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Taking the Hype Out of Hypnosis and a Look at Its Entrancing Use in Pain Control

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In the most hackneyed depictions of hypnosis on television and in the movies, the hypnotic subject is invariably shown staring at a swinging pocket watch or pendulum while repeating the instructions of the hypnotist in a halting monotone. Once the "trance" is broken through a snap of the fingers or some other hypnotically suggested signal, the subject awakens, fully if unconsciously prepared to perform whatever deed the hypnotist has directed. Other popular notions surrounding hypnotism no doubt derive from entertainers known as stage hypnotists, who induce volunteers from their audiences to engage in comic or ribald behavior for the amusement of the others.

These distorted, inaccurate views do not do justice to the serious discipline of clinical hypnosis. Although not entirely free of controversy and criticism, clinical hypnosis has been recognized for more than a century as a legitimate tool in the treatment of a variety of disorders. In recent years, hypnosis has been associated with behavior modification in the treatment of cigarette smoking, overeating, and assorted phobic disorders. Hypnosis has even been used in successfully treating dermatological disorders, such as warts, according to Harold B. Crasilneck and James A. Hall, Southwestern Medical School, University of Texas Health Science Center, Dallas.[1] (p. 369-82) In this essay, however, I'll concentrate on research concerning hypnosis and pain control.

In his review of the historical antecedents of modern hypnotism, William E. Edmonston, Jr., Colgate University, Hamilton, New York, notes that techniques resembling hypnotic induction can be traced back to healing practices among the ancient Hindus, Chinese, Egyptians, and Greeks.[2] There are even allusions in the Bible to activities that are hypnotic in character. Historical accounts of hypnotism in the modern era generally begin with Franz Anton Mesmer (1734-1815), an Austrian physician whose name survives in the word "mesmerize." Mesmer is most often associated with the theory of "animal magnetism." As discussed by Henri F. Ellenberger, University of Montreal, Canada, in *The Discovery of the Unconscious*, the theory involved the existence of a subtle physical fluid that supposedly filled the universe and connected humans, the earth, and the heavenly bodies. Believing that disease originated from an imbalance of this magnetic fluid in the human body, Mesmer maintained that restoring the fluid's equilibrium would have a curative effect.[3] His methods included rather theatrical sessions in which he would pass his hands over his patients in an attempt to influence these fluids. The patients would often go into seizures and awaken apparently cured. Although Mesmer's procedures and the theory of animal magnetism were eventually discredited, this era did mark the beginning of serious scientific investigation into hypnosis and its applications.

Most historians credit James Braid, a Scottish surgeon, with coining the word "hypnotism" in the 1840s, although there is evidence that the term was used earlier.[4] The word comes from the Greek *hypnos*, meaning "to sleep." Braid's theories, though not entirely accurate, did much to bring hypnosis research into the realm of scientific respectability. He recognized, for example, the importance of verbal suggestion in the hypnotic process.[5] Throughout the

latter half of the nineteenth century, theories of hypnosis underwent further refinement. Crasilneck and Hall note that research on hypnosis declined in the early part of the twentieth century but stepped up considerably in the years after World War II. In the US, the stature of hypnosis research was aided by a 1958 policy statement from the American Medical Association recognizing hypnosis as a legitimate treatment tool in medicine and dentistry.[1] (p. 13)

Hypnotic Technique

According to André M. Weitzenhoffer, Stanford University, California, the induction of hypnosis consists of three phases: preparation, induction proper, and deepening.[6] One step in preparation, he notes, is allaying any fears or uncertainties that the patient may have about the process or effects of hypnosis. Another step, according to William C. Wester II, Behavioral Science Center, Cincinnati, Ohio, involves a careful assessment of the symptom or symptoms for which the patient is seeking help.[7] Since some people are more susceptible than others to hypnosis, the therapist may choose to administer one of the rating scales developed by researchers to gauge "hypnotic talent." As reviewed by Barbara DeBetz, Columbia University College of Physicians and Surgeons, New York, in *A Primer of Clinical Hypnosis*, the scales record such items as eye closure, motor inhibition, age regression, time distortion, and other characteristics of subjects undergoing hypnosis. Subjects who score high on such measures are judged to have heightened responsiveness to hypnosis. Hypnotizability seems to be related to a subject's ability to become imaginatively involved in an activity—reading a book, or watching a play or film, for example. Standard tests for hypnotic responsiveness include such scales as the Stanford Hypnotic Susceptibility Scales, the Spiegel Eye-Roll Technique, the Harvard Group Scale of Hypnotic Susceptibility, and the Barber Suggestibility Scale.[8]

Actual techniques of induction, as discussed by Wester and psychologist Alexander H. Smith, Jr., may include having the patient gaze fixedly at a certain spot or object while listening to the instructions of the therapist. Another technique is to have the patient hold a coin at arm's length on the fingertips, while, in response to the therapist's suggestions of deeper and deeper relaxation, the arm is allowed to drop slowly until it rests in the patient's lap. Another technique is to encourage the patient to imagine that one arm is growing progressively lighter as if pulled by a balloon, so that the arm levitates of its own accord. Or the therapist may simply have the patient visualize a scene, such as a beach, or the patient's favorite place. Once the patient is relaxed, the therapist may try a "deepening" technique, such as suggesting that the patient is descending on an elevator or escalator toward deeper levels of relaxation.[9]

There is some disagreement among researchers concerning the exact nature of the hypnotic trance. Reviewing current theoretical approaches to hypnosis, Brian J. Fellows, Department of Psychology, Portsmouth Polytechnic, UK, mentions the debate between "state" and "non-state" theorists. The state theorists tend to argue that hypnosis involves a special, or unique, state of consciousness. Non-state theorists, on the other hand, prefer to view hypnotic response in terms of other psychosocial, cognitive, or behavioral factors.[10] For example, Theodore X. Barber, director, Medfield Foundation, Massachusetts, in his book *Hypnosis: A Scientific Approach*, criticizes the entire construct of "hypnosis" (including "hypnotic state" and "trance") as misleading and unnecessary. The effects of hypnosis, he notes, may be due to such factors as the subject's expectations, or the desire to comply with the therapist, rather than to any unique state of consciousness achieved through hypnotic induction.[11] (p. 7-10)

In *A Primer of Clinical Hypnosis*, Gérard Sunnen, New York University Medical Center, New York, writes that although there is fairly good agreement concerning hypnotic phenomena, there is a lot of disagreement about explaining them.[12] This disagreement applies to hypnosis and pain relief as well. Despite considerable research and a good deal of theorizing, some of which I'll examine later, the exact mechanisms at work

in hypnosis and analgesia remain unclear. As Crasilneck and Hall point out, perhaps the one conclusion on which all authorities would agree is that we do not know how or why hypnosis controls organic pain.[1] (p. 97)

Hypnosis and Pain Control

From early in the nineteenth century there have been accounts of hypnotic techniques being used in the control of pain. James Esdaile, for example, a British surgeon working in India in the 1840s, reportedly performed over 300 major operations using mesmerism as the sole anesthetic, according to Graham F. Wagstaff, University of Liverpool, UK.[13] (p. 153)

One of the best-known modern researchers on hypnosis and pain control is Ernest R. Hilgard, Department of Psychology, Stanford. We reviewed his work recently, when he received the 1984 National Academy of Sciences Award for Excellence in Scientific Reviewing for his reviews on conditioning and learning theory.[14] Much of Hilgard's work on hypnosis and analgesia, along with a general review of literature in the field, is collected in the book *Hypnosis in the Relief of Pain*,[15] coauthored with his wife, Josephine, also at Stanford.

Hypnosis in the Relief of Pain includes several case studies in which hypnosis was employed as an analgesic, including the case of a woman suffering pain and subsequent depression from advanced cancer. Under hypnosis, it was suggested to the woman that when she experienced discomfort she could don an imaginary glove that would relieve the pain in her arm. After several sessions, the woman was able to induce this effect on her own using self-hypnosis. Her dependence on chemical painkillers decreased, as did her depression and insomnia, and she was able to spend her remaining days enjoying the company of her friends and family.[15] (p. 88)

In summarizing their conclusions, the Hilgards note a strong relationship between a person's hypnotizability and the ability to reduce pain through hypnotically suggested analgesia. They also make certain distinctions regarding the role of anxiety in pain. Pain reduction through hypnosis, they point out, involves more than the reduction of anxiety. It involves reductions in the other aspects of pain, which they term the *sensory* and the *suffering* components. They also note that hypnotic procedures are equally applicable to many painful conditions.[15] (p. 190)

One of Ernest Hilgard's theories in explaining hypnotic phenomena involves the concept of *dissociation*. This theory states that particular cognitive systems may be split off from the major (i.e., conscious) cognitive system and that these systems are subject to different cognitive controls. In regard to pain control, hypnotic dissociation seems to involve an amnesia-like process whereby pain is diverted from reaching the conscious level.[16]

Psychiatrist Milton H. Erickson, former editor of the *American Journal of Clinical Hypnosis*, was very influential in his clinical uses of hypnosis. In his book *Hypnotherapy*, coauthored with psychologist Ernest L. Rossi, Erickson explains his view of hypnosis as a process of what he calls *utilization*. "Hypnotic suggestion," he notes, "can facilitate the utilization of abilities and potentials that already exist within a person but that remain unused or underdeveloped because of a lack of training or understanding."[17] (p. 1)

Erickson and Rossi also outline several hypnotic strategies for dealing with pain. The patient might be given a direct hypnotic suggestion that all pain has been abolished. Or the patient might be induced to replace a sensation of pain with a feeling of warmth. The pain might also be hypnotically displaced from one area of the body to another.[17] (p. 98-101) In one of the case studies discussed in the book, the authors recount the use of hypnosis to aid a man who was suffering debilitating back pain from a war injury. In the course of hypnosis, Erickson succeeded in uncovering and utilizing the patient's pre-injury memories of happy feelings to replace his pain.[17] (p. 129) Erickson and Rossi's *Hypnotherapy* is one of four core publications for the 1985 ISI® research front "Implications of direct and indirect hypnotic suggestion for psychotherapy," (#85-5267). *Hypnotic Realities*,[18] another work by Erickson and Rossi, is co-

authored with psychologist Sheila I. Rossi, and is also included in the core for this topic. The other two are books by Jay Haley, Family Therapy Institute of Washington, DC, Rockville, Maryland, *Uncommon Therapy*[19] and *Advanced Techniques of Hypnosis and Therapy*.[20] Both works deal with Ericksonian clinical approaches in hypnosis and psychiatry.

In addition to controlling pain associated with injury and illness, hypnosis has also been used in surgery in this century. Dabney M. Ewin, Tulane University Medical School, New Orleans, Louisiana, reviews cases in which hypnosis was used both as an adjunct to chemical anesthesia and as the sole anesthetic.[21] Crasilneck and Hall, mentioned earlier, also discuss the use of hypnosis in surgery. They note that while hypnosis is certainly not appropriate as an anesthetic in all cases, it does have value in certain instances. These might include cases where chemical anesthetics are contraindicated because of a respiratory, cardiac, or allergic condition on the part of the patient. Hypnosis is also useful when it is desirable to have the patient in a conscious or semiconscious state and able to respond to questions.[1] (p. 125)

Along with its uses in clinical settings, hypnosis has also been the subject of laboratory investigations in which pain is induced under experimental conditions. In one such experiment, Thomas H. McGlashan, Unit for Experimental Psychiatry, Institute of the Pennsylvania Hospital, Philadelphia, and colleagues sought to compare the effects of hypnotically induced analgesia with placebo response to a pill that contained no chemical analgesic. The procedure involved restricting the circulation of blood to the subjects' forearms and then having the subjects undergo vigorous exercise of their forearm muscles. The resulting muscular discomfort, which builds rapidly as exercise continues, is known as *ischemic* pain. For McGlashan's study, the pain was induced in subjects, some highly susceptible and others insusceptible to hypnosis, who received hypnotic induction and in a group of subjects who received a placebo in the form of a pill supposedly containing a powerful analgesic drug.

The results suggested that there are two components in hypnotic analgesia: one that is apparently unrelated to the subject's hypnotic susceptibility and that seems to derive from the nonspecific or placebo effects of using hypnosis; and another analgesic component that occurs in highly susceptible subjects under deep hypnosis, apparently involving an actual distortion of perception.[22]

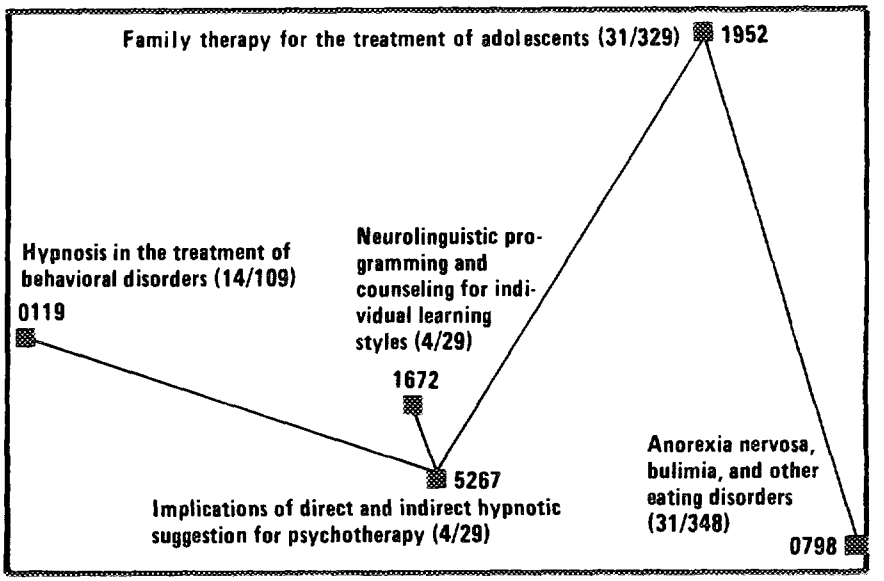
Thus far I have discussed hypnotic analgesia solely as it applies to adults. Researchers and clinicians have noted that hypnosis can be quite effective when used with children as well. Karen Olness, Minneapolis Children's Health Center, Minnesota, reviews hypnosis in pediatric practice. She cites studies demonstrating that 6- to 12-year-old children are capable of responding to hypnotic suggestion and other techniques involving relaxation and imagery. In addition to its uses in the treatment of such childhood habit disorders as nail-biting and hair-pulling, hypnosis has been used for pain control in the treatment of injuries, including burns and fractures. Hypnosis has also been used in other potentially painful medical procedures with children, such as dentistry.[23] Josephine R. Hilgard, mentioned earlier, and Samuel LeBaron, Department of Pediatrics, University of Texas Health Science Center, San Antonio, have written about the uses of hypnosis in controlling pain in children with cancer.[24]

In another article on hypnosis and pediatrics, by Donald J. O'Grady, University of Cincinnati College of Medicine, and Claudia Hoffmann, Children's Hospital Medical Center, Cincinnati, the authors review studies in which the hypnotic subjects were as young as three and four years old.[25] They point to evidence indicating that hypnotizability is somewhat limited in young children and reaches its apex during the middle childhood years of 7 to 14. No differences have been found in hypnotic responsiveness between boys and girls.[25]

On Hypnosis Research

Along with work done in the US, hypnotism has been the subject of research in other countries. For example, Stanislav Kratochvíl, Psychiatric Hospital, Kroměríz,

Figure 1: Multidimensional-scaling map for C2-level research front #85-0069, "Studies of hypnosis, family characteristics, and other psychological factors in the treatment of behavioral disorders," showing links between C1-level research fronts. The numbers of core/citing items are given in parentheses following the research-front titles on the map.



Czechoslovakia, and psychotherapist Michael Vančura review research on hypnosis in Eastern Europe. They point out that hypnotherapy in the USSR, although popular 15 or 20 years ago, has been declining in favor of other forms of psychotherapy. Still, hypnosis is taught as a legitimate therapeutic technique. Kratochvíl and Vančura mention in particular the work of Vladimir Evgenievič Rožnov, Psychotherapy Department, Institute for Postgraduate Education in Medicine, Moscow. Rožnov has developed a technique known as "emotional stress hypnosis," used in the treatment of alcoholic patients.[26]

Concluding their discussion of hypnosis in such countries as the USSR, the German Democratic Republic, Poland, and Rumania, Kratochvíl and Vančura note that hypnosis in Eastern Europe has traditionally been more "authoritarian and manipulative" than in the US, a situation "reinforced by the expectations of patients that the hypnotist should possess almost god-like self-confidence and persuasive powers."[26] However, increasingly permissive imaginative techniques, including self-hypnosis in the control of pain, are being adopted in some countries.

As mentioned earlier, research into hypnotism has engendered some disagreement and controversy. Barber, in particular, has criticized the notion of "hypnotic trance," pointing out that effects achieved through hypnotic induction do not seem markedly different from those producible in a waking state.[11] (p. 137) Barber's book is 1 of 14 core works for another ISI research front pertinent to hypnosis, "Hypnosis in the treatment of behavioral disorders," (#85-0119). Hilgard's *Divided Consciousness*[16] is also one of the core publications that identified this topic. Collectively they were cited by 109 papers published in 1985 alone.

Front #85-0119 and the previously mentioned front, #85-5267, are both part of the higher-level aggregate of topics constituting "Studies of hypnosis, family characteristics, and other psychological factors in the treatment of behavioral disorders," (#85-0069). The other three fronts in #85-0069 are: "Anorexia nervosa,[27] bulimia, and other eating disorders," (#85-0798); "Neurolin-

Table 1: Selected list of journals that report on hypnosis research. A=title and first year of publication. B=1985 impact factor.

A	B
American Journal of Clinical Hypnosis (1958)	0.41
American Journal of Psychiatry (1844)	3.51
American Journal of Psychotherapy (1946)	0.59
Australian Psychologist (1966)	0.21
British Journal of Psychiatry (1853)	2.62
British Journal of Psychology (1904)	1.22
Ceskoslovenska Psychologie (1957)	0.04
International Journal of Clinical and Experimental Hypnosis (1953)	0.95
Journal of Abnormal Psychology (1906)	2.54
Journal of Consulting and Clinical Psychology (1968)	1.97
Journal of Nervous and Mental Disease (1874)	1.20
Journal of Personality and Social Psychology (1965)	2.19
Perceptual and Motor Skills (1949)	0.27
Psychiatric Annals (1971)	0.64

guistic programming and counseling for individual learning styles," (#85-1672); and "Family therapy for the treatment of adolescents," (#85-1952). The map in Figure 1 shows the citation links between the research fronts that make up #85-0069.

Wagstaff, in his book *Hypnosis, Compliance and Belief*, offers further criticism of hypnosis research. He writes that the apparent benefits of hypnosis may derive more from the hypnotic subject's often subtle compliance with the hypnotist than from any intrinsic effects. Wagstaff points out that the subject may go so far as to falsely report an absence of pain in order to appear to be a "good" subject. He also criticizes the notion of "dissociation," saying that research has not elucidated any effects of dissociation that cannot be explained in terms of compliance or voluntary cognitive strategies.[13] (p. 183)

In a review of the clinical uses of hypnosis, Thomas A. Wadden, University of Pennsylvania, Philadelphia, and Charles H. Anderton, University of South Carolina, Columbia, offer several recommendations. They point out a need for more careful identification of treatment populations and treatment techniques in hypnosis studies and for more attention to the personality characteristics of those being treated. They also cite a need for more and better controlled research.[28]

Another controversy involves what is known as forensic hypnosis—the use of hypnosis to enhance the memories of witnesses who testify in criminal trials. In the US, there has been considerable disagreement in the courts as to the reliability of such testimony. In one article on forensic hypnosis, Martin T. Orne, Institute of the Pennsylvania Hospital, and colleagues point out that hypnosis can lead subjects to fill in with their imaginations details that they have not actually seen—a process known as "confabulation." The subjects may then report these details, which the authors refer to as "pseudomemories," with a confidence and clarity that can be most convincing to a jury.[29]

Table 1 is a list of journals that regularly report on hypnosis research. The *Journal of Abnormal Psychology* is included, having published over 100 articles on hypnosis since 1973.

Table 1 also includes the *International Journal of Clinical and Experimental Hypnosis*, which is published by the Society for Clinical and Experimental Hypnosis (SCEH), founded in 1949. Orne, mentioned above, is the journal's present editor. The SCEH's membership is composed of physicians, psychologists, dentists, and registered psychiatric social workers, all of whom must demonstrate the requisite familiarity and experience with clinical hypnosis. Ernest Hilgard served as the SCEH's president from 1979 to 1981. The society's address is 129-A Kings Park Drive, Liverpool, New York 13090.

Another pertinent organization is the American Society of Clinical Hypnosis, formed in 1957. Composed of some 4,000 physicians, dentists, and psychologists, this is the largest hypnosis organization in the US. The society publishes the *American Journal of Clinical Hypnosis*, also listed in Table 1 and edited by Thurman Mott, Jr., Institute of Psychiatry and Human Behavior, University of Maryland School of Medicine, Baltimore. Crasilneck, who currently serves as president, has also been president of SCEH and is the only person to have held that office in both societies. Interested readers can contact the society at 2250 East Devon Avenue, Suite 336, Des Plaines, Illinois 60018. The International Society of

Hypnosis, based in Australia, maintains a listing of more than 20 of its constituent organizations throughout the world. The address for the International Society is the Edward Wilson House, Austin Hospital, Heidelberg, Victoria 3084, Australia. There are many other lay organizations "interested" in hypnosis, but none of them produces a research journal or warrants discussion here.

Many of the issues surrounding hypnosis, including the "state versus non-state debate" and the matter of the subject's expectations, remind me of issues raised in connection with meditation.[30] While it appears that hypnosis does provide beneficial effects in relieving pain, it's equally apparent that we have far to go in our understanding of the physiological and psychological factors at work in hypnosis and analgesia. I suppose that is one of many reasons why interest in the neurosciences has been growing by leaps and bounds.

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