THE HYPNOTIC RELATIONSHIP: FACILITATION AND INHIBITION THROUGH INDIRECT PROCEDURES

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ABSTRACT

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The purpose of this investigation was to show that any method which allows one person to direct the attention and behavior of another is hypnotic and results in an increase in susceptibility to suggestions. It was assumed that a multiplicity of situations are potentially hypnotic but not recognized as such. It was further attempted to demonstrate that hypnosis does not occur when the subject retains executive ego functions.

Eighty Ss were randomly assigned to five groups with sixteen in each group. The five conditions were constituted to make the needed comparisons. One condition utilized a formal hypnotic induction procedure as a baseline to test the efficacy of three different indirect methods. These were free imagery, directed imagery, and passive waiting with no instructions. The fifth condition tested the proposition that hypnosis does not occur when the subject retains executive ego functions. This condition is free imagery plus verbalization in which the verbal communication of the imagery was assumed to be secondary process regulated, adaptive behavior.

The results indicated strong support for the contention that free imagery with verbalization of that imagery inhibits the hypnotic process. There was weaker support for the superiority of indirect methods of inducing hypnosis. Although the three indirect procedures were statistically equivalent to each other and to the baseline measure, the no instruction group was the only indirect procedure significantly stronger than the verbalized imagery condition.

There were discrepancies in the results of the first and second halves of the study, with respect to the susceptibility scores of the indirect methods. These were tentatively interpreted as a breakdown in subject naivete because of the time involved in running all subjects. Further research needs to be done to test this interpretation as well as any other uncontrolled variables which may have been involved.

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to

Dawn, Holly, and Scott

who helped their Dad more than they realize

I love you

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INTRODUCTION

Countless theories of hypnosis have been put forward to explain what happens when the hypnotist, with the consent of the subject, attempts to induce hypnosis through conventional procedures. These usually include eye fixation or other immobilization procedures, suggestions of relaxation and sleep, and a fairly monotonous flow of talk from the hypnotist. When the subject responds, or appears to respond, the hypnotist gives suggestions for particular kinds of actions or experiences. What the successful subject does or experiences illustrates the kind of behavior familiar in hypnotic lore for more than a century.

The explanation of these phenomena, however, have proven to be much more difficult than their demonstration. This is not to say that the multiplicity of contrasting theoretical explanations have not been valuable in the continuing search to penetrate the core of this unique human behavior. To the contrary, it has been the participation of divergent theoretical interests that have made it possible to broaden the search. A summary (Appendix A) of the more prominent theories, however, make it clear that there is, as yet, little agreement on the nature of hypnosis.

The theoretical frame of reference for the present investigation is that of Reyher (1963). In terms of this theory, hypnosis occurs because the operator assumes the executive ego functions of attention, analysis of sensory input, and motility which the subject has abrogated by virtue of passive reacting and, consequently, a lower level of neuronal integration mediates the subject's behavior.

However, there are many individuals in our culture who would see an overtly hypnotic situation as anxiety-provoking, and in this case, hypnosis cannot occur. Anxiety motivates adaptive behavior, including critical judgement. When S is led to expect hypnosis, he might become anxious as the result of pressure to assume a passive-dependent role and an abrogation of executive ego functions does not occur.

There is a wide variety of interpersonal relationships which become hypnotic but are not recognized as such, and direct suggestions are not made because they would seem inappropriate to both parties. Jacobson's Method of Progressive Relaxation (1938) and Stampfl's Implosive Psychotherapy (1971) should both be excellent indirect induction techniques because the operator focuses S's attention on a variety of sensory stimuli which he passively notices. Experimenter-directed imagery has been employed with success as an induction procedure (Palmer and Field, 1971). Interestingly, Reyher (1969) has found that free or spontaneous imagery does not produce hypnotic effects. Free imagery may not allow the subject to suspend executive ego functions in that the procedure forces him to be spontaneous and adaptive, whereas directed imagery enhances the acceptance, by the subject, of a passive-dependent relationship.

Reyher (1970) contends that the relationship between physician and patient during the office examination is particularly hypnotic when the patient is anxious about the significance of his symptoms. This set of circumstances causes the patient to relate to the physician in a passive-dependent, regressive manner which causes an abrogation of executive ego functions, unless he is conflicted by the expression of dependent strivings. The authoritative demeanor of the physician

and the routine manipulations of the physical examination rapidly and unwittingly produce a hypnotic relationship that is undetected. The hypnosis is undetected because it occurs insensibly and because S's expectations, based upon cultural stereotypes of the hypnotized person, are not brought into play. Faith healing occurs for the same reasons.

There is a growing body of research and clinical practice which supports the efficacy of an indirect induction. Evidence that awareness of being hypnotized is not a prerequisite for its taking place comes from the work of Sargent and Fraser (1938), Erickson (1941), Adler and Secunda (1947), and Rosen (1951), all of whom have used techniques aimed at preventing the subject from knowing that he was being hypnotized. They reported having obtained trances comparable to those induced by the usual methods. Research in our laboratory has also demonstrated that responsiveness to test suggestions was the same whether the situation was described as "hypnosis" or as "exercises in relaxation" (Reyher and Wilson, 1973). Barber and Glass (1962) reported that waking suggestions are just as effective as a formal induction. Weitzenhoffer and Hilgard (1965) verified this when using independent groups.

Weitzenhoffer, Gough, and Landes (1959) showed that eye fixation and expectancy of hypnosis was sufficient to produce hypnosis, but eye fixation alone was not. Expectancy was necessary and those Ss who were hypnotized were able to adopt a passive-dependent expectant attitude. Weitzenhoffer, et al. likened the ten minute eye fixation period to sensory deprivation because of the spontaneous hallucinations that were occasionally produced. If suggestions had been given during this period rather than afterwards, successful hypnotic inductions might

also have been obtained. Sensory deprivation heightens suggestibility and an induction procedure is often successful for insusceptible Ss during, rather than after, the sensory deprivation period (Sanders and Reyher, 1967). Wells (1924) has documented that most hypnotic phenomena can be produced without a formal induction as long as S is led to expect that certain phenomena will occur as an outcome of E's operations. S's are informed merely of the principles of suggestion and dissociation before direct suggestions are given.

The above investigations buttress our contention that hypnosis can be induced almost immediately in Ss who are able to suspend critical judgement (executive ego functions) while E conducts a given procedure which could be eye fixation, imagination instructions, direct suggestions, indirect suggestions or whatever. The rapidity of induction upon posthypnotic cue suggests that the initial induction also proceeds very rapidly, if S welcomes the opportunity to be hypnotized. We suspect that almost instantaneous initial inductions occur often, but these are undetected when conventional induction procedures are used because the schedule of suggestions, graded in difficulty and administered after the induction procedure, masks the true state of affairs.

The purpose of the present investigation is to show that any method which allows one person (the operator) to direct the attention and behavior of another is hypnotic by definition; that is, there is an increase in susceptibility to suggestions. Five conditions were constituted to make the needed comparisons. One condition utilized a formal hypnotic induction procedure (HI) as a baseline to test the efficacy of three

different indirect methods. These were free imagery (FI), directed imagery (DI), and passive waiting with no instructions (NI). The results of an earlier investigation (Reyher and Wilson, 1973) lead us to expect that the indirect methods, providing the subject does not suspect the procedure is hypnosis, should be at least as effective as the formal method because the acknowledged intent to commence hypnosis is prohibitively anxiety-producing for some subjects. The fifth condition is a crucial test of the proposition that hypnosis does not occur when the subject retains executive ego functions. In view of the lack of spontaneous hypnosis in our clinical experience with free imagery in emergent uncovering psychotherapy, wherein the client verbalizes what he sees in his mind's eye, the fifth condition was free imagery plus verbalization (VI). It appears that the process of communicating to another person in a verbal, linguistic modality is intrinsically secondary process regulated, adaptive behavior. The subject retains his executive ego functions which means that he is functioning at the highest level of neuronal integration; and therefore, he should be relatively insusceptible to suggestions from the operator. The susceptibility scores for the FI, DI, and NI conditions should be equal to or higher than the HI condition and lowest for the VI condition. The three indirect conditions should be equivalent.

The present study attempts to demonstrate that a multiplicity of situations are potentially hypnotic in nature but not recognized as such. The verbalized free imagery condition was designed specifically to mobilize adaptive, executive ego functions to prevent hypnosis. The no treatment condition is also an indirect induction technique because

it places the subject in a passive-dependent relationship with the experimenter. The inclusion of non-verbalized free imagery, directed imagery, and the "no-induction" conditions as indirect methods of hypnosis is intended to demonstrate the generality of our conceptual frame of reference. These three indirect techniques should be as potent or superior to the direct method of relaxation in the induction of hypnosis. The verbalized free imagery condition should be less successful than the other four groups as an induction technique.

METHOD

Subjects

Eighty female college students in an introductory psychology course volunteered to participate in an experiment in "vigilance and attention." They were divided randomly into five groups with sixteen Ss in each group. The groups were: 1. Formal Hypnotic Induction (HI); 2. Directed Imagery Induction (DI); 3. Free Imagery Induction (FI); 4. No Induction (NI); 5. Verbalized Free Imagery Induction (VI).

Procedure

Ss were seated in an easy chair and tested individually by E in a sound-proof room. Those Ss assigned to the HI, DI, VI, and FI groups were given the following verbal instructions:

> Seat yourself in the chair in a comfortable position and close your eyes. I will be giving you a number of simple tasks to perform while your eyes are closed. You will find these tasks quite easy to comply with. While you are performing these tasks I will, from time to time, be interrupting you to draw your attention to one thing or another here in the room. I will ask you to raise your right hand a few inches from the arm of the chair when you first become aware of experiencing certain sensory perceptions that I will be calling to your attention. Keep your eyes closed until I tell you to open them. You will not be asked to do anything difficult so just sit back and enjoy the experiment.

The induction procedure for the hypnosis group (HI) consisted of a brief version of Jacobson's Progressive Relaxation Method. The HI Group was also given the additional information that this is an experiment in hypnosis and the option of participating further or not. The induction for the DI Group consisted of S's imagery, suggested and directed by E. For the FI Group the induction procedure was based on spontaneous imagery created by S. The induction procedure for the

VI Group was also based on S's spontaneous imagery with the difference that S was instructed to verbalize that imagery as it occurred. Those Ss assigned to the NI Group were given the following verbal instructions:

> Seat yourself in the chair in a comfortable position and close your eyes. From time to time I will be drawing your attention to one thing or another here in the room. I will ask you to raise your right hand a few inches from the arm of the chair when you first become aware of experiencing certain sensory perceptions that I will be calling to your attention. Keep your eyes closed until I tell you to open them. You will not be asked to do anything difficult so just sit back and enjoy the experiment.

Four undergraduate experimenters were employed in the testing of subjects. Each experimenter tested twenty Ss, divided among the five treatment groups. One experimenter is a white female, one is a black male, and the two remaining Es are white males. All instructions were recorded by tape and an analysis was made of the results across experimenters as well as among groups and items.

Hypnotic susceptibility was determined by the ability of Ss to carry out ten task suggestions created for this purpose. Each task was scored pass or fail after a ten second period had elapsed and the total number of passes was considered S's susceptibility score. Comparison among groups was made by an analysis of mean frequency count of suggestions passed. A comparison was also made across suggestions for frequency of passage and relating this to their sequence order. All Ss reporting numbness on task suggestion number 9 were tested for true anesthesia rather than merely subjective report. Task suggestions for the three induction groups were interspersed within the various induction procedures rather than waiting until after the induction had been administered. A questionnaire was developed to serve as a debriefing guide at the end of the research.

RESULTS

A two-way analysis of variance (Table 1) of the Ss' susceptibility scores produced a significant F for conditions only. Experimenter differences, either alone or in interaction with treatment conditions, had no effect on susceptibility scores.

Table 1. Summary table of the 4 X 5 ANOVA for the treatment conditions and experimenter differences on susceptibility scores.

Source	SS	DF	MS	F	Significance
Conditions	73	4	18.25	2.85	.05
Experimenters	26	3	8.67	1.35	N.S.
Interaction	93	12	7.75	1.21	N.S.
Error	384	60	6.40		
Total	576	79			

Duncan's Multiple-Range Test (Winer, 1962, pp. 86-89) revealed that only NI-VI and HI-VI group comparisons contributed significantly (.05 level) to the overall F. Table 2 presents the means and standard deviations of the susceptibility scores for all five groups. The F-Maximum Test for Homogeneity of Variances yielded an F of 1.53 which was not significant, thereby satisfying the requirement of equality of variance.

Table 2. Summary of the means and standard deviations of susceptibility scores for the five group conditions.

Group *	VI	NI	HI	FI	DI
Mean	2.13	5.06	4.19	3.81	3.63
S.D.	1.29	2.79	2.32	2.53	3.03

* VI = Verbalized free imagery; NI = No instructions; HI = Hypnotic induction; FI = Free imagery; DI = Directed imagery.

To test for experimenter bias, two judges made independent ratings of experimenter instructions to the groups with the highest (NI) and lowest (VI) mean scores. Each judge made sixteen comparisons of instructions and suggestions given to each NI and VI S over all experimenters. The judges were instructed to make the comparisons with respect to experimenter enthusiasm (positive tone and quality of E's voice) from tape recorded instructions. The Sign Test for Matched Pairs (Hays, 1963, pp. 625-628) was used to determine judges ratings of group differences. The obtained z values of .71 and 1.41 were not significant indicating no apparent experimenter bias in the instructions.

Susceptibility scores were based on Ss' subjective experience of perceiving the ten test suggestions. Since some of these items have not previously been used to determine hypnotic susceptibility, it is of interest to note the percentage of passage each item attained. Table 3 lists each item in its order of presentation, and the percentage of possible passes by condition and total. The 59% pass rate of item nine was based on Ss' subjective feeling of numbness. Of those Ss passing item nine, 40% demonstrated a complete anesthesia (no reflex

reaction) and another 21% a partial anesthesia (palm reflex only) when subjected to multiple, progressively increasing pin pricks.

Table 3. Percentage of items passed by condition.

Items	VI	NI	HI	FI	DI	Total
1. Room Temperature	31	63	44	44	44	45
2. Brightness	56	50	44	44	44	48
3. White Christmas	19	38	6	31	13	21
4. Feather	6	38	38	25	38	29
5. Chair Tilt	25	56	50	44	38	43
6. Chair Vibrate	6	50	25	31	31	29
7. Ammonia	6	50	38	31	31	30
8. Amnesia	6	50	81	44	50	46
9. Numbness	44	75	56	69	44	59
10. Post-Hypnotic Suggestion	13	38	38	19	31	28

This study was preceded by a twelve subject pilot study utilizing only four groups (NI, HI, DI, FI) to establish the basic phenomena. The overall mean was 5.08 which appeared to be consistent with the results of the first part of the main investigation, but discrepant from an unusual number of low scores in the latter days of the investigation. Seventeen days were required to test all eighty subjects, who were drawn from two undergraduate classes which met regularly during the testing period. It became clear during the testing that subject naivete was breaking down because several subjects (who passed none of the items)

admitted having been given information by their classmates that the research really concerned hypnosis and that none of the stimuli actually were presented. To determine whether this trend was significant, the present study was divided in half (32 Ss in each half with the exclusion of VI Ss) and the overall means were compared with the mean of the pilot data. There was no significant difference in the mean (5.08) of the pilot study and the mean (4.88) of the first half of the present study. There was, however, a significant difference (.05 level) in the mean of the pilot study and the mean (3.47) of the second half of the present study. Table 4 presents the means and standard deviations of the scores by group for the first and second halves of the research.

Table 4. Summary of the means and standard deviations of susceptibility scores for the five group conditions in the first and second halves of the study.

Group *	VI	NI	HI	FI	DI
First Half Mean	2.25	5.75	4.38	4.75	4.50
S.D.	1.71	3.15	3.02	3.09	3.02
Second Half Mean	2.00	4.38	4.00	2.88	2.75
S.D.	1.69	2.62	1.77	1.73	3.18

* VI = verbalized free imagery; NI = no instructions; HI = hypnotic induction; FI = free imagery; DI = directed imagery.

A two way analysis of variance (Table 5) of the Ss' susceptibility scores produced a significant F for time (first and second halves of study) as well as conditions. The interaction of time and conditions had no effect on susceptibility scores.

Table 5. Summary table of the 2 X 5 ANOVA for the treatment conditions and time differential on susceptibility scores.

Source	SS	DF	MS	F	Significance
Conditions	73	4	18.25	2.72	.05
Time	25	1	25.00	3.73	.05
Interaction	9	4	2.50	.37	N.S.
Error	469	70	6.70		
Total	576	79			

Duncan's Multiple-Range Test (Winer, 1962) taken on the scores of the first half of the study revealed that NI-VI, HI-VI, FI-VI, and DI-VI group comparisons contributed significantly (.05 level) to the overall F. None of the other group differences were significant. For the second half of the study, the only group comparisons which contributed significantly (.05 level) were NI-VI and HI-VI. Of those Ss passing item nine in the first half of the main study, 44% demonstrated complete anesthesia and 30% a partial anesthesia. The Ss passing item nine by conditions in this sample, break down as follows: NI (88%); HI (63%); DI (50%); FI (88%); VI (25%).

DISCUSSION

The results of the first half of this study show all three indirect procedures (free imagery, directed imagery, and no instructions groups) to be significantly greater than the verbalized imagery condition. The results of the second half show only one (no instructions group) of the indirect procedures to be significantly stronger than the verbalized imagery condition. The means of the formal hypnotic induction and verbalized imagery groups showed virtually no change from the first half of the study to the second half.

The reporting of the differences between the first and second halves of the study was deemed necessary to call attention to what was felt to be an important trend in the subject population. The interpretation of a breakdown of subject naivete was based on information gathered from only a few of the subjects involved in the study. It was put forward as a possible means of better understanding the results of the entire study, and was not offered as a substitute for these results. It cannot be determined whether the differences between the first and second halves of the study was due to a breakdown of subject naivete or to some other combination of uncontrolled variables.

The results of the total sample indicated strong support for the contention that free imagery with verbalization of that imagery inhibits the hypnotic process. There was weaker support for the superiority of indirect methods of inducing hypnosis. Although the three indirect procedures were statistically equivalent to each other and to the baseline (formal hypnosis) measure, the no instruction group was the only

indirect procedure significantly stronger than the verbalized imagery condition.

The results also demonstrated the objective value of item nine (numbness and anesthesia) as an indicator of hypnosis. This item was the only suggestion in which an objective evaluation could be made; namely, reflex reactions to pin pricks of progressively increasing intensity. All of the other suggestions relied heavily on subjective responses. Surprisingly, item nine was the most frequently passed suggestion and also was the only item in which the experimenters physically touched and manipulated the subjects. The physical manipulation is viewed, in our frame of reference, as enhancing the passive-dependent relationship which the subject has entered into with the hypnotist. The value of item nine to clinical practice is indicated by the large percentage of subjects who not only reported subjective feelings of numbness, but also had an anesthetic reaction to the pin pricks.

Although the investigation of indirect methods of hypnosis necessitates deception, the results might be interpreted as gullibility or general suggestibility of the subjects. Hilgard (1973) has attempted to define and delimit a domain of hypnosis and some overlapping phenomena. It has been demonstrated that social suggestibility, such as conformity and gullibility, are not correlated with hypnotic-like behaviors (Burns and Hammer, 1970; Moore, 1964). Also there is evidence that response to placebo is distinguishable from hypnotic-like responsiveness (McGlashin, Evans, & Orne, 1969).

Hull (1933) made the distinction between personal and impersonal heterosuggestion which was later classified by Eysenck and Furneaux

(1945) as primary and secondary suggestibility. Primary suggestibility is defined by responses to waking suggestion, such as postural sway, that predict the usual phenomena of hypnosis. Secondary suggestibility is defined as responses to waking suggestions, such as Binet's progressive weights test, in which interest is focused upon the effect of suggestion caused by the particular arrangement of the stimuli rather than the effect of the verbal suggestion. Correlational and factor-analytic studies have confirmed this distinction (Stukat, 1958). Primary suggestibility is defined (Hilgard, 1973) as lying within the hypnotic domain. The present study clearly tests the effect of primary suggestibility. Some of the procedures were indirect in that Ss were misled by being told that they were to be presented with real stimuli. But the suggestions were not indirect; they were the same as in formal hypnosis. Also, the effectiveness of the posthypnotic suggestion within these procedures is further support for including them in the domain of hypnosis.

A similar classification was the notion of prestige and nonprestige suggestions. A number of investigators (Otis, 1924; Aveling and Hargreaves, 1922; Estabrook, 1929; Messerschmidt, 1933; Hull, 1933) have employed these expressions to designate a category very similar to primary and secondary suggestibility. Nonprestige suggestions focus on stimuli arrangement rather than the more personal element found in primary suggestibility (Weitzenhoffer, 1953). Prestige and primary suggestions belong within the domain of hypnosis, whereas nonprestige and secondary suggestions do not.

Most induction procedures use some form of waking suggestion to induce hypnosis, such as suggested postural sway or eye closure. If

there were no correlation between these kinds of suggestions and hypnotic suggestion, most induction procedures would be ineffective. There is a substantial correlation of .70 between scores on hypnotic scales when the scores are obtained with and without a prior formal induction procedure (Barber, 1969). What this means, according to Hilgard, is that waking suggestions of this kind belongs within the domain of hypnosis, irrespective of the arguments over a state of hypnosis or over the consequences of induction.

In this investigation, the condition without a formal induction procedure had consistently higher scores than all other conditions. This is not difficult to understand, in our frame of reference, when it is considered that the primary element in hypnotic induction is the relationship between hypnotist and subject. If the subject is able to abrogate executive ego functions and relate passively to the experimenter, then the absence of instructions, which in some cases might actually be distracting, and the anxiety-provoking knowledge of hypnotic intent, can be seen as facilitating.

Because indirect procedures, as we have used them, involve no formal contract of hypnosis between subject and experimenter, many investigators will not recognize them as hypnosis. Because of the deception involved, indirect procedures also limit the kinds of suggestions that can be used. However, the manipulation and alteration of primary suggestibility has been demonstrated and for the present we shall refer to these procedures as indirect hypnosis. This opens up the investigation of a number of other likely vehicles of hypnotic induction which have not consistently been considered to be linked to hypnosis.

Transcendental meditation (TM) is simple to perform, requires little training, and qualifies as an indirect method of hypnosis. It basically consists of quiet sitting, relaxation, and the passive repeating of the mantra given to the meditator by his instructor. There are also strong but subtle pressures to conform to the model of a successful meditator (Schwartz, 1973). One of the keys to the mantra is that it has value as a signal. The teacher chooses the mantra for each student, who must never disclose it. It becomes special to the meditator and signals to him that he is about to become deeply relaxed. This is strikingly similar to the process involved in posthypnotic suggestion.

The rite of exorcism involves a myriad of suggestive elements such as holy water, sacred objects, prayers and incantations, which are often in Latin, and most powerful of all, the priest or faith healer who is seen as an emissary of the Almighty. The exorcist often utilizes physical contact by touching and manipulating the body of the "possessed" person in a practiced and assured manner which promotes dependence and passivity in that person. This is not difficult because the "possessed" individual is typically quite desperate for a solution to his predicament.

The placebo effect also fits into the paradigm of indirect hypnosis to the extent that its suggestive qualities are enhanced by the relationship of those involved. The placebo's effectiveness is directly proportional to the apparent effectiveness of the active analgesic agent that doctor and patient think they are using. When the physician assumes he is using a powerful painkiller, such as morphine, the result is a strong placebo effect (Evans, 1973). If, however, the physician assumes that

analgesic is mild, the result is a much smaller placebo effect, though it is still proportionately about half as effective as the actual drug.

The procedure of acupuncture also fits this paradigm of indirect hypnosis. In preparing for acupuncture, the patient is often lying down and the physician fosters the development of trust, which allows the patient to enter into a passive-dependent relationship. The fact that the patient feels no pain (Palos, 1970) upon the insertion of the first needle is evidence that an anesthesia has already been established (Reyher, 1973).

The psychotherapist-client relationship and psychologist-subject relationship can often become hypnotic relationships. The psychotherapist who uses relaxation procedures, particularly Jacobson's method of progressive relaxation in desensitization therapy, is probably dealing with a hypnotized subject much of the time (Reyher and Wilson, 1973). The psychotherapist directs the client to turn his attention to any pains, symptoms, or tensions he might be having, and after a period of time directs him to imagine imagery described by the therapist. The situation is similar to Stampfl's (1967) implosive psychotherapy which also fits the paradigm of indirect hypnosis. Hypnosis occurs in subjects used as controls in hypnosis research because they are asked to simulate hypnosis or do the same tasks. In both cases the subjects accept a passive relationship with the experimenter and allow their behavior to be directed.

Granted that hypnosis occurs in a structured interpersonal relationship wherein one person directs the attention and behavior of another, this does not explain the phenomena of hypnosis. It is, however, an

operational definition which can be used to differentiate hypnosis from other means of interpersonal influence, and to delimit it for the purpose of theory construction. Even with this delimitation, the task is formidable because the constructs from widely disparate disciplines must be integrated.

REFERENCES

Aaronson, B. Behavior and the place names of time. American Journal of Hypnosis, 1966, 9, 1-18.

Aveling, F., and Hargreaves, H. L. Suggestibility with and without prestige in children. British Journal of Psychology, 1921-1922, 12, 53-75.

Barber, T. X. Hypnosis: A scientific approach. New York: Van Nostrand Reinhold, 1969.

Beecher, H. K. Measurement of subjective responses: Quantitative effects of frogs. Oxford University, 1959.

Benson, H. and Wallace, R. K. Decreased drug abuse with transcendental meditation: A study of 1862 subjects. In Narcotics Research Rehabilitation and Treatment. Hearings before and select committee on crime, House of Representatives, 92nd Congress, first session, 1971.

Burns, A. and Hammer, G. Hypnotizability and amenability to social influence. Paper presented at the meeting of the Society for Clinical and Experimental Hypnosis, Philadelphia, October-November, 1970.

Estabrook, G. H. Experimental studies in suggestion. Journal of Genetic Psychology, 1929, 36, 120-139.

Evans, F. J. The placebo·response in pain reduction. In Pain, J. J. Bonica, Ed., Raven, 1973.

Hays, W. L. Statistics. New York: Holt, Rinehart, and Winston, 1963.

Hilgard, E. R. The domain of hypnosis: With some comments on alternative paradigms. American Psychologist, 1973, 11, 972-982.

Hull, C. L. Hypnosis and suggestibility: An experimental approach. New York: D. Appleton-Century, 1933.

Kanellakos, D. and Ferguson, P. The psychobiology of transcendental meditation: An annotated bibliography. Maharishi International University, Spring, 1973.

Lasagna, L., Mosteller, F., & von Felsinger, J. M. A study of the placebo response. American Journal of Medicine, 1954, 16, 770-779.

Masters, R. E. L. and Houston, J. Mind Games. New York: The Viking Press, 1972.

McGlashin, T. H., Evans, F. J., & Orne, M. T. The nature of hypnotic analgesia and placebo response to experimental pain. Psychosomatic Medicine, 1969, 31, 227-246.

Messerschmidt, R. The suggestibility of boys and girls between the ages of six and sixteen years. Journal of Genetic Psychology, 1933, 43, 422-437.

Moore, R. K. Susceptibility to hypnosis and susceptibility to social influence. Journal of Abnormal and Social Psychology, 1964, 68, 282-294.

Orne, M. T. The nature of hypnosis: Artifact and essence. Journal of Abnormal and Social Psychology, 1959, 58, 277-299.

Otis, M.A. Study of suggestibility in children. Archives of Psychology, 1924, 70.

Otis, L. S. The psychobiology of meditation: Some psychological changes. Paper presented to the American Psychological Association. Montreal, 1973.

Palos, S. The Chinese Art of Healing. New York: Herder and Herder, 1970.

Pattie, F. A. A brief history of hypnotism: In J. E. Gordon (Ed.), Handbook of Clinical and Experimental Hypnosis. New York: The Macmillan Co., 1967, 10-43.

Reyher, F. Hypnosis. Dubuque, Iowa: William C. Brown Co. 1969.

Reyher, J. and Wilson, J. G. The induction of hypnosis: Indirect vs. direct methods and the role of anxiety. The American Journal of Clinical Hypnosis, 1973, 4, 229-233.

Shapiro, A. K. A contribution to a history of the placebo effect. Behavioral Science, 1960, 5, 109-135.

Smith, J. C. Meditation: Definition, process, and ideology. Unpublished manuscript. 1974.

Stampfl, T. G. and Levis, D. J. Essentials of implosive therapy: A learning theory-based psychodynamic behavioral therapy. Journal of Abnormal Psychology, 1967, 72, 496-503.

Stukat, K. G. Suggestibility: A factorial and experimental analysis. Stockholm: Almqvist and Wicksell, 1958.

Tart, C. T. Transpersonal potentialities of deep hypnosis. The Journal of Transpersonal Psychology, 1970, 2, 27-40.

Wallace, R. K. Physiological effects of transcendental meditation. Science, 1970, 167, 1751-1754.

Wallace, R. K. and Benson, H. The physiology of meditation. Scientific American, 1972, 226, 84-90.

Wallace, R. K. Benson, H., and Wilson, A. F. A wakeful hypometabolic physiologic state. American Journal of Physiology, 1971, 221, 795-799.

Winer, B. J. Statistical principles in experimental design. New York: McGraw Hill, 1962.

APPENDIX A

THEORETICAL REVIEW

Based on his principles of classical conditioning, Pavlov (1923) viewed hypnosis as being akin to a kind of conditioned sleep. Sleep was defined in terms of inhibition, and hypnosis as a state of partial inhibition. The inhibition is only partial in hypnosis since the continuous suggestions of the hypnotist create cortical "rapport zones" which function as a selective response system. These "rapport zones" were seen as existing in natural sleep also, as evidenced by the ability to respond to certain cues while asleep.

Hull (1933) saw hypnosis as being basically similar to suggestibility and considered both to be a habit learned through repeated stimulus-response pairings. He was the first to offer a line of evidence to show that the acquisition of hypnosis followed a program of learning principles.

Das (1959) made the first attempt to integrate the Pavlovian and Hullian theories. He defined hypnosis both in terms of inhibition and in terms of habit formation. His ultimate definition of hypnosis was the ability to learn to develop a state of partial cortical inhibition. Edmonston (1967) elaborated on this approach by integrating both frameworks within one set of theoretical propositions, thereby reducing hypnosis to a special case of verbal conditioning.

The views of Orne (1959, 1972) and Shor (1959, 1962) were both influenced by an earlier formulation of White (1941). Shor characterizes the hypnotic state as having three dimensions: hypnotic role-taking involvement, trance depth, and archaic involvement. The first dimension overlaps to some extent with role theory, and the third overlaps with the psychoanalytic theory. The trance, though

admittedly not well understood, represents a psychological reality because behavior is seen as changing when it is present or absent. Orne's experimental program is committed to show that the hypnotic state adds something to the suggestions, either overt or implied, of the hypnotist. If it does, then role enactment according to social communication is an insufficient explanation of hypnotic behavior.

Sarbin and Andersen's (1967) analysis of hypnotic behavior in terms of role theory emphasizes that "role enactment" or "role playing" should connote commitment or involvement and is different from sham behavior. In Sarbin and Coe (1972), the theory is elaborated and a person in social communication is seen as adopting a role suited to the relationship, and tends to behave according to that role. He may become so deeply involved in the role that it becomes irreversible as in the extreme cases of sorcery and witchcraft. The role involvement is intermediate between engrossed acting and histrionic neuroses. Once this role involvement is accepted, there is nothing mysterious about the counter-expectational nature of hypnotic behavior.

According to role theoretical formulation of hypnosis, the variation in hypnotic susceptibility is accounted for by a number of variables which enhance the subject's expectations and perceptions regarding the role he should assume vis-a-vis the hypnotist. Barber and De Moor (1972) have recently delineated an adjunctive set of variables aimed at maximizing the influence of Sarbin and Andersen's (1967) variables in producing an optimal level of hypnotic performance. Primary among these is the clear definition of the situation, by the experimenter, as hypnosis. This is in agreement with Barber and Calverley's (1964, 1965) findings of higher responsiveness to test

suggestions when the situation was defined as hypnosis than when Ss were told that they are in a control group. These mediating variables are responsible for the "consequent variables" which include responses to test suggestions, a trance-like appearance, changes in body feelings, and reports of having been hypnotized. Trance-like appearance, changes in body feelings, and reports of having been hypnotized are not necessary variables, according to this theory, in order for responses to test suggestions to occur. When they are present, their effect is ascribed to increasing expectancies.

Shor's (1959, 1962) variable, termed archaic involvement, argues that an essential characteristic of hypnosis is the presence of an involvement with the hypnotist whereby the subject in trance instills the hypnotist with a particular importance. The implication of this argument is that the truly susceptible person who is archaically involved with the hypnotist has a special wish to please. The personal relationship between the hypnotist and subject in this case is directly analogous to the transference relationship operating at times between the therapist and patient in the clinical setting.

Sheehan's (1971) work with "real and simulating" subjects found that only the real subjects complied with the subtle wishes of the hypnotist in the trance setting. He interprets this as the first objective index of real subjects' involvement with their hypnotist - an index of hypnotic transference.

The most consistent evidence to deny the concept of trance is that the phenomena of hypnosis can be produced without a prior induction. It is said that if no induction is needed, no change of state is

necessary, and a state concept becomes superfluous. Hilgard (1973) sees this objection as having merit only if induction fails to add anything to noninduction. There is a good deal of evidence that induction does indeed bring gains over noninduction (Barber and Calverley, 1968; Barber and Glass, 1962; Hilgard and Tart, 1966; Weitzenhoffer and Sjoberg, 1961).

Barber has claimed that task-motivation instructions are fully equivalent to induction in producing the effects usually attributed to induction (Barber and Calverley, 1962, 1964, 1968). Bowers (1967) found that task-motivation instructions exerted such extreme pressure on subjects to comply that they often reported experiences to the experimenter that they had not had. This was discovered through the institution of an honesty report following the experiment. Spanos and Barber (1968) repeated and extended the experiment with concordant results. In their experiment, task-motivation instructions, when corrected by honesty reports, produced no significant enhancement over base conditions for either visual or auditory hallucinations. Following hypnotic induction, even after correction for honesty, the mean visual hallucination scores were significantly above base level.

The process of hypnotic induction is described by Kubie and Margolin (1944) as a production in which all communications of the subject are terminated with the outside world, except for the continuous responding to the hypnotist's voice. This is achieved through immobilization of the subject and the monotonous tones of the hypnotist's voice. A subsequent blurring of ego boundaries is seen as occurring and the hypnotist's words become confused with the

subject's thoughts. This results in an apparent increase in suggestibility.

Hypnosis is described by this theory as an experimental reproduction of a natural developmental process. The final phase in the hypnotic process parallels that phase in the development of the infant's ego in which its boundaries gradually expand while retaining parental images as incorporated unconscious components. In this sense, hypnosis is seen as a regressive state that approaches the sensorimotor state of the infant.

Gill and Brenman (1959, 1967) provide a more detailed analysis of the regressive nature of hypnosis. They bring hypnosis into the orbit of psychoanalytic ego theory as proposed by Hartmann (1958) and developed by Rapaport (1967). They propose that the hypnotic state is a partially regressed one, according to the concept of regression in the service of the ego.

Regression is defined by these authors as "loss of autonomy." The induction procedure creates a temporary chaos and the usual functioning of the autonomous apparatuses of the ego is disrupted. The induction procedure is therefore characterized by evidence of a fragmentation of ego synthesis. After an appropriate motivational pattern is found, however, a subsystem is set up within the ego. This is a regressed system which is in the service of the overall ego, and it is this subsystem alone which is under the control of the hypnotist. In this sense, regression in the service of the ego differs from regresstion proper. Hypnosis is therefore characterized by a regressed state and by engagement in regressive interpersonal relationships. It is seen as both an altered state and a transference relationship. Hypnotic

susceptibility is viewed by Gill and Brenman as a sign of strength rather than weakness because it entails the capacity to regress in part while the depth and duration of regression are controlled by the ego as a whole.

Reyher (1963, 1968, 1970) developed a theory that integrates psychodynamic concepts with neurophysiological and interpersonal processes, accounting for an altered state of awareness within hypnotic effects. When an individual submits to an induction procedure he assumes a passive-dependent relationship with the hypnotist. The induction succeeds only if the subject is ready to give up to the hypnotist his usual role of analyzing and integrating sensory input. If adoption of such a passive-dependent attitude is anxiety producing and Ss defenses, which are adaptive in nature, are activated, hypnosis fails to occur. If, however, the subject is not made anxious by adopting such an attitude, the highest level of brain functioning, which supports adaptive behavior, cannot be maintained. The hypnotist literally becomes his eyes and ears, and suggestions act in the same way as spontaneous impulses in S. Phylogenetically older and more primitive structures of the brain gain control of overall brain functioning and are able to mediate behavior which is difficult or impossible to produce in the waking state. Sleep occurs in this fashion as does highway hypnosis and sensory deprivation phenomena. These older structures are known to have connections with many parts of the brain and to have inhibitory and excitatory influences over these areas, which might account for the increase in control over ANS functioning obtained with hypnosis.

Since phylogenetically older structures have diffuse connections with cortical and subcortical areas, regulatory psychophysiological mechanisms are more easily influenced. This then is considered to be an altered organization of brain mechanisms. In this altered state, the voice of the hypnotist becomes a substitute for that of S and provides his contact with reality. The complete absence of spontaneous overt behavior by S reflects the incorporation of the hypnotist.

According to this theory, hypnosis is induced whenever S accepts a passive-dependent, regressive relationship with the hypnotist, and the depth of hypnosis is related to the degree to which S enters into such a relationship. There are many individuals in our culture who would see such situations as anxiety provoking, and in this case, hypnosis cannot occur. Often, however, S enters into a passive-dependent, regressive relationship with E much like that of a physician-patient, guru-student, or psychotherapist-client.

Hilgard (1965) feels that as long as the setting promotes confidence, hypnosis does not depend upon the personal characteristics of the hypnotist. There is some evidence, however, that certain personal characteristics may have a small but significant effect.

Barber and Calverley (1964) found that E's tone of voice affected the manner in which Ss responded to hypnotic suggestions. Test suggestions presented in a "forceful tone" resulted in a relatively high level of subject suggestibility, whereas the presentation of identical test suggestions to another group of Ss in a "lackadaisical tone" elicited a significantly lower level of subject suggestibility.

Greenberg and Land (1971) also concluded that personal

characteristics of the hypnotist play a role in hypnotic induction. By structuring "warmth" and "experience" they were able to affect Ss' subjective impressions of whether they thought they had been hypnotized. It was reported that Ss hypnotized by an objectively warmer, more competent appearing E obtained significantly higher susceptibility scores. Small and Kramer (1969) concluded that the effectiveness of hypnosis is also determined in part by the prestige of the hypnotist.

Levitt and Overly (1965) examined the question of whether an experienced hypnotist would be more successful in inducing hypnosis than an inexperienced hypnotist. Their results, however, showed that the experience of the hypnotist was not a factor in evoking hypnotic behavior. There was no significant difference between experienced and inexperienced hypnotists.

There have also been numerous studies seeking to uncover subject personality characteristics which correlate with hypnotic susceptibility. Bowers and Van Der Meulen (1970) hypothesized a relationship between measures of creativity and measures of hypnotic susceptibility and found a moderate correlation between the two. In attempting to replicate this finding, Bowers (1969, 1971) found it to hold for females but not for males. He also demonstrated that only women show a dramatic increase in these correlations as a function of susceptibility level. Perry, Wilder, and Appignanesi (1973) corroborated Bowers' findings that the relationship between creativity and hypnotic susceptibility was stronger among females.

Sutcliffe, Perry, and Sheehar (1970) found a positive relationship between hypnotic susceptibility and vividness of imagery. Fantasy

did not correlate significantly with hypnotic susceptibility. Their results suggested, however, that vividness of imagery and fantasy considered conjointly led to a more accurate prediction of deep susceptibility than the imagery variable alone.

A significant tendency of highly susceptible Ss to seek "profound experiential changes" is reported by Gibbons and De Jarnette (1972). High susceptibility was associated with being either a Roman Catholic or a "saved" Protestant. All of the high susceptibles reported that the experience of being saved was characterized by profound experiential changes, while none of the low susceptible group reported such phenomena. Van Nuys (1972) found that Ss who reported having taken marijuana and/or psychedelic drugs, at some times, averaged significantly higher on their susceptibility scores. The strongest relationship was found with the psychedelic group.

Palmer and Field (1971) found highly susceptible Ss to be less able than insusceptible Ss to resist distraction. They also found their figure drawings to be less detailed and more amorphous. In a similar finding, Mitchell (1970) reports that highly susceptible Ss are able to perform better than low susceptibles under nondistracting conditions.

An incidental finding (Blum, 1971) seems to indicate differential use of defense mechanisms by low vs. high susceptible Ss. Low susceptible Ss tend to use projection and, to some extent, regression on the Defense Preference Inventory of the Blacky Pictures Test more frequently than highly susceptible Ss.

The findings of research attempting to uncover subject and hypnotist

personality variables, that are conducive to enhanced hypnotic effect, are most difficult to interpret at present, and replications would be needed to justify more elaborate speculations based on them. They do tend, however, to bring into focus the complexities inherent in the interpersonal relationship between subject and hypnotist.

APPENDIX B

GROUP INSTRUCTIONS

INSTRUCTIONS TO VI GROUP

(Seat S in chair). This is an experiment in vigilance and attention to a number of different kinds of perceptual cues. Seat yourself in the chair in a comfortable position and close your eyes. I will be giving you a number of simple tasks to perform while your eyes are closed. You will find these tasks quite easy to comply with. While you are performing these tasks I will, from time to time, be interrupting you to draw your attention to one thing or another here in the room. I will ask you to raise your right hand a few inches from the arm of the chair when you first become aware of experiencing certain sensory perceptions that I will be calling to your attention. Keep your eyes closed until I tell you to open them. You will not be asked to do anything difficult so just sit back and enjoy the experiment.

Most people are able to see pictures of one sort or another when they relax with their eyes closed as you are doing now. I would like you to describe to me whatever pictures come into your mind. It doesn't matter what kind of picture it is. Concentrate on what you see in your mind and describe to me any changes which may evolve in the pictures you are seeing . . . . (1) While you are visualizing and describing what you see to me, I would like to call your attention to the room temperature. Raise your right hand a few inches from the arm of the chair when you first notice that the room is getting warmer.

(Pause 10 seconds)

OK that's fine. Now once again I would like you to describe to me whatever pictures come into your mind. It doesn't matter what kind of picture it is. Concentrate on what you see in your mind and describe to me any changes which may evolve in the pictures you are seeing . . . . (2) While you are visualizing and describing what you see, I would like to call your attention to your perception of light and dark. Raise your right hand a few inches from the arm of the chair when you first perceive a perception of brightness through your closed eyelids.

(Pause 10 seconds)

OK that's fine. Now once again I would like you to describe to me whatever pictures come into your mind. It doesn't matter what kind of picture it is. Concentrate on what you see in your mind and describe to me any changes which may evolve in the pictures you are seeing . . . . (3) While you are visualizing and describing what you see, I would like to call your attention to the sounds you are hearing in the room. Raise your right hand a few inches from the arm of the chair when you first hear the tune White Christmas.

(Pause 10 seconds)

OK that's fine. Now once again I would like you to describe to me whatever picture comes into your mind. It doesn't matter what kind of picture it is. Concentrate on what you see in your mind and describe to me any changes which may evolve in the pictures you are seeing . . . . (4) While you are visualizing and describing what you see, I would like to call your attention to the feelings in your left hand. Raise your right hand a few inches from the arm of the chair

when you first notice me touching your left hand with a feather.

(Pause 10 seconds)

OK that's fine. Now once again I would like you to describe to me whatever picture comes into your mind. It doesn't matter what kind of picture it is. Concentrate on what you see in your mind and describe to me any changes which may evolve in the pictures you are seeing . . . . (5) While you are visualizing and describing what you see, I would like to call your attention to the position of the chair in which you are sitting. Raise your right hand a few inches from the arm of the chair when you first perceive a slight tilting backward of the chair in which you are sitting.

(Pause 10 seconds)

OK that's fine. Now once again I would like you to describe to me whatever picture comes into your mind. It doesn't matter what kind of picture it is. Concentrate on what you see in your mind and describe to me any changes which may evolve in the pictures you are seeing . . . . (6) While you are visualizing and describing what you see, I would like to call your attention to the feel of the chair in which you are sitting. Raise your right hand a few inches from the arm of the chair when you first notice the chair vibrating.

(Pause 10 seconds)

OK that's fine. Now once again I would like you to describe to me whatever pictures come into your mind. It doesn't matter what kind of picture it is. Concentrate on what you see in your mind and describe to me any changes which may evolve in the pictures you are seeing . . . .

(7) While you are visualizing and describing what you see, I would like to call your attention to your sense of smell. Raise your right hand a few inches from the arm of the chair when you first perceive the odor of ammonia fumes.

(Pause 10 seconds)

OK that's fine. Now once again I would like you to describe to me whatever pictures come into your mind. Concentrate on what you see in your mind and describe to me any changes which may evolve in the pictures you are seeing . . . . (8) Because your attention has been divided, you will be unable to recall any of the stimuli which I called to your attention earlier. Try to recall them anyway, even though none of them will come to mind.

(Pause 10 seconds)

OK that's fine. Now once again I would like you to describe to me whatever pictures come into your mind. Concentrate on what you see in your mind and describe to me any changes which may evolve in the pictures you are seeing . . . . (9) While you are visualizing and describing what you see, I am going to press a nerve on your left shoulder. Raise your right hand a few inches from the arm of the chair when you first experience a feeling of numbness in your left hand.

(Touch shoulder and pause 10 seconds . . . . . If subject does not respond, skip anesthesia test below)

I am going to take my hand away and the numbness will remain for approximately two minutes. Now I am going to press a pointed instrument

on the back of your hand (left hand). The only thing you will feel, if anything at all, will be pressure. Now I will do the same to your other hand. Raise your left hand if you feel any difference. (Continue to do this applying more pressure until you get a reflex reaction from the left hand. Use palms of hands if no reflex to backs).

OK that's fine. In a moment I will tell you to open your eyes. After you open them I would like you to raise your right hand again when you first perceive the room lights beginning to grow dim. Open your eyes.

INSTRUCTIONS TO NI GROUP

(Seat S in chair). This is an experiment in vigilance and attention to a number of different kinds of perceptual cues. Seat yourself in the chair in a comfortable position and close your eyes. From time to time I will be drawing your attention to one thing or another here in the room. I will ask you to raise your right hand a few inches from the arm of the chair when you first become aware of experiencing certain sensory perceptions that I will be calling to your attention. Keep your eyes closed until I tell you to open them. You will not be asked to do anything difficult so just sit back and enjoy the experiment.

(1) Now I would like to call your attention to the room temperature. Raise your right hand a few inches from the arm of the chair when you first notice that the room is getting warmer.

(Pause 10 seconds)

OK that's fine. (2) Now I would like to call your attention to your perception of light and dark. Raise your right hand a few inches from the arm of the chair when you first perceive a perception of brightness through your closed eyelids.

(Pause 10 seconds)

OK that's fine. (3) Now I would like to call your attention to the sounds you are hearing in the room. Raise your right hand a few inches from the arm of the chair when you first hear the tune White Christmas.

(Pause 10 seconds)

OK that's fine. (4) Now I would like to call your attention to the feelings in your left hand. Raise your right hand a few inches from the arm of the chair when you first notice me touching your left hand with a feather.

(Pause 10 seconds)

OK that's fine. (5) Now I would like to call your attention to the chair in which you are sitting. Raise your right hand a few inches from the arm of the chair when you first perceive a slight tilting backward of the chair in which you are sitting.

(Pause 10 seconds)

OK that's fine. (6) Now I would like to call your attention to the feel of the chair in which you are sitting. Raise your right hand a few inches from the arm of the chair when you first notice the chair vibrating.

(Pause 10 seconds)

OK that's fine. (7) Now I would like to call your attention to your sense of smell. Raise your right hand a few inches from the arm of the chair when you first perceive the odor of ammonia fumes.

(Pause 10 seconds)

OK that's fine. Now because your attention has been divided (8) You will be <u>unable</u> to recall any of the stimuli which I called to your attention earlier. Try to recall them anyway, even though none of them will come to mind.

(Pause 10 seconds)

OK that's fine. (9) Now I would like to call your attention to feelings of numbness in your left arm. Raise your right hand a few inches from the arm of the chair when you first experience a numbness in your left hand after I touch a nerve on your left shoulder.

(Touch shoulder and pause 10 seconds . . . . . If subject does not respond, skip anesthesia test below)

I am going to take my hand away and the numbness will remain for approximately two minutes. Now I am going to press a pointed instrument on the back of your hand (left hand). The only thing you will feel, if anything at all, will be pressure. Now I will do the same to your other hand. Raise your left hand if you feel any difference. (Continue to do this applying more pressure until you get a reflex reaction from the left hand. Use palms of hands if no reflex to backs).

OK that's fine. In a moment I will tell you to open your eyes. After you open them I would like you to raise your right hand again when you first perceive the room lights beginning to grow dim. Open your eyes.

INSTRUCTIONS TO HI GROUP

(Seat S in chair). This is an experiment in hypnosis. If for any reason, you wish to exempt yourself from further participation, feel free to stop at this point. Seat yourself in the chair in a comfortable position and close your eyes. I will be giving you a number of simple tasks to perform while your eyes are closed. You will find these tasks quite easy to comply with. While you are performing these tasks I will, from time to time, be interrupting you to draw your attention to one thing or another here in the room. I will ask you to raise your right hand a few inches from the arm of the chair when you first become aware of experiencing certain sensory perceptions that I will be calling to your attention. Keep your eyes closed until I tell you to open them. You will not be asked to do anything difficult so just sit back and enjoy the experiment.

I will now instruct you in a simple and well known procedure which will enable you to relax more completely. First I would like to help you to breathe more deeply and fully. Inhale a little more deeply than you usually do and exhale when it feels comfortable to do so. Now inhale a little more deeply than before and hold your breath a little bit longer before you exhale. Now inhale a little more deeply still and hold it until you feel the need to exhale. Relax and breathe normally. Now inhale as deeply as you can and exhale when you can no longer hold it . . . Relax and breathe normally. (1) While you are relaxing, I would like to call your attention to the room temperature. Raise your right hand a few inches from the arm

of the chair when you first notice that the room is getting warmer.

(Pause 10 seconds)

OK that's fine. Now once again I would like you to breathe in as deeply as you can and hold it as long as you can before exhaling..... Relax and breathe normally. Now while you are relaxing, I would like to call your attention to your perception of light and dark. Raise your right hand a few inches from the arm of the chair when (2) you first perceive a perception of brightness through your closed eyelids.

(Pause 10 seconds)

OK that's fine. Now once again I would like you to breathe in as deeply as you can and hold it as long as you can before exhaling . . . . Relax and breathe normally. Now while you are relaxing, I would like to call your attention to the sounds you are hearing in the room. Raise your right hand a few inches from the arm of the chair when (3) you first hear the tune White Christmas.

(Pause 10 seconds)

OK that's fine. Now I would like you to concentrate on the muscles of your feet. Tighten and tense them as much as you can by curling your toes downward. Feel your feet muscles tighten and tighten. Keep them as tight and as tense as you can . . . . Relax your feet now and relax your body. Let your whole body relax. Now while you are relaxing I would like to call your attention to the feelings in your left hand. Raise your right hand a few inches from the arm of the chair when (4) you first notice me touching your left hand with a feather.

(Pause 10 seconds)

OK that's fine. Now I would like you to concentrate on your calf muscles. Tighten and tense them as much as you can by bending your feet downward. Feel your calf muscles tighten and tighten. Keep them as tight and as tense as you can . . . . Relax your calves now and relax your body. Let your whole body relax. While you are relaxing I would like to call your attention to the position of the chair in which you are sitting. Raise your right hand a few inches from the arm of the chair when (5) you first perceive a slight tilting backward of the chair in which you are sitting.

(Pause 10 seconds)

OK that's fine. Now I would like you to concentrate on your thigh muscles. Tighten and tense them as much as you can. Feel your thigh muscles tighten and tighten. Keep them as tight and as tense as you can . . . . Relax your legs now and relax your body. Let your whole body relax. While you are relaxing, I would like to call your attention to the feel of the chair in which you are sitting. Raise your right hand a few inches from the arm of the chair when (6) you first notice the chair vibrating.

(Pause 10 seconds)

OK that's fine. Now I would like you to concentrate on your stomach and chest muscles. Tighten and tense them as much as you can. Feel your muscles tighten and tighten. Keep them as tight and as tense as you can . . . . Relax your muscles now and relax your body. Let your whole body relax. While you are relaxing, I would like to call

your attention to your sense of smell. Raise your right hand a few inches from the arm of the chair when (7) you first perceive the odor of ammonia fumes.

(Pause 10 seconds)

OK that's fine. Now I would like you to concentrate on your hand, arm and shoulder muscles. Tighten and tense your hands, arms and shoulders as much as you can. Feel your muscles tighten and tighten. Keep them as tight and as tense as you can . . . . Relax your muscles now and relax your body. Let your whole body relax. (8) Because your attention has been divided, you will be unable to recall any of the stimuli which I called to your attention earlier. Try to recall them anyway even though none of them will come to mind.

(Pause 10 seconds)

OK that's fine. Now I would like you to concentrate on your neck and face muscles. Tighten and tense your neck and face as much as you can. Feel your muscles tighten and tighten. Keep them as tight and as tense as you can . . . . Relax your muscles now and relax your body. Let your whole body relax completely and deeply. While you are relaxing, I would like to call your attention to feelings of numbness in your left arm. Raise your right hand a few inches from the arm of the chair when (9) you first experience a numbness in your left hand after I touch a nerve on your shoulder.

(Touch shoulder and pause 10 seconds . . . . . If subject does not respond, skip anesthesia test below)

I am going to take my hand away and the numbness will remain for

approximately two minutes. Now I am going to press a pointed instrument on the back of your hand (left hand). The only thing you will feel, if anything at all, will be pressure. Now I will do the same to your other hand. Raise your left hand if you feel any difference. (Continue to do this applying more pressure until you get a reflex reaction from the left hand. Use palms of hands if no reflex to backs).

OK that's fine. In a moment I will tell you to open your eyes. After you open them I would like you to raise your right hand again when you first perceive the room lights beginning to grow dim. Open your eyes.

INSTRUCTIONS TO DI GROUP

(Seat S in chair). This is an experiment in vigilance and attention to a number of different kinds of perceptual cues. Seat yourself in the chair in a comfortable position and close your eyes. I will be giving you a number of simple tasks to perform while your eyes are closed. You will find these tasks quite easy to comply with. While you are performing these tasks I will, from time to time, be interrupting you to draw your attention to one thing or another here in the room. I will ask you to raise your right hand a few inches from the arm of the chair when you first become aware of experiencing certain sensory perceptions that I will be calling to your attention. Keep your eyes closed until I tell you to open them. You will not be asked to do anything difficult so just sit back and enjoy the experiment.

Most people are able to see pictures of one sort or another when they relax with their eyes closed as you are doing now. I would now like you to visualize in your mind a picture of a circle or any round object. Concentrate on the circular shape and try to see it as clearly as you can . . . . (1) While you are visualizing the circle, I would like to call your attention to the room temperature. Raise your right hand a few inches from the arm of the chair when you first notice that the room is getting warmer.

(Pause 10 seconds)

OK that's fine. Now I would like you to continue visualizing the

circle. Only now I would like you to visualize numbers on the face of the circle as though on the face of a clock. Concentrate on the picture of the face of a clock and try to see it as clearly as you can . . . . (2) While you continue to visualize the clock, I would like to call your attention to your perception of light and dark. Raise your right hand a few inches from the arm of the chair when you first perceive a perception of brightness through your closed eyelids.

(Pause 10 seconds)

OK that's fine. Now I would like you to continue visualizing the clock, only now I would like you to see both hands pointing straight up as thought it is twelve noon. Concentrate on the picture of the face of the clock and try to see it as clearly as you can . . . . (3) While you continue to visualize the clock, I would like to call your attention to the sounds you are hearing in the room. Raise your right hand a few inches from the arm of the chair when you first hear the tune White Christmas.

(Pause 10 seconds)

OK that's fine. I would like you to continue visualizing the clock, only now I would like you to pay attention to the sweeping second hand that moves slowly around the clock from number to number. Concentrate on the picture of the clock and the second hand and try to see it as clearly as you can . . . . (4) While you continue to visualize the clock, I would like to call your attention to the feelings in your left hand. Raise your right hand a few inches from the arm of the chair when you first notice me touching your left hand with a feather.

(Pause 10 seconds)

OK that's fine. I would like you to continue visualizing the clock, only now I would like you to see it as a tall grandfather clock with a glass door and pendulum. Concentrate on the picture of the grandfather clock and try to see it as clearly as you can . . . . (5) While you continue to visualize the grandfather clock, I would like to call your attention to the position of the chair in which you are sitting. Raise your right hand a few inches from the arm of the chair when you first perceive a slight tilting backward of the chair in which you are sitting.

(Pause 10 seconds)

OK that's fine. I would like you to continue visualizing the grandfather clock, only now I would like you to pay attention to the pendulum swinging back and forth. Concentrate on the picture of the swinging pendulum and try to see it as clearly as you can . . . . (6) While you continue to visualize the pendulum, I would like to call your attention to the feel of the chair in which you are sitting. Raise your right hand a few inches from the arm of the chair when you first notice the chair vibrating.

(Pause 10 seconds)

OK that's fine. I would like you to continue visualizing the pendulum swinging back and forth, only now I would like you to see the pendulum swinging by itself without the clock. Concentrate on the picture of the swinging pendulum and try to see it as clearly as you can . . . . (7) While you continue to visualize the pendulum, I would

like to call your attention to your sense of smell. Raise your right hand a few inches from the arm of the chair when you first perceive the odor of ammonia fumes.

(Pause 10 seconds)

OK that's fine. I would like you to continue visualizing the pendulum swinging back and forth, only now it is swinging in an ever widening arc so that it makes a half or semi-circle. Concentrate on the picture of the swinging pendulum and try to see it as clearly as you can . . . . (8) Because your attention has been divided, you will be unable to recall any of the stimuli which I called to your attention earlier. Try to recall them anyway, even though none of them will come to mind.

(Pause 10 seconds)

OK that's fine. I would like you to continue visualizing the pendulum swinging back and forth, only now it is swinging in an even wider arc until it goes completely around, once again forming the shape of a circle. Concentrate on the picture and try to see it as clearly as you can . . . . (9) While you continue to visualize the pendulum, I would like to call your attention to feelings of numbness in your left arm. Raise your right hand a few inches from the arm of the chair when you first experience a numbness in your left hand after I press a nerve on your shoulder.

(Touch shoulder and pause 10 seconds . . . . . If subject does not respond, skip anesthesia test below)

I am going to take my hand away and the numbness will remain for

approximately two minutes. Now I am going to press a pointed instrument on the back of your hand (left hand). The only thing you will feel, if anything at all, will be pressure. Now I will do the same to your other hand. Raise your left hand if you feel any difference. (Continue to do this applying more pressure until you get a reflex reaction from the left hand. Use palms of hands if no reflex to backs).

OK that's fine. In a moment I will tell you to open your eyes. After you open them I would like you to raise your right hand again when you first perceive the room lights beginning to grow dim. Open your eyes.

INSTRUCTIONS TO FI GROUP

(Seat S in chair). This is an experiment in vigilance and attention to a number of different kinds of perceptual cues. Seat yourself in the chair in a comfortable position and close your eyes. I will be giving you, a number of simple tasks to perform while your eyes are closed. You will find these tasks quite easy to comply with. While you are performing these tasks, I will, from time to time, be interrupting you to draw your attention to one thing or another here in the room. I will ask you to raise your right hand a few inches from the arm of the chair when you first become aware of experiencing certain sensory perceptions that I will be calling to your attention. Keep your eyes closed until I tell you to open them. You will not be asked to do anything difficult so just sit back and enjoy the experiment.

Most people are able to see pictures of one sort or another when they relax with their eyes closed as you are doing now. I would like you to pay attention to whatever pictures now come into your mind. It doesn't matter what kind of picture it is. Concentrate on what you see in your mind and pay attention to any changes which may evolve in the pictures you are seeing . . . . (1) While you are visualizing, I would like to call your attention to the room temperature. Raise your right hand a few inches from the arm of the chair when you first notice that the room is getting warmer.

(Pause 10 seconds)

OK that's fine. Now once again I would like you to pay attention to whatever pictures come into your mind. It doesn't matter what kind of picture it is. Concentrate on what you see in your mind and pay attention to any changes which may evolve in the pictures you are seeing . . . . (2) While you are visualizing, I would like to call your attention to your perception of light and dark. Raise your right hand a few inches from the arm of the chair when you first perceive a perception of brightness through your closed eyelids.

(Pause 10 seconds)

OK that's fine. Now once again I would like you to pay attention to whatever pictures come into your mind. It doesn't matter what kind of picture it is. Concentrate on what you see in your mind and pay attention to any changes which may evolve in the pictures you are seeing . . . . (3) While you are visualizing, I would like to call your attention to the sounds you are hearing in the room. Raise your right hand a few inches from the arm of the chair when you first hear the tune White Christmas.

(Pause 10 seconds)

OK that's fine. Now once again I would like you to pay attention to whatever pictures come into your mind. It doesn't matter what kind of picture it is. Concentrate on what you see in your mind and pay attention to any changes which may evolve in the pictures you are seeing . . . . (4) While you are visualizing, I would like to call your attention to the feelings in your left hand. Raise your right hand a few inches from the arm of the chair when you first notice me touching your left hand with a feather.

(Pause 10 seconds)

OK that's fine. Now once again I would like you to pay attention to whatever pictures come into your mind. It doesn't matter what kind of picture it is. Concentrate on what you see in your mind and pay attention to any changes which may evolve in the pictures you are seeing . . . . (5) While you are visualizing, I would like to call your attention to the position of the chair in which you are sitting. Raise your right hand a few inches from the arm of the chair when you first perceive a slight tilting backward of the chair in which you are sitting.

(Pause 10 seconds)

OK that's fine. Now once again I would like you to pay attention to whatever pictures come into your mind. It doesn't matter what kind of picture it is. Concentrate on what you see in your mind and pay attention to any changes which may evolve in the pictures you are seeing . . . . (6) While you are visualizing, I would like to call your attention to the feel of the chair in which you are sitting. Raise your right hand a few inches from the arm of the chair when you first notice the chair vibrating.

(Pause 10 seconds)

OK that's fine. Now once again I would like you to pay attention to whatever pictures come into your mind. It doesn't matter what kind of picture it is. Concentrate on what you see in your mind and pay attention to any changes which may evolve in the pictures you are seeing . . . . (7) While you are visualizing, I would like to call your attention to your sense of smell. Raise your right hand a few

inches from the arm of the chair when you first perceive the odor of ammonia fumes.

(Pause 10 seconds)

OK that's fine. Now once again I would like you to pay attention to whatever pictures come into your mind. It doesn't matter what kind of picture it is. Concentrate on what you see in your mind and pay attention to any changes which may evolve in the pictures you are seeing . . . . (8) Because your attention has been divided, you will be unable to recall any of the stimuli which I called to your attention earlier. Try to recall them anyway, even though none of them will come to mind.

(Pause 10 seconds)

OK that's fine. Now once again I would like you to pay attention to whatever pictures come into your mind. It doesn't matter what kind of picture it is. Concentrate on what you see in your mind and pay attention to any changes which may evolve in the pictures you are seeing . . . . (9) While you are visualizing, I am going to press a nerve on your left shoulder. Raise your right hand a few inches from the arm of the chair when you first experience a feeling of numbness in your left hand.

(Touch shoulder and pause 10 seconds . . . . . If subject does not respond, skip anesthesia test below)

I am going to take my hand away and the numbness will remain for approximately two minutes. Now I am going to press a pointed instrument on the back of your hand (left hand). The only thing you

will feel, if anything at all, will be pressure. Now I will do the same to your other hand. Raise your left hand if you feel any difference. (Continue to do this applying more pressure until you get a reflex reaction from the left hand. Use palms of hand if no reflex to backs).

OK that's fine. In a moment I will tell you to open your eyes. After you open them I would like you to raise your right hand again when you first perceive the room lights beginning to grow dim. Open your eyes.

APPENDIX C

POST TEST INTERVIEW

POST TEST QUESTIONNAIRE

1. How do you feel?

2. Can you tell me something about your experience of this experiment?

3. What can you recall?

4. How did you feel toward me during the experiment?

5. Did you have any vivid reactions toward anything I said or did during the experiment?

6. Do you remember seeing any pictures or images when you had your eyes closed?

7. Can you describe them?

8. Do you have any questions or thoughts about this experiment?

9. Did you notice any physical or bodily sensations other than the ones mentioned in the experiment?

APPENDIX D

SUMMARY OF SUBJECT PROTOCOLS

Items Passed

Ss	Exp.	Cond.	1	2	3	4	5	6	7	8	9	10	Total
1	1	VI		x				x					2
2	1	VI					x				x	x	2
3	1	NI	x		x		x	x			x		6
4	1	NI	x		x	x	x	x	x	x	x	x	9
5	1	HI				x	x			x			3
6	1	HI		x			x	x	x	x	x	x	7
7	1	FI											0
8	1	FI	x				x			x	x	x	5
9	1	DI						x				x	2
10	1	DI	x	x	x	x	x		x	x	x	x	9
11	2	VI		x									1
12	2	VI											0
13	2	NI	x							x			2
14	2	NI		x							x		2
15	2	HI								x			1
16	2	HI	x	x	x	x	x	x	x	x	x	x	10
17	2	FI	x	x	x	x	x	x	x		x	x	9
18	2	FI	x	x	x	x	x	x			x	x	8
19	2	DI	x	x			x	x	x		x	x	7
20	2	DI	x	x		x			x				4
21	3	VI		x	x						x		3
22	3	VI	x	x	x	x					x	x	6
23	3	NI	x	x			x	x	x		x		6
24	3	NI							x	x	x		3
25	3	HI		x							x		2
26	3	HI					x			x	x		3
27	3	FI		x		x			x		x		4
28	3	FI		x						x	x		3
29	3	DI											0
30	3	DI						x		x			2
31	4	VI		x						x			2
32	4	VI		x	x								2
33	4	NI	x	x	x		x	x		x	x	x	8
34	4	NI	x	x	x	x	x	x	x	x	x	x	10
35	4	HI		x		x		x					3
36	4	HI	x			x	x			x	x	x	6
37	4	FI								x	x		2
38	4	FI		x	x		x	x	x	x	x		7
39	4	DI	x				x	x	x	x	x		6
40	4	DI	x			x	x			x	x	x	6
Subtotal			17	22	12	13	19	16	13	20	26	15	173

Items Passed

Ss	Exp.	Cond.	1	2	3	4	5	6	7	8	9	10	Total
41	1	VI		x			x		x		x	x	5
42	1	VI	x								x		2
43	1	NI				x					x		2
44	1	NI	x				x				x		3
45	1	HI	x	x			x			x	x	x	6
46	1	HI	x						x	x	x		4
47	1	FI	x		x		x	x	x		x		6
48	1	FI					x			x			2
49	1	DI	x	x						x			3
50	1	DI		x		x							2
51	2	VI	x				x						2
52	2	VI	x				x				x		3
53	2	NI		x	x	x	x	x		x	x	x	8
54	2	NI		x					x	x			3
55	2	HI	x					x		x	x	x	5
56	2	HI	x			x			x	x	x		5
57	2	FI		x						x			2
58	2	FI	x	x		x			x		x		5
59	2	DI									x		1
60	2	DI	x	x	x	x	x	x		x	x	x	9
61	3	VI	x	x							x		3
62	3	VI											0
63	3	NI	x				x		x	x			4
64	3	NI	x	x	x	x		x	x		x		7
65	3	HI		x						x			2
66	3	HI					x			x			2
67	3	FI			x		x	x					3
68	3	FI	x							x			2
69	3	DI								x			1
70	3	DI											0
71	4	VI		x									1
72	4	VI											0
73	4	NI	x			x	x	x	x		x	x	7
74	4	NI		x									1
75	4	HI	x	x		x	x				x	x	6
76	4	HI							x	x			2
77	4	FI									x		1
78	4	FI	x								x		2
79	4	DI		x		x	x		x	x	x		6
80	4	DI											0
Subtotal			19	16	5	10	15	7	11	17	21	7	128
Total			36	38	17	23	34	23	24	37	47	22	301

REFERENCES

Adler, M. H., & Secunda, L. An indirect technique to induce hypnosis. Journal of Nervous and Mental Disorders, 1947, 106, 190-193.

Barber, T. X., & Calverley, D. S. "Hypnotic Behavior" as a function of task motivation. Journal of Psychology, 1962, 54, 363-389.

Barber, T. X., & Calverley, D. S. An experimental study of "hypnotic" (auditory and visual) hallucinations. Journal of Abnormal Psychology, 1964, 68, 13-20.

Barber, T. X., & Calverley, D. S. Empirical evidence for a theory of "hypnotic" behavior. Journal of Consulting Psychology, 1965,29, 98-107.

Barber, T. X., & Calverley, D. S. Toward a theory of "hypnotic" behavior: Replication and extension of experiments by Barber and co-workers (1962-65) and Hilgard and Tart (1966) International Journal of Clinical and Experimental Hypnosis, 1968, 16, 179-195.

Barber, T. X., & De Moor, W. A theory of hypnotic induction procedures. The American Journal of Clinical Hypnosis, 1972, 15, 112-135.

Barber, T. X., & Glass, L. B. Significant factors in hypnotic behavior. Journal of Abnormal and Social Psychology, 1962, 64, 222-228.

Blum, G. S. A model of the mind: Explored by hypnotically controlled experiments and examined for its psychodynamic implications. New York: Wiley, 1961.

Blum, G. S. Programming people to simulate machines. In Tomkins, S., and Messick, S. (Eds.), Computer simulation of personality. New York: Wiley, 1963, 127-157.

Blum, G. S., & Graef, J. R. The detection over time of subjects simulating hypnosis. International Journal of Clinical and Experimental Hypnosis, 1971, 19, 211-224.

Bowers, K. S. The effect of demands for honesty on reports of visual and auditory hallucinations. International Journal of Clinical and Experimental Hypnosis, 1967, 15, 31-36.

Bowers, K. S. Creativity and hypnotic susceptibility. Paper presented at the meeting of the American Psychological Association, Washington, D. C., September, 1969.

Bowers, K. S. Sex and susceptibility as moderator variables in the relationship of creativity and hypnotic susceptibility. Journal of Abnormal Psychology, 1971, 78, 93-100.

Bowers, K. S., & Van Der Meulen, S. J. Effect of hypnotic susceptibility on creative test performance. Journal of Personality and Social Psychology, 1970, 14, 247-256.

Das, J. P. A theory of hypnosis. International Journal of Clinical and Experimental Hypnosis, 1959, 7, 69-77.

Edmonston, W. E. Stimulus-response theory of hypnosis. In J. E. Gordon (Ed.), Handbook of Clinical and Experimental Hypnosis, Chapter 12, New York: Macmillan, 1967.

Erickson, M. H., & Kubie, L. S. The successful treatment of a case of acute hysterical depression by a return under hypnosis to a critical phase of childhood. Psychological Quarterly, 1941, 10, 592-609.

Gibbons, D., & De Jarnette, J. Hypnotic susceptibility and religious experience. Proceedings of the Annual Convention of the American Psychological Association, 1972, 7, 863-864.

Gill, M. M., & Brenman, M. Hypnosis and Related States: Psychoanalytic Studies in Regression. New York: International Universities Press, 1959.

Gill, M. M., & Brenman, M. The metapsychology of hypnosis and regression. In J. E. Gordon (Ed.), Handbook of Clinical and Experimental Hypnosis, Chapter 10. New York: Macmillan, 1967.

Greenberg, J. G., & Land, E. Personality correlates of hypnotizability. The American Journal of Clinical Hypnosis, 1971, 10, 99-106.

Hartmann, H. Ego psychology and the problem of adaptation. New York: International Universities Press, 1958.

Hilgard, E. R. Hypnotic susceptibility. New York: Harcourt Brace Javanovich, 1965.

Hilgard, E. R. The Domain of hypnosis: With some comments on alternative paradigms. American Psychologist, 1973, 11, 972-982.

Hilgard, E. R., & Tart, C. T. Responsiveness to suggestions following waking and imagination instructions and following induction of hypnosis. Journal of Abnormal Psychology, 1966, 71, 196-208.

Hull, C. L. Hypnosis and suggestibility. New York: Appleton-Century Crofts, 1933.

Jacobson, E. Progressive relaxation. Chicago: University of Chicago Press, 1938.

Kramer, E. Hypnotic susceptibility and previous relationship with the hypnotist. American Journal of Clinical Hypnosis, 1969, 11, 175-177.

Kubie, L. S., & Margolin, S. The process of hypnotism and the nature of the hypnotic state. American Journal of Psychiatry, 1944, 100, 611-622.

Levitt, E. E., & Overley, T. M. Experience of the hypnotist as a factor in hypnotic behavior. International Journal of Clinical and Experimental Hypnosis, 1965, 13, 34-38.

Mitchell, M. B. Hypnotizability and distractability. The American Journal of Clinical Hypnosis, 1970, 13, 35-45.

Orne, M. T. The nature of hypnosis: Artifact and essence. Journal of Abnormal and Social Psychology, 1959, 58, 277-299.

Orne, M. T. On the simulating subject as a quasi-control group in hypnosis research: What, why, and how. In E. Fromm & R. E. Shor (Eds.), Hypnosis: Research development and perspectives. Chicago: Aldine-Atherton, 1972.

Palmer, R. D., & Field, P. B. Cognitive factors in hypnotic susceptibility. Journal of Consulting and Clinical Psychology, 1971, 37, 165-171.

Pavlov, I. P. The identity of inhibition with sleep and hypnosis. Science Monograph, 1923, 17, 603-609.

Perry, C., Wilder, S., & Appignanesi, A. Hypnotic susceptibility and performance on a battery of creativity measures. The American Journal of Clinical Hypnosis, 1973, 15, 170-180.

Rapaport, D. A historical survey of psychoanalytic ego psychology. In M. M. Gill (Ed.), The collected papers of David Rapaport. New York: Basic Books, 1967.

Reyher, J. Brain mechanisms, intrapsychic processes and behavior: A theory of hypnosis and psychopathology. The American Journal of Clinical Hypnosis, 1963, 7, 107-119.

Reyher, J. Hypnosis. Dubuque, Iowa: Brown, 1968.

Reyher, J. Comment on "artificial induction of posthypnotic conflict." Journal of Abnormal Psychology, 1969, 74, 420-422.

Reyher, J. The real-simulation design and laboratory hypnosis: Two methodological culs-de-sac. Paper presented at the meeting of the American Psychological Association, Washington, D. C., 1970.

Reyher, J., & Wilson, J. G. The induction of hypnosis: Indirect vs. direct methods and the role of anxiety. The American Journal of Clinical Hypnosis, 1973, 4, 229-233.

Rosen, H. Radical hypnotherapy of apparent medical and surgical emergencies. Journal of Personality, 1951, 1, 326-339.

Sanders, R. S., Jr., & Reyher, J. Sensory deprivation and the enhancement of hypnotic susceptibility. Journal of Abnormal Psychology, 1969, 74, 375-381.

Sarbin, T. R., & Andersen, M. L. Role-theoretical analysis of hypnotic behavior. In J. E. Gordon (Ed.), Handbook of Clinical and Experimental Hypnosis, Chapter II. New York: Macmillan, 1967.

Sarbin, T. R., & Coe, W. T. Hypnosis: A social psychological analysis influence communication. New York: Holt, Rinehart, & Winston, 1972.

Sargent, W., & Fraser, R. Inducing light hypnosis by hyperventilation. Lancet, 1938, 275, 778.

Sheehan, P. W. Countering preconceptions about hypnosis: An objective index of involvement with the hypnotist. Journal of Abnormal Psychology, 1971, 78, 299-322.

Shor, R. E. Hypnosis and the concept of generalized reality-orientation. American Journal of Psychotherapy, 1959, 13, 582-602.

Shor, R. E. Three dimensions of hypnotic depth. International Journal of Clinical and Experimental Hypnosis, 1962, 10, 23-28.

Spanos, N. P., & Barber, T. X. "Hypnotic" experiences as inferred from subjective reports: Auditory and visual hallucinations. Journal of Experimental Research in Personality, 1968, 3, 136-150.

Stampfl, T. J. Implosive Therapy. Demonstration at Michigan State University, 1971.

Sutcliffe, J. P., Perry, C. W., & Sheehan, P. W. Relation of some aspects of imagery and fantasy to hypnotic susceptibility. Journal of Abnormal Psychology, 1970, 76, 279-287.

Van Nuys, D. Drug use and hypnotic susceptibility, The International Journal of Clinical and Experimental Hypnosis, 1971, 20, 31-37.

Weitzenhoffer, A. M., Gough, P. B., & Landes, J. A study of the Braid effect: Hypnosis by visual fixation. Journal of Psychology, 1969, 47, 67-80.

Weitzenhoffer, A. M., & Sjoberg, B. M. Susceptibility with and without "induction of hypnosis." Journal of Nervous and Mental Disease, 1961, 132, 204-220.

Wells, W. R. Experiments in waking hypnosis for instructional purposes. Journal of Abnormal and Social Psychology, 1924, 18, 389-404.

White, R. W. A preface to the theory of hypnotism. Journal of Abnormal and Social Psychology, 1941, 36, 477-505.