

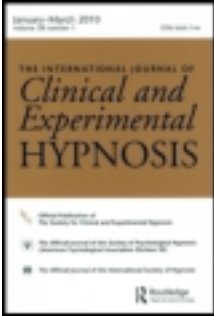
This article was downloaded by: [Macquarie University]

On: 21 August 2012, At: 20:52

Publisher: Routledge

Informa Ltd Registered in England and Wales Registered Number: 1072954

Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



## International Journal of Clinical and Experimental Hypnosis

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/nhyp20>

### Hypnotic and posthypnotic suggestion: Finding meaning in the message of the hypnotist

Amanda J. Barnier<sup>a</sup> & Kevin M. McConkey<sup>a</sup>

<sup>a</sup> University of New South Wales, Sydney, Australia

Version of record first published: 31 Jan 2008

To cite this article: Amanda J. Barnier & Kevin M. McConkey (1999): Hypnotic and posthypnotic suggestion: Finding meaning in the message of the hypnotist, *International Journal of Clinical and Experimental Hypnosis*, 47:3, 192-208

To link to this article: <http://dx.doi.org/10.1080/00207149908410032>

PLEASE SCROLL DOWN FOR ARTICLE

Full terms and conditions of use: <http://www.tandfonline.com/page/terms-and-conditions>

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae, and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings, demand, or costs or damages

whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.

# HYPNOTIC AND POSTHYPNOTIC SUGGESTION: *Finding Meaning in the Message of the Hypnotist*<sup>1</sup>

AMANDA J. BARNIER AND KEVIN M. McCONKEY<sup>2</sup>

*University of New South Wales, Sydney, Australia*

**Abstract:** High hypnotizable subjects were asked a question before, during, and after hypnosis and were given a suggestion before, during, or after hypnosis to rub their earlobe when they were asked this question. In this way, the experiment placed a question that required a verbal response in contrast with a suggestion that only sometimes required a behavioral response. Subjects were more likely to respond behaviorally when the question was associated with the suggestion but more likely to respond verbally when the question was a social interaction; furthermore, the likelihood of subjects responding behaviorally and/or verbally shifted across the tests with the changing message of the hypnotist. The findings highlight hypnotized subjects' attempts to interpret the hypnotist's communications and their ability to resolve ambiguity in the nexus of those messages in a way that promotes their hypnotic behavior and experience.

The complexity of the interaction between hypnotist and subject derives in large part from the formal and informal messages that are conveyed by the communications of the hypnotist and the nature of the hypnotic setting. Weitzenhoffer (1974), for instance, demonstrated that intended instructions aimed at producing "merely cooperative social behavior" could act as hypnotic suggestions to elicit experientially involuntary (as well as voluntary) behavior, whereas intended suggestions aimed at producing a hypnotic response could act as an instruction to elicit voluntary (as well as experientially involuntary) behavior. He argued that when a hypnotist gives a verbal communication to a subject, there is no way to tell a priori (i.e., before the communication is given) how it will be interpreted and responded to by a subject (Weitzenhoffer, 1974; see also Sheehan & McConkey, 1982).

Manuscript submitted August 12, 1997; final revision received July 21, 1998.

<sup>1</sup>This research was supported in part by a grant from the Australian Research Council to Kevin M. McConkey and an Australian Postgraduate Award to Amanda J. Barnier. We are grateful to Heather Wilton for research assistance.

<sup>2</sup>Address correspondence to Kevin M. McConkey, School of Psychology, University of New South Wales, Sydney NSW 2052, Australia or K.McConkey@unsw.edu.au.

*The International Journal of Clinical and Experimental Hypnosis*, Vol. 47, No. 3, July 1999 192-208  
© 1999 *The International Journal of Clinical and Experimental Hypnosis*

When faced with communications that can be interpreted in various ways, hypnotized subjects must work to understand the intentions behind the hypnotist's message and to respond in a way that is appropriate to those intentions and that is compatible with their abilities and motivations. This view is consistent with Kihlstrom's (1995; see also Grice, 1975; McConkey, Glisky, & Kihlstrom, 1989; Orne, 1959) characterization of the hypnotic experiment (and indeed all psychological experiments) as involving a conversation and a collaboration between experimenters and subjects. Kihlstrom (1995) argued that subjects are continually trying to determine how to respond to both the formal and the informal messages that are emanating from the hypnotist and the setting. Moreover, this interpretation occurs in the context of a particular type of social encounter (labeled the "experiment") that has particular rules and that guides and constrains all participants' understandings of their interaction. From this perspective, subjects engage in "effort after meaning" within the context of a general understanding about what they can expect to happen during a hypnosis session in an experimental laboratory.

Experiments on conflicting hypnotic communications, countering preconceptions, the hidden observer effect, and trance logic (e.g., McConkey, 1983; McConkey, Bryant, Bibb, & Kihlstrom, 1991; Nogrady, McConkey, Laurence, & Perry, 1983; Sheehan, 1971) have all pointed to ambiguities in the communications of the hypnotist and to the ways in which hypnotized subjects may resolve those ambiguities and respond. Recent experiments on posthypnotic suggestion have demonstrated that ambiguities can arise not only from multiple, conflicting verbal communications but also from the way in which those messages are embedded within the context of the overall hypnotic interaction (Barnier & McConkey, 1996, 1998, in press). For instance, Barnier and McConkey (in press) gave real and simulating subjects either a general suggestion to respond when they heard a cue or a posthypnotic suggestion to respond when they heard a cue after hypnosis; half of the subjects were given the cue before hypnosis and half were given it after hypnosis. We found that subjects' behaviors and experiences were influenced by the level of congruence between information conveyed by the suggestion about when they should respond and the timing of the test. Our findings indicated that hypnotized subjects work actively to interpret the message of the hypnotist within the context of their interaction with him or her. Given these findings, we believed it would be valuable to examine further subjects' search for meaning in the hypnotic context, particularly when the conditions or circumstances of that setting were changing.

Accordingly, we explored shifts in subjects' interpretations of and responses to the hypnotist's communications as the context of testing changed. In the present experiment, high hypnotizable subjects were asked a question ("Do you think it will rain tonight?") three times during

an experimental session: before hypnosis, during hypnosis, and after hypnosis. In addition, subjects were given a suggestion that they would rub their right earlobe when they were asked this question. In one condition, subjects were given the suggestion before hypnosis; in the second condition, they were given the suggestion during hypnosis; and in the third condition, they were given the suggestion after hypnosis.

The design of our experiment placed a message from the hypnotist that always required a verbal response (*viz.*, the question "Do you think it will rain tonight?") against a hypnotic-like message that sometimes required a behavioral response (*viz.*, the suggestion for subjects to rub their earlobe when they hear the phrase "Do you think it will rain tonight?"). The verbal response could be said to reflect routine social interaction; in other words, the hypnotist asked a benign question and subjects were expected to give a simple answer. The behavioral response, however, reflected a hypnotic interaction. That is, the hypnotist suggested that when she asked a question, subjects would give an unusual (hypnotic) response.

We expected that when the message of the hypnotist was interpreted as a formal hypnotic communication (*viz.*, a suggestion to rub the earlobe) and the context was explicitly hypnotic, then subjects would rub their earlobe more so than answer the question. We expected that when the message was interpreted as a social interaction (*viz.*, a question to answer) and the context was not explicitly hypnotic, then subjects would answer the question more so than rub their earlobe. However, we expected that the likelihood of subjects responding behaviorally and/or responding verbally would fluctuate across the tests in line with the changing message of the hypnotist (note that for each test, subjects could respond either behaviorally or verbally, or they could do both). In this way, we examined how subjects dealt with the ambiguity and conflict generated by the meaning of the hypnotist's message across different circumstances within the context of a hypnotic interaction.

To better appreciate the experience of hypnotized subjects, we used the Experiential Analysis Technique (EAT; Sheehan & McConkey, 1982). The EAT involves subjects commenting on a videotape record of their hypnotic session in the presence of an independent experimenter (the inquirer). We used this technique to explore experiential and interpretive processes that would not be captured by behavioral data. In this respect, we used it to better understand the participant's point of view as a central process in the hypnotic interaction (see also Kihlstrom, 1995; McConkey et al., 1989). More specifically, the EAT allowed an examination of the extent to which subjects' commitment to the communications of the hypnotist was related to behavioral responding. Sheehan (1991) argued that the deeply hypnotized subject is characterized by a motivated cognitive commitment, which reflects the ability and motivation of the individual to process the hypnotist's communications in a

cognitively active way and thus to respond in an appropriate fashion. Accordingly, we considered that subjects' comments about their responses to the various tests would provide insight into the processes and influences that were associated with hypnotic and posthypnotic responding. We believed that those who demonstrated a cognitive commitment to the message of the hypnotist would be more likely to process the ambiguous, conflicting, and confusing information across the tests in a way that led to hypnotic responding.

## METHOD

### *Participants*

Twenty-one (7 male and 14 female) high hypnotizable participants of mean age 22.05 years ( $SD = 8.45$ ) who were undergraduate psychology students at the University of New South Wales, Sydney, Australia, voluntarily participated in return for research credit of 1 hour. Subjects were preselected on the basis of their scores in the range of 10 to 12 on the 12-item Harvard Group Scale of Hypnotic Susceptibility, Form A (HGSHS:A; Shor & Orme, 1962;  $M = 10.88$ ,  $SD = 0.66$ ); their high hypnotizability was confirmed by their scores in the range of 8 to 10 on a 10-item tailored version of the Stanford Hypnotic Susceptibility Scale, Form C (Hilgard, Crawford, Bowers, & Kihlstrom, 1979; SHSS:C; Weitzenhoffer & Hilgard, 1962;  $M = 9.33$ ,  $SD = 0.58$ ).

### *Apparatus*

A video camera and a videocassette recorder were used to record both the hypnosis and the inquiry session onto videocassettes; the video camera was focused on the participant throughout. A videocassette recorder and a color monitor were used to play back the recording of the hypnosis session.

### *Procedure*

The experiment involved a hypnosis session and an EAT inquiry session. The hypnosis session was conducted by the first experimenter (the hypnotist), and the EAT inquiry session was conducted by a second, independent experimenter (the inquirer). The suggestion to rub the right earlobe in response to the cue was given either before hypnosis (prehypnotic condition), during hypnosis (hypnotic condition), or after hypnosis (posthypnotic condition); subjects were allocated to one of these three conditions. Response to the question/cue (*viz.*, "Do you think it will rain tonight?") was tested on three occasions: before hypnosis (Test 1), during hypnosis (Test 2), and after hypnosis (Test 3); all subjects were given each test. Table 1 sets out the experimental design. For both the administration of the suggestion and the test(s), "before hypnosis" refers to the period of time before the hypnotic induction procedure was administered, "during hypnosis" refers to the period of time between the

administration of the induction and the deinduction procedures, and "after hypnosis" refers to the period of time after the hypnotic deinduction was administered.

*Hypnosis session.* The hypnotist welcomed subjects, gave them an informed consent form to read and sign, and told them to make themselves comfortable. Following this, she gave the suggestion to those in the prehypnotic condition. Subjects in this condition were told that they would rub their right earlobe with the thumb and forefinger of their right hand when the hypnotist said, "Do you think it will rain tonight?"<sup>3</sup> The hypnotist then allowed 10 seconds to elapse before she administered Test 1, the prehypnotic test of the question/cue. Subjects in the hypnotic and posthypnotic conditions were not given the suggestion at this point; for these individuals, the hypnotist allowed 10 seconds to elapse from her initial instruction to allow the subjects to make themselves comfortable before administering Test 1. That is, following either the suggestion (prehypnotic condition) or the initial instruction (hypnotic and posthypnotic conditions), the hypnotist asked subjects, "Do you think it will rain tonight?" She avoided eye contact, allowed 30 seconds to elapse from the end of the cue, and noted their behavioral and verbal responses; if subjects asked for clarification, the hypnotist did not respond until the 30 seconds had elapsed.

The hypnotist then administered a standard induction procedure and tested all subjects on the four hypnotic items of moving hands apart, finger lock, verbal inhibition, and heat hallucination. She then gave the suggestion to those in the hypnotic condition. That is, subjects in this condition were told that they would rub their right earlobe with the thumb and forefinger of their right hand when the hypnotist said, "Do you think it will rain tonight?" The hypnotist allowed 10 seconds to elapse before she administered Test 2, the hypnotic test of the question/cue. Subjects in the prehypnotic condition previously had been given the suggestion, and those in the posthypnotic condition were not given the suggestion at this point; for these individuals, the hypnotist allowed 10 seconds to elapse from the end of the heat hallucination item before administering Test 2. Thus, following either the suggestion (hypnotic condition) or the conclusion of the heat hallucination item (prehypnotic and posthypnotic conditions), the hypnotist asked participants, "Do you think it will rain tonight?" Again, she allowed 30 seconds to elapse from

<sup>3</sup>The verbatim suggestion was as follows: "Now I'd just like you to listen closely to what I tell you next. When I say to you, 'Do you think it will rain tonight?' you will rub your right earlobe with the thumb and forefinger of your right hand. You will rub your right earlobe. No matter what you are doing, when you hear me say, 'Do you think it will rain tonight?' you will rub your right earlobe with the thumb and forefinger of your right hand. You will rub your right earlobe. This will happen by itself and you will not remember that I asked you to do this when I say these words. When I say to you, 'Do you think it will rain tonight?' you will rub your right earlobe with the thumb and forefinger of your right hand."

Table 1  
*Summary of Experimental Design*

Suggestion Condition	Experimental Periods		
	Before Hypnosis	During Hypnosis	After Hypnosis
Prehypnotic	<b>Suggestion</b> Test 1 (question/cue)	Test 2 (question/cue)	Test 3 (question/cue)
Hypnotic	Test 1 (question)	<b>Suggestion</b> Test 2 (question/cue)	Test 3 (question/cue)
Posthypnotic	Test 1 (question)	Test 2 (question)	<b>Suggestion</b> Test 3 (question/cue)

*Note.* The possible interpretations of each test (viz., question to answer and/or cue to respond) are presented in parentheses.

the end of the cue and noted their behavioral and verbal responses; if subjects asked for clarification, the hypnotist did not respond until the 30 seconds had elapsed. After the hypnotic test of responding, the hypnotist allowed 10 seconds to elapse before she administered a standard deinduction procedure to all subjects.

*Posthypnotic inquiry session.* Immediately following the deinduction procedure, the hypnotist gave the suggestion to those in the posthypnotic condition. That is, subjects in this condition were told that they would rub their right earlobe with the thumb and forefinger of their right hand when the hypnotist said, "Do you think it will rain tonight?" The hypnotist then allowed 10 seconds to elapse before she administered Test 3, the posthypnotic test of the question/cue. Subjects in the prehypnotic and hypnotic conditions had been given the suggestion before and during hypnosis, respectively; for these individuals, the hypnotist allowed 10 seconds to elapse from the end of the deinduction procedure before administering Test 3. Thus, following either the suggestion (posthypnotic condition) or the deinduction procedure (prehypnotic and hypnotic conditions), the hypnotist asked subjects, "Do you think it will rain tonight?" She avoided eye contact, allowed 30 seconds to elapse from the end of the cue, and noted their behavioral and verbal responses; if subjects asked for clarification, the hypnotist did not respond until the 30 seconds had elapsed. Following this, the hypnotist cancelled the suggestion and conducted a brief inquiry into subjects' reactions to the hypnosis session.



*EAT inquiry session.* The inquirer told subjects that they would be shown a videotape of the hypnosis session that they had just completed and that they should ask her to stop the videotape at any point and describe their experiences. The decision to stop the videotape was left primarily to participants, but if they did not comment spontaneously on their responses to the suggestion and the question/cue across the three tests, the inquirer stopped the videotape and asked them to comment on their experiences. For instance, during the playback of the suggestion (whether prehypnotic, hypnotic, or posthypnotic), the inquirer asked questions such as, "What sorts of things were you thinking as you were listening to the hypnotist?" and "How were you feeling about this instruction?" During the playback of the question/cue for each of the tests, she asked questions such as, "Did that phrase have any meaning for you?" and "Tell me about the feelings you were experiencing at this point." During the playback of participants' responses to the tests, she asked subjects to: "Tell me about the thoughts that were going through your mind at this time" and "Is there anything you might have liked to say to the hypnotist?" In addition to these questions, the inquirer asked subjects who responded on the tests to rate how much of an urge they felt to rub their earlobe on each occasion (where 0 = *none at all* and 6 = *an extremely strong urge*). Finally, the inquirer answered any questions, thanked subjects, and ended the session.

## RESULTS

Behavioral and verbal responses on the three tests and EAT comments were categorized from the video record by the hypnotist or the inquirer and an independent rater who was unaware of the aims of the experiment. Behavioral responses were categorized as either positive (a behavioral reaction consistent with the suggestion within 30 seconds of the question/cue) or negative (no behavioral reaction within 30 seconds of the question/cue); verbal responses were categorized as either a response (any verbal response to the question) or as no response. EAT comments about the suggestion were categorized in terms of whether it was confusing, considered to be unusual, and whether subjects expected to respond; comments about the question/cue were categorized in terms of the meaning it held for subjects and whether they felt confused by its presentation across the three tests; and comments about responding were categorized in terms of the nature of their response and the similarities and differences in their reactions to the repeated tests.<sup>4</sup>

<sup>4</sup>Overall interrater reliability for behavioral responses was  $k = 0.91$  (Kappa statistic; see Cohen, 1960; Test 1:  $k = 0.72$ , Test 2:  $k = 1.00$ , Test 3:  $k = 0.92$ ); overall interrater reliability for verbal responses was  $k = 0.90$  (Test 1:  $k = 1.00$ , Test 2:  $k = 0.90$ , Test 3:  $k = 0.79$ ). Interrater reliability for the categorization of Experiential Analysis Technique (EAT) comments ranged from  $k = 0.76$  to  $k = 1.00$ . Behavioral and verbal data are those provided by the hypnotist; EAT data are those provided by the inquirer; analyses of the independent rater's data showed the same pattern of findings.

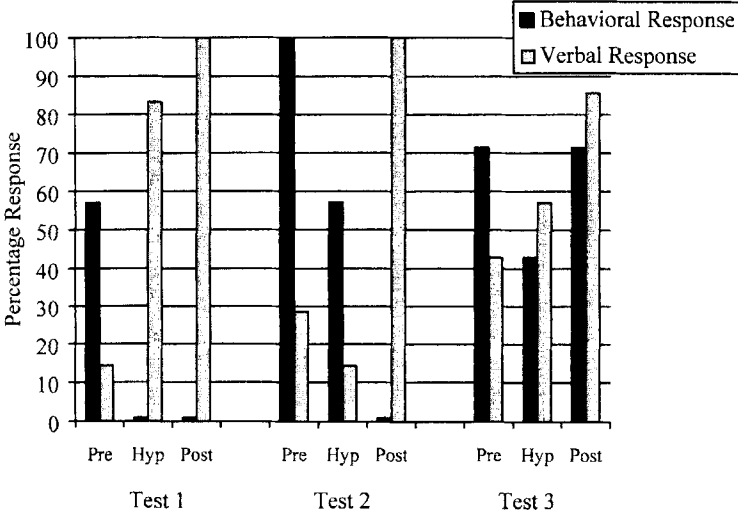
Figure 1 presents the percentage of behavioral and verbal responding for subjects in the prehypnotic, hypnotic, and posthypnotic conditions across the three tests. During Test 1, 4 (57.1%) subjects in the prehypnotic condition responded behaviorally, whereas only 1 (14.3%) responded verbally. No subject in the hypnotic and posthypnotic conditions responded behaviorally, but 6 (85.7%) and 7 (100%) subjects in these conditions, respectively, responded verbally. Chi-square analysis<sup>5</sup> confirmed that whereas more subjects in the prehypnotic condition than in the hypnotic and posthypnotic conditions responded behaviorally,  $\chi^2(2, N = 21) = 9.88, p < .01$ , fewer responded verbally,  $\chi^2(2, N = 21) = 13.29, p < .01$ . Thus, during Test 1, and consistent with our expectations, subjects were more likely to respond behaviorally when the question/cue was associated with a hypnotic suggestion, but they were more likely to respond verbally when it was associated with a social interaction.

During Test 2, 7 (100%) subjects in the prehypnotic condition and 4 (57.1%) in the hypnotic condition responded behaviorally, whereas only 2 (28.6%) and 1 (14.3%) subject in these conditions, respectively, responded verbally. In contrast, no subject in the posthypnotic condition responded behaviorally, but all (100%) responded verbally. Chi-square analysis indicated that more subjects in the prehypnotic than in the hypnotic condition responded behaviorally,  $\chi^2(1, N = 14) = 3.82, p < .05$ , and more subjects in the posthypnotic condition than in the prehypnotic and hypnotic conditions responded verbally,  $\chi^2(2, N = 21) = 11.84, p < .01$ . Thus, as in Test 1, subjects were more likely to respond behaviorally when the question/cue was associated with a hypnotic suggestion, but they were more likely to respond verbally when it was associated with a social interaction.

During Test 3, 5 (71.4%), 3 (42.9%), and 5 (71.4%) subjects in the prehypnotic, hypnotic, and posthypnotic conditions, respectively, responded behaviorally, and 3 (42.9%), 4 (57.1%), and 6 (85.7%) subjects in these conditions, respectively, responded verbally. Analysis indicated that there was no difference in the pattern of responding between conditions. Subjects were equally likely to respond behaviorally and verbally when the question/cue was associated with the suggestion.

These data suggest that within each test period, subjects' responses depended on whether they interpreted the hypnotist's message as a question to answer or as a cue to respond. Looking across the three tests, the responses of some subjects fluctuated depending on the context of the test. For instance, analysis (Cochran's Q tests,  $p < .05$ ) indicated that both the behavioral and verbal responding of subjects in the hypnotic

<sup>5</sup>For some of the chi-square analyses reported in this section, cell sizes were less than five. It is often assumed that when  $df = 1$  and expected frequencies are less than 5, the chi-square test is not reliable (e.g., Siegel, 1956). However, recent research has suggested that this test does, in fact, generate accurate probabilities under these circumstances and that no correction procedure is required (Bradley, Bradley, McGrath, & Cutcomb, 1979; Camilli & Hopkins, 1978).



**Figure 1. Percentage behavioral and verbal response across the tests.**  
*Note.* Pre = prehypnotic condition, Hyp = hypnotic condition, Post = posthypnotic condition.

condition changed significantly across the tests. Specifically, 0 (0%), 4 (57.1%), and 3 (42.9%) subjects in this condition responded behaviorally on Tests 1, 2, and 3, respectively; 6 (85.7%), 1 (14.3%), and 4 (57.1%) responded verbally. Thus, more subjects responded behaviorally to Tests 2 and 3 than on Test 1, and fewer subjects responded verbally on Test 2 than on Tests 1 and 3. Similarly, analysis indicated that whereas the verbal responding of subjects in the posthypnotic condition did not change significantly across the tests, their behavioral responding increased. Specifically, 0 (0%), 0 (0%), and 5 (71.4%) subjects responded behaviorally on Tests 1, 2, and 3, respectively; 7 (100%), 7 (100%), and 6 (85.7%) responded verbally. Thus, for these subjects, the question/cue remained a social interaction across the tests but became associated with the hypnotic suggestion during the final test, and this led to both behavioral and verbal responses. In contrast to subjects in these conditions, the behavioral and verbal responding of subjects in the prehypnotic condition remained relatively stable across the tests. Specifically, 4 (57.1%), 7 (100%), and 5 (71.4%) subjects responded behaviorally on Tests 1, 2, and 3, respectively; 1 (14.3%), 2 (28.6%), and 4 (57.1%) responded verbally. Most subjects responded behaviorally to the question/cue, whereas few responded verbally. These findings suggest that subjects' responding was influenced by both the hypnotist's message as well as by the context in which it was given.

During the EAT, subjects were asked to describe what they were thinking as they were administered the suggestion and the question/cue during each of the tests. These comments help to elucidate

subjects' behavioral and verbal responding by highlighting the interpretations that they placed on the question/cue across the three tests. During Test 1, 6 (85.7%) subjects in the prehypnotic condition commented that they interpreted the question as a signal to respond behaviorally; only 1 (14.3%) subject interpreted it as both a cue to respond and a question to answer. The majority of subjects in the hypnotic ( $N = 6/7$ ; 85.7%) and posthypnotic ( $N = 7/7$ ; 100%) conditions said that they interpreted the cue as a question to answer,  $\chi^2(4, N = 20) = 20.00, p < .01$ .

During Test 2, the majority of subjects in the prehypnotic ( $N = 6/7$ ; 85.7%) and hypnotic ( $N = 4/7$ ; 57.1%) conditions commented that they interpreted the question as a signal to respond behaviorally. For instance, one said, "I just meant to rub my earlobe. I didn't think about it as a question to answer." One subject in the prehypnotic condition and two in the hypnotic condition said that they interpreted it as both a cue to respond and a question to answer, and one subject in the hypnotic condition said that it was just a question to answer. In contrast, all subjects (100%) in the posthypnotic condition said that they interpreted the cue as a question to answer,  $\chi^2(4, N = 21) = 18.35, p < .01$ .

During Test 3, 6 (85.7%) subjects in the prehypnotic condition, 4 (57.1%) in the hypnotic condition, and 5 (71.4%) in the posthypnotic condition interpreted the question as a signal to respond; 2 (28.6%) subjects in the hypnotic and 2 (28.6%) in the posthypnotic conditions interpreted the cue as both a signal to respond and as a question to answer; the remaining subjects interpreted the cue as a question to answer or said that it had no meaning for them. There was no difference in these comments across conditions. Overall, subjects' EAT comments indicate that their interpretation of the question/cue as a signal to respond behaviorally or as a social interaction differed across the tests.

During the EAT, subjects who responded were asked to rate how much of an urge they felt to rub their earlobe on each test (where 0 = *none at all* and 6 = *an extremely strong urge*). These data help to address the question of whether those subjects who responded to the hypnotic-like suggestion even when it was administered either prior to the induction of hypnosis (prehypnotic condition) or after formal hypnosis had been terminated (posthypnotic condition) did so due to behavioral compliance or whether they reported an accompanying experience of compulsion. Of those who responded to one or more of the tests, the mean compulsion rating was 3.67 ( $SD = 2.24$ ) and the median rating was 4.00. On Test 1, 4 (all prehypnotic) subjects responded. Two (50%) gave ratings above the median (1 gave the highest rating) and 2 (50%) gave ratings below the median; the mean rating was 3.00 ( $SD = 2.58$ ). On Test 2, 11 (7 prehypnotic, 4 hypnotic) subjects responded. Nine (81.8%) gave ratings above the median (5 gave the highest rating) and 2 (18.2%) gave ratings below the median; the mean rating was 4.64 ( $SD = 1.86$ ). On Test 3, 13 (5 prehypnotic, 3 hypnotic, and 5 posthypnotic) subjects responded. Five

(38.5%) gave ratings above the median (4 gave the highest rating) and 8 (61.5%) gave ratings below the median; the mean rating was 3.23 ( $SD = 2.35$ ). Notably, there was no difference in the ratings of subjects across the suggestion conditions on any test. Thus, although behavioral responding during hypnosis (Test 2) was more often associated with a strong compulsive experience (defined as a compulsion rating above the median), a number of subjects who responded either before (Test 1) or after (Test 3) hypnosis also experienced a strong sense of compulsion. Thus, responding at these times was not necessarily motivated by behavioral compliance.

## DISCUSSION

We expected that subjects would rub their earlobe more so than answer the question when the question/cue was interpreted as a formal hypnotic communication but that they would answer the question more so than rub their earlobe when the question/cue was interpreted as a social interaction. Consistent with this, for Tests 1 and 2, subjects were more likely to respond behaviorally when the question, "Do you think it will rain tonight?" was associated with a hypnotic suggestion but were more likely to respond verbally when it was associated with a social interaction. For Test 3, subjects were equally likely to respond behaviorally and verbally when the question was associated with the suggestion. We expected also that the likelihood of some subjects responding behaviorally and/or verbally would shift across the tests in line with the changing message of the hypnotist. Consistent with this, we found that both the behavioral and verbal responding of subjects in the hypnotic condition changed across the tests; also, whereas the verbal responding of subjects in the posthypnotic condition did not change across the tests, their behavioral responding increased. Subjects' EAT comments indicated that their interpretation of the message of the hypnotist as either a signal to respond behaviorally or as a question to answer depended on both the hypnotist's message and the context in which it was given. Moreover, the interpretation of many subjects shifted across the tests to follow the context of the interaction and the implied intent of the hypnotist's message.

These findings indicate that subjects strive to interpret the hypnotist's communications and attempt to match their behavior to this understanding (Kihlstrom, 1995; Orne, 1959; Weitzenhoffer, 1974). In some cases, this process of interpretation may be relatively straightforward. For instance, subjects were less likely to report feeling confused about what they should do when the suggestion and/or the question/cue were presented during hypnosis than when these messages were presented either before or after hypnosis. Also, subjects in the prehypnotic condition were more likely to respond behaviorally when presented with the question/cue during rather than before hypnosis. In other

words, certain configurations of the hypnotist's communications and of the context were less likely to create ambiguity or confusion; typically, this was when the communications of the hypnotist were compatible with the context in which they were administered. Notably, subjects' ratings of compulsion, given during the EAT, indicated that behavioral responses made during hypnosis were more likely to be accompanied by an experience of compulsion than responses made either before or after hypnosis. These findings are consistent with other work on posthypnotic suggestion that has found that subjects show a high level of response on formal posthypnotic tests for which they are prepared (e.g., Barnier & McConkey, 1996, *in press*; Orne, Sheehan, & Evans, 1968; Spanos, Menary, Brett, Cross, & Ahmed, 1987). This high level of response can be said to reflect the relatively unambiguous message conveyed by both the hypnotist's suggestion and the formal tests used in those experiments. In some situations, the process of interpretation may not be as straightforward.

In the present experiment, subjects' interpretation of the hypnotist's suggestion was complicated by its administration in an unexpected, nonhypnotic context (i.e., prehypnotic and posthypnotic conditions) and by the unusual nature of the question/cue. For instance, most of the subjects in the prehypnotic condition and almost half of those in the posthypnotic condition thought that the suggestion was confusing and out of the ordinary. One subject in the prehypnotic condition said, "Actually, I was a bit confused about this bit because I wasn't sure whether I was expected to do it, because she said it before I was under. So I wasn't really sure if that had any relevance." Notably, only one subject in the hypnotic condition thought that the suggestion was confusing or unusual. When asked about her reactions to the suggestion, she said, "I was thinking that [the hypnotist] has already asked me that before and it's not a real question." For others, the question, "Do you think it will rain tonight?" which was intended to reflect a benign, social interaction, led to confusion even when it was not associated with the suggestion. For instance, one subject in the posthypnotic condition commented about the first test, "Why, why ask that? What a silly thing to ask. It didn't fit." For some subjects, the confusion created by the ambiguity in the hypnotist's communications and the time at which responding was indexed influenced both their interpretation of the question/cue and their responding. This is reflected not only in subjects' behavioral responses but in their ratings of compulsion as well, which were generally lower before and after, rather than during, hypnosis.

Despite experiencing some confusion during some tests, other individuals resolved this ambiguity in a way that allowed a behavioral and phenomenal experience of hypnotic responding. Often this resolution was personal and idiosyncratic. For example, one subject in the prehypnotic condition believed that she had been fully hypnotized during the

suggestion and test, which were administered prior to the formal induction procedure. Although it could be argued that this subject was "hypnotized" from the moment the experiment began, her belief allowed her to respond to the suggestion at a time when others found it strange and confusing. Similarly, a posthypnotic subject believed that the purpose of the cue was to elicit or test his "true response" to the question; for him, the suggestion to rub his earlobe was secondary (although he responded behaviorally) to the nature of his verbal response. Of importance, such responding in a seemingly "nonhypnotic" context cannot be said to necessarily reflect behavioral compliance because some subjects gave extremely high ratings of compulsion for responses made during these times. In other words, some subjects experienced their responding either before or after hypnosis as compelling and genuine.

We considered that the individuals most likely to process the ambiguous and conflicting information presented by the suggestion and the tests would be those who demonstrated a motivated cognitive commitment to the hypnotist. Our results confirmed this prediction and indicated that many subjects who responded successfully, particularly those who were given the suggestion either before or after hypnosis, placed a great deal of meaning and emphasis on the hypnotist's communications and ignored information that was inconsistent with the essence of their hypnotic interaction. For example, one subject in the posthypnotic condition described her reaction to the administration of the suggestion (after hypnosis) in the following way:

You see, I think that's kind of unusual because we'd counted down and here we are and I'm wide awake, presumably in my waking state. I'm looking at her [the hypnotist] and going along exactly with what she's going to say and asking me to do. So that when she says about the weather, "Do you think it will rain tonight?" I'm going to rub my earlobe. I can see the look on my face. I'm seriously listening; it doesn't seem bizarre at all. It doesn't seem outrageous that she's going to ask me to do an action in relation to something that she's said twice before. So, I think that is interesting.

Overall, our findings point to two important theoretical issues. First, they suggest that to respond to a hypnotic or posthypnotic suggestion, subjects must develop an appropriate motivated set or preparedness to respond in a hypnotic fashion. It is not sufficient for subjects to have received the suggestion and for the test simply to be presented; rather, they must actively process the information in a way that helps them to prepare to display hypnotic behavior. This information processing will be influenced by the extent to which the suggestion meets subjects' expectations, the availability of cues in the setting that reinforces appropriate responding, and the degree to which subjects are able to tolerate and manage ambiguity in the totality of messages and cues available to them

(see also Orne, 1959). Second, the finding that some subjects gave priority to the hypnotic features of the message underscores the potency of the hypnotist's message, the relevance of the relationship between the subject and the hypnotist, and the hypnotized individual's cognitive predisposition and ability to assimilate conflicting and ambiguous information in a way that defines and promotes their experience as hypnotic rather than routine (McConkey, 1991; Sheehan, 1991).

The findings of our experiment also suggest that insight into the processes underlying hypnotic and posthypnotic behavior may be gained by focusing on talented hypnotic subjects faced with difficult or challenging experiences (see also McConkey et al., 1989). In particular, processes such as tolerance and management of ambiguity, preparedness to respond, and commitment to the hypnotist's communications were more often highlighted by subjects' attempts to find meaning when faced with conflicting rather than straightforward messages and influences in the present experiment. Furthermore, this ability to manage ambiguity is almost certainly related to hypnotizability; in this sense, our findings highlight the value of considering the personal and motivational characteristics of those who are able to respond in this way. Despite a relatively small subject number in the present experiment, we observed informally that virtuoso hypnotic subjects seemed less concerned by the confusion that limited the responding of the other high hypnotizable subjects and also seemed more likely to describe their experience as compelling and effortless. It would be worth following up these observations in a systematic way with a larger sample.

At a more general level, many subjects indicated a concern with the level of consistency between the hypnotist's communications and their expectations about the conduct of the hypnosis experiment. For instance, one subject in the posthypnotic condition responded to the administration of the question/cue before hypnosis (Test 1) in the following way: "I was assuming that the thing had started, and it seemed a strange question . . . it was just nonsensical . . . it was a statement that didn't belong to the context that I was expecting." Comments such as these suggested that subjects had a set of tacit rules about what was appropriate during an experimental, hypnotic interaction; in other words, they held clear expectations for the conduct and content of the hypnotic interaction. Although those expectations were broader for some rather than for others, the administration of the suggestion either before or after hypnosis and the question "Do you think it will rain tonight?" often represented a transgression of subjects' expectations. Furthermore, although we labeled only the period of time between the administration of the hypnotic induction and deinduction procedures as "during hypnosis," such an operationalization of "hypnosis" may



underestimate the degree to which subjects perceived the entire experimental interaction, from the time they entered the room until they left, as hypnotic in nature.

Overall, and consistent with the comments of Orne (1959) and Kihlstrom (1995), these findings underscore that the hypnosis experiment is a rule-bound, social interaction. Most broadly, this is important to keep in mind when we are investigating hypnosis in the experimental setting, in which there are three experiments actually going on: the one the subject thinks they are in, the one the hypnotist thinks they are doing, and the one that is actually occurring (Kihlstrom, 1995; Orne, 1959). Just as subjects strive to bring meaning to the communications of the hypnotist, investigators must strive to interpret the subjects' actions and words. To do that effectively, we need to understand how hypnotized individuals find meaning in the message of the hypnotist.

## REFERENCES

- Barnier, A. J., & McConkey, K. M. (1996). Action and desire in posthypnotic responding. *International Journal of Clinical and Experimental Hypnosis*, *44*, 120-139.
- Barnier, A. J., & McConkey, K. M. (1998). Posthypnotic responding: Knowing when to stop helps to keep it going. *International Journal of Clinical and Experimental Hypnosis*, *46*, 204-219.
- Barnier, A. J., & McConkey, K. M. (in press). Posthypnotic responding: The relevance of suggestion and test congruence. *International Journal of Clinical and Experimental Hypnosis*.
- Bradley, D. R., Bradley, T. D., McGrath, S. G., & Cutcomb, S. D. (1979). Type I error rate of the chi-square test of independence in  $R \times C$  tables that have small expected frequencies. *Psychological Bulletin*, *86*, 1290-1297.
- Camilli, G., & Hopkins, K. D. (1978). Applicability of chi-square to  $2 \times 2$  contingency tables with small expected cell frequencies. *Psychological Bulletin*, *85*, 163-167.
- Cohen, J. A. (1960). A coefficient of agreement for nominal scales. *Educational and Psychological Measurement*, *20*, 37-46.
- Grice, H. P. (1975). Logic and conversation. In P. Cole & J. L. Morgan (Eds.), *Syntax and semantics 3: Speech acts* (pp. 41-58). New York: Academic Press.
- Hilgard, E. R., Crawford, H. J., Bowers, P., & Kihlstrom, J. F. (1979). A tailored SHSS:C, permitting user modification for special purposes. *International Journal of Clinical and Experimental Hypnosis*, *27*, 125-133.
- Kihlstrom, J. F. (1995, June). *From the subject's point of view: The experiment as conversation and collaboration*. Keynote address presented at the Seventh Annual Convention of the American Psychological Society, New York.
- McConkey, K. M. (1983). The impact of conflicting communications on response to hypnotic suggestion. *Journal of Abnormal Psychology*, *92*, 351-358.
- McConkey, K. M. (1991). The construction and resolution of experience and behavior in hypnosis. In S. J. Lynn & J. W. Rhue (Eds.), *Theories of hypnosis: Current models and perspectives* (pp. 542-563). New York: Guilford.
- McConkey, K. M., Bryant, R. A., Bibb, B. C., & Kihlstrom, J. F. (1991). Trance logic in hypnosis and imagination. *Journal of Abnormal Psychology*, *100*, 464-472.
- McConkey, K. M., Glisky, M. L., & Kihlstrom, J. F. (1989). Individual differences among hypnotic virtuosos: A case comparison. *Australian Journal of Clinical and Experimental Hypnosis*, *17*, 131-140.
- Nogrady, H., McConkey, K. M., Laurence, J.-R., & Perry, C. (1983). Dissociation, duality, and demand characteristics in hypnosis. *Journal of Abnormal Psychology*, *92*, 223-235.

- Orne, M. T. (1959). The nature of hypnosis: Artifact and essence. *Journal of Abnormal and Social Psychology*, 58, 277-299.
- Orne, M. T., Sheehan, P. W., & Evans, F. J. (1968). Occurrence of posthypnotic behavior outside the experimental setting. *Journal of Personality and Social Psychology*, 9, 189-196.
- Sheehan, P. W. (1971). Countering preconceptions about hypnosis: An objective index of involvement with the hypnotist. *Journal of Abnormal Psychology*, 78, 299-322.
- Sheehan, P. W. (1991). Hypnosis, context, and commitment. In S. J. Lynn & J. W. Rhue (Eds.), *Theories of hypnosis: Current models and perspectives* (pp. 520-541). New York: Guilford.
- Sheehan, P. W., & McConkey, K. M. (1982). *Hypnosis and experience: The exploration of phenomena and process*. Hillsdale, NJ: Lawrence Erlbaum.
- Shor, R. E., & Orne, E. C. (1962). *Harvard Group Scale of Hypnotic Susceptibility, Form A*. Palo Alto, CA: Consulting Psychologists Press.
- Siegel, S. (1956). *Nonparametric statistics for the behavioral sciences*. New York: McGraw-Hill.
- Spanos, N. P., Menary, E., Brett, P. J., Cross, W., & Ahmed, Q. (1987). Failure of posthypnotic responding to occur outside the experimental setting. *Journal of Abnormal Psychology*, 96, 52-57.
- Weitzenhoffer, A. M. (1974). When is an "instruction" an "instruction"? *International Journal of Clinical and Experimental Hypnosis*, 22, 258-269.
- Weitzenhoffer, A. M., & Hilgard, E. R. (1962). *The Stanford Hypnotic Susceptibility Scale, Form C*. Palo Alto, CA: Consulting Psychologists Press.

### Hypnotische und posthypnotische Suggestion: Suche nach einer Bedeutung in den Kommunikationen des Hypnotherapeuten

Amanda J. Barnier und Kevin M. McConkey

**Zusammenfassung:** Hoch-hypnotisierbaren VPn. wurde vor, während und nach Hypnose eine Frage gestellt, und vor, während und nach der Hypnose wurden sie angewiesen, bei dieser Frage ihr Ohrfläppchen zu reiben. Das Experiment kontrastierte also eine Frage, die eine verbale Reaktion erforderte, mit einer Suggestion, die nur manchmal eine verhaltensmäßige Reaktion erforderte. Die Vpn. tendierten mit größerer Wahrscheinlichkeit zu einer verhaltensmäßigen Reaktion, wenn die Frage mit der Suggestion assoziiert war, aber mit größerer Wahrscheinlichkeit zu einer verbalen Reaktion, wenn es sich bei der Frage um eine soziale Interaktion handelte; außerdem verschob sich die Wahrscheinlichkeit einer verhaltensmäßigen und/oder verbalen Reaktion der Vpn. bei den Tests, wenn sich die Botschaft des Hypnotherapeuten veränderte. Die Resultate heben das Bestreben der Vpn. hervor, die Kommunikationen des Hypnotherapeuten zu interpretieren, und im Kontext dieser Kommunikationen Ambiguität auf solche Weise zu lösen, daß es ihr hypnotisches Verhalten und ihre hypnotische Erfahrung unterstützt.

ROSEMARIE GREENMAN  
University of Tennessee, Knoxville, USA

### La suggestion hypnotique et post-hypnotique: à la recherche d'un sens dans le message de l'hypnotiseur

Amanda J. Barnier et Kevin M. McConkey

**Résumé:** Il a été posé à des sujets hautement hypnotisables, une question avant, pendant et après hypnose et il leur fut donné une suggestion avant,

pendant ou après hypnose, d'effacer leur oreille quand on leur posait la question. De cette manière, l'expérience plaçait une question qui nécessitait une réponse verbale en contraste avec une suggestion que nécessitait seulement une réponse comportementale. Les sujets ont davantage répondu sur le plan comportemental quand la question était associée à la suggestion., mais davantage sur le mode verbal quand la question était une interaction sociale; en outre, la probabilité de la réponse comportementale et/ou verbale a changé pendant les tests par le changement de message de l'hypnotiseur. Les résultats sont les plus importants quand les sujets hypnotisés ont tenté d'interpréter la communication de l'hypnotiseur ainsi que leur capacité à résoudre l'ambiguïté de ces messages de façon qu'elle puisse promouvoir leur expérience et comportement hypnotique.

VICTOR SIMON

*Psychosomatic Medicine & Clinical Hypnosis  
Institute, Lille, France*

**Sugestión hipnótica y posthipnótica:  
El significado del mensaje del hipnotista**

Amanda J. Barnier y Kevin M. McConkey

**Resumen:** Se formuló una pregunta a sujetos muy hipnotizables antes de, durante y después de la hipnosis, y se les dio una sugestión antes de, durante o después de la hipnosis de que se frotarían el lóbulo de la oreja cuando escucharan esta pregunta. Así pues, el experimento consistía en una pregunta que requería una respuesta verbal, en contraste con una sugestión que sólo en ocasiones requería una respuesta conductual. Resultó más probable que los sujetos respondieran conductualmente cuando la sugestión estaba asociada con la pregunta, y más probable que respondieran verbalmente cuando la pregunta se relacionaba con una interacción social. Otro resultado es que la probabilidad de que los participantes respondieran conductual y/o verbalmente varió según las pruebas y los cambios en el mensaje del hipnotista. Estos resultados subrayan los intentos de los sujetos hipnotizados por interpretar las comunicaciones del hipnotista y la habilidad de los sujetos para resolver ambigüedades en el nexo de esos mensajes con el objeto de fomentar la conducta y experiencia hipnóticas.

ETZEL CARDEÑA

*Uniformed Services University of the Health  
Sciences, Bethesda, Maryland, USA*