crisis intervention or rape treatment centers. Without a complete and adequate electronic record of all interactions between a therapist and patient, it would be totally inappropriate to permit an individual to testify on the basis of recollections that occurred during a therapeutic hypnosis session.

Communication with the hypnotist

There may well be questions that need to be resolved by observers who are not in the room but who are familiar with the case. For this reason, it is desirable for the hypnotist to arrange very brief breaks -- leaving the videotape continuously recording the subject -- at the end of the prehypnosis interview, and again at the end of the free narrative recall obtained during hypnosis. Observers should put in writing any requests or suggestions for the hypnotist concerning material to be elicited, which can be given to the hypnotist during these breaks. In this fashion a permanent record is obtained concerning when and by whom specific issues are raised during the session; this record should be archived with the videotapes.

Posthypnosis discussion

During the termination of hypnosis or immediately thereafter

while the subject is still in a hypersuggestible state, explicit or implicit posthypnotic suggestions should be avoided concerning the nature, extent, or reliability of the subject's subsequent nonhypnotic memory of the event (e.g., "It will be easy for you to remember things now that you did not remember before"). After hypnosis is terminated, it is important to explore the subject's experiences during hypnosis, which provide needed information about the individual's hypnotic responsivity and whether he felt that hypnosis changed anything concerning his memories. Before ending their contact the hypnotist should invite the subject to reflect on what the subject believes took place during the session, its causes, and implications. Videotape recording of the session should be terminated only after the hypnotist and the subject have parted company and all immediate posthypnotic interviews of the subject by involved personnel have been concluded.

Provision for clinical follow-up

The planning of the hypnosis session should include provisions for making clinical follow-up available to the victim or witness who has served as a subject if it appears to be clinically indicated or if the subject requests it. This follow-up may be provided by the hypnotist, by a clinician who has been working with the subject, or by referral to a suitable clinician in the area where the subject lives. The subject should be informed of these arrangements before leaving the hypnotic session. If repressed traumatic memories have been recalled under hypnosis, these provisions are especially important, and should be of an active rather than a passive ("Call if you have any problems") nature.

Technical considerations

The individual responsible for carrying out the hypnosis should check well in advance the suitability of the setting and whether the videotape recording equipment is working properly. Aside from ensuring that the quality of the picture is adequate and that both hypnotist and subject are going to be clearly displayed in the picture, the hypnotist should ascertain that the audio recording system is carefully tested to ensure that it is capable of picking up very quiet conversation -- hypnotized subjects often speak in soft or low voices. As a test of the adequacy of the videotape recording equipment, a brief sample tape

should be recorded and evaluated prior to the session. (Obvious errors like placing a microphone on or too near a videotape machine will result in inaudible tapes, thereby completely compromising the intended monitoring of the session.) Finally, provisions should be made to videotape all materials to be shown to the subject.

Cautionary note on hypnotizing suspects

With the increased investigative use of hypnosis, an individual who had been hypnotized as a witness may at some later time become a suspect. In such an event, special procedures must be observed with regard to the subsequent waking interrogation because the memory of the witness/suspect may have been altered by the hypnosis session. During interrogation the authorities may wittingly or unwittingly use the hypnotically induced "information" -- especially information that placed the subject at the scene of the crime -- in order to elicit a confession.

Because the hypnotically induced "information" may have been confabulated, the witness who has been subjected to hypnosis procedures may be more vulnerable to later interrogation. Therefore, it is essential that the waking interrogation of a previously hypnotized witness be recorded -- ideally videotaped, but at least audiotaped. The taped record is crucial to determine whether admissions or confessions were elicited voluntarily or whether the interrogator capitalized upon pseudomemories created during hypnosis (e.g., those produced by the "zooming-in" technique) in order to convince a suspect that he must have been at the scene of the crime because he could not otherwise have seen the details reported.

VI. CONCLUSIONS CONCERNING USES OF HYPNOSIS TO "REFRESH" MEMORY

The use of guidelines is designed to permit the subsequent evaluation of a hypnosis session by independent experts, in order to determine whether undue suggestiveness was present. Nonetheless, even when hypnosis has been used appropriately and when the session has been monitored and conducted in a manner that is likely to minimize undetected biasing, inadvertent distortions of memory may still occur. Although the recommended guidelines for conducting the hypnosis session help determine what was done during the session, they do not prevent (nor is there any reliable way to prevent) subjects from confounding distorted hypnotic memories with prior and subsequent nonhypnotic recall or from placing undue confidence in these distorted recollections. Thus, the use of the results of hypnosis applied in forensic situations, as well as the use of the procedure itself, demands extreme caution.

"Hypnotically refreshed" memories cannot be used to provide information for which no adequate evidence exists, especially when subsequent investigation has failed to produce any substantial independent corroboration and the individual did not recall the fact or was not confident of it prior to hypnosis. As long as the detail recalled is later verified by independent physical evidence, the utility of hypnosis can be considerable and the risk attached to the procedure -- if properly conducted -- is minimal. There is no way, however, by which anyone, including an expert with extensive experience in hypnosis, can for any particular piece of information obtained in hypnosis determine whether it is an actual memory or a confabulation. Given the decrease in critical judgment associated with hypnosis, the recollections obtained during hypnosis are less reliable than non-hypnotic memory, and therefore ought not to be permitted to form the basis of testimony in court.

FOOTNOTES

1. See cases cited in text on page 38.
2. See cases cited in text on page 40.
3. The authors do not believe that any guidelines can guarantee the accuracy of hypnotically elicited "information," though at least they permit independent experts to evaluate the possibility of undue suggestiveness during, or as a consequence of, hypnosis.
4. While less than 10% of subjects do not report subjective changes in perception, memory, or mood, following a hypnotic induction, the remaining 90% are able to experience hypnosis to at least a moderate degree. Therefore, in order to avoid extensive litigation about whether a witness or victim had actually been hypnotized, it is heuristically useful to assume that a subject was hypnotized if he was cooperative and appeared to respond to suggestions in a forensic context. This view is consistent with that expressed by the Supreme Judicial Court of Massachusetts in Commonwealth v. Kater, 388 Mass. 519 (1983).
5. The extent to which the process of confabulation may be stimulated by hypnosis becomes obvious when, instead of being asked to relive a prior event, the subject is given suggestions to experience a future event -- about which no memories could possibly exist. For instance, in age progression (Kline and Guze, 1951), a subject is given the suggestion that it is the year 2000 and is asked to describe the world around him. Often this will lead to a vivid and compelling description of all kinds of scientific marvels. Obviously, the plausibility and the precise nature of a subject's description will depend upon the scientific knowledge and imagination of that subject.
6. What these generally negative results for nonsense syllables and word lists indicate is that the memory system does not store sensory inputs like a tape recorder. Thus, hypnosis is not simply a matter of replaying a "videotape" stored in the mind -- a metaphor

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used in the television technique (Reiser, 1980), and one that is sometimes taken literally by its proponents -- because recall of this kind would not distinguish between meaningful and meaningless material.

7. This discrepancy between results from hypnotic memory enhancement studies using structured or pressured recall and results from studies using an unstructured free recall parallels that observed between nonhypnotic recall from a narrative interview and nonhypnotic recall from an interrogatory interview (e.g., Hilgard and Loftus, 1979). In the narrative interview the subject is asked to report the event as he remembers it with no guidance from the interviewer. In this case, less detail but fewer errors are obtained than in an interrogatory interview, where the subject's attention is focused on possibilities and details of interest to the interviewer (e.g., Lipton, 1977). Thus, the interrogatory interview is structured in certain ways and yields more detailed information that is both correct and incorrect.
8. It is important to note that the difference between a leading and a nonleading question is remarkably small in terms of the manner in which the question is phrased (Loftus and Zanni, 1975). For example, a nonleading question like "Did you see a stop sign?" can be made into a leading question by merely substituting the word "the" for the word "a" ("Did you see the stop sign?"), as was done by Putnam (1979).
9. In 1972 the Los Angeles Police Department (LAPD) initiated training of police officers in "investigative hypnosis." A Law Enforcement Assistance Administration sponsored research project was carried out by the LAPD in 1975-1976, and in 70 cases hypnosis was employed (to aid memory) by 13 carefully selected senior police officers trained in hypnosis for purposes of interrogation (Reiser, 1980). Since that time, approximately 1,000 police officers have been trained by individuals associated with the LAPD, and it is estimated that substantially more than 5,000 law enforcement officers have been trained nationwide. Officers are typically trained by proprietary corporations such as Reiser's "Law Enforcement Hypnosis Institute." This institute, which is probably

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the most widely known in law enforcement circles, offers a "comprehensive program" that lasts "four days, consisting of 32 class hours of theory, demonstration, and practice" (Reiser, 1980, p. xvi). Even shorter training programs are run by various other proprietary groups throughout the country.

10. The International Society of Hypnosis (ISH) and its constituent societies in the United States (the American Society of Clinical Hypnosis and the Society for Clinical and Experimental Hypnosis) have a membership restricted to physicians, psychologists, dentists, and clinical social workers. In 1979 the International Society and its United States constituent societies adopted a resolution (ISH, 1979) stating that the Society "is strongly opposed to the training of police officers as hypnotechnicians and the use of hypnosis by the police officer." As major reasons for limiting its use, the resolution points to the potential abuse of hypnosis in the creation of pseudomemories and biasing of the recollections of the hypnotized individual without the hypnotist's awareness. In a 1980 ballot regarding this resolution, of the 1,465 signed, verified ballots returned by ISH members, 1,359 (92.8%) voted in favor of the resolution. This indicates a remarkably high degree of consensus within the relevant scientific community against the use of hypnosis by police officers to "refresh" recall and concern for the reliability of the recollections obtained. The governing body of the Society reviewed and reaffirmed this position in 1982.
11. Often a person who has undergone a traumatic event has the need to relive the experience and share it with a sympathetic therapist. Individuals without mental health training and experience who carry out hypnosis are likely to try to prevent the subject from reliving the traumatic events, partly in the mistaken notion that this is being kind, and partly because of their own difficulty in dealing with the person's pain. The result can be harmful because it can communicate to the subject in this highly suggestible condition that the feelings are so terrible that the hypnotist does not want to know about them. This may lead to considerably greater emotional distress and make consequent psychological treatment more difficult. Trained mental health professionals are in a better position to foresee and manage some

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of the possible negative consequences of the retrieval of repressed traumatic memories, such as the development of neurotic symptoms based upon fear of retribution for providing incriminating evidence, or the pathological guilt for not fighting back that is developed by some victims of assault.

12. The Federal Bureau of Investigation (FBI), the Department of the Treasury, and the criminal investigation branches of the U.S. Army, Navy, and Air Force have adopted policies that investigative hypnosis be administered exclusively by individuals trained in medicine or psychology with special expertise in the use of hypnosis, and that investigators intimately familiar with the problems of hypnosis but unfamiliar with the details of the specific case, coordinate its use in interrogation (see Ault, 1979, for FBI guidelines).
13. See note 10.
14. The Wisconsin Supreme Court in State v. Armstrong, 329 N.W.2d 386 (1983) also explicitly ruled that "hypnotically refreshed" testimony was neither automatically admissible nor excluded per se. Instead, the court mandated a case-by-case evaluation with the burden of proof to demonstrate admissibility and the absence of undue suggestiveness resting upon the side that wishes to introduce the "hypnotically refreshed" testimony. Although the court took judicial notice of the proposed guidelines for the use of hypnosis, it did not specifically require them, emphasizing that it is the trial court's responsibility to evaluate the manner in which hypnosis was used.
15. When police artists are used to help the witness or victim construct a facsimile of their mental image of the perpetrator, it is most desirable to conduct this outside of hypnosis. The interaction between the police artist and the hypnotized individual is such that the subject's mental image may easily be altered. Nonetheless, some police artists prefer to work with the individual during hypnosis. If this is to be done it becomes absolutely vital to determine any possible preconceptions of the artist concerning the appearance of the perpetrator. Because talented police artists are

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rare, the artist may have worked with another witness in constructing a facsimile, making the attempt with the hypnotized subject prone to the effects of his acquired biases. In any case, the careful videotaping of such an interaction in hypnosis would be mandatory.

16. The Federal Bureau of Investigation tries to ensure the interviewer's lack of familiarity with the specific case by using an agent from a different jurisdiction.

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GLOSSARY

Confabulation. The act of filling-in gaps in memory by fantasy or by actual memories concerning events that occurred at another time. The term implies that the subject fully believes his answers to be correct.

Hypnotic age progression. A phenomenon where a hypnotized individual is given the suggestion that it is some time in the future and experiences feelings and thoughts and manifests behavior that is consistent with his beliefs about the suggested future period.

Hypnotic age regression. A phenomenon where a hypnotized individual is given the suggestion to relive past events, and re-experiences feelings and thoughts, and manifests behavior that is appropriate to the suggested earlier period.

Hypnotizability. A relatively stable trait of the individual, which in large part determines his ability to respond to a hypnotic induction procedure and to experience hypnotic suggestions.

Induction. The procedure used by the hypnotist to bring about the condition or state of hypnosis.

Posthypnotic suggestion. Suggestions given to the individual during hypnosis which are to take effect subsequently, when the subject is no longer hypnotized (e.g., telling a subject in hypnosis that he will later have a dream about the crime, which will help him to remember exactly what happened). Suggestions may be given explicitly or implicitly.

Prehypnotic suggestion. Ideas presented to the subject prior to hypnosis as though they are factual or in the form of suggestive statements, which imply how the individual will respond either during or after hypnosis or both (e.g., telling a subject before hypnosis that the mind is like a tape recorder, that everything you have seen, heard, or felt is recorded in the unconscious, and that you will be able to remember all of these things accurately during hypnosis).

GLOSSARY

(continued)

Pseudomemory. A false recollection that may be brought about by confabulation, suggestion, and organic factors. Though factually inaccurate, they are accepted by the subject as actual recollections.

Report criterion. The variable psychological threshold at which a subject is willing to report his recollections; the level of the criterion will depend upon the context in which an individual is asked to report as well as upon his critical judgment at the time.

Wake state. A synonym for the normal, not-in-hypnosis, state. However, "wake" is used only metaphorically since hypnotized individuals are not asleep.

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