Review of International Literature

Associate Editor:
D. Corydon Hammond

Anbar, R. D. (2003). Self-hypnosis for anxiety associated with severe asthma: A case report. BMC Pediatrics, 3(1), 7-11. The management of asthma can be complicated by both medical and psychiatric conditions, such as gastroesophageal reflux, chronic sinusitis, and anxiety. When symptoms of asthma are interpreted without regard to such conditions, treatment may yield a suboptimal outcome. As an example, anxiety-associated dyspnea, tachypnea, and chest tightness can be mistakenly interpreted as resulting from an exacerbation of asthma. Medical treatment focused only on asthma may thus lead to overuse of asthma medications and increased hospitalizations. The author describes a case that illustrates how a systemic steroid dependent patient with asthma benefitted from receiving care from a pediatric pulmonologist who also was well versed in the diagnosis and treatment of anxiety. By using self-hypnosis, the patient was able to reduce her dependence on bronchodilators. Following modification of her medical therapy, under supervision of the pulmonologist, and regular use of hypnosis, the patient ultimately was weaned off her systemic steroid therapy. In conclusion this report emphasizes that anxiety must be considered as a comorbid condition in the treatment of asthma. Self-hypnosis can be a useful skill in the treatment of a patient with anxiety and asthma. Address for reprints: Dr. R. D. Anbar, Department of Pediatrics, State University of New York Upstate Medical University, 750 E, Adams St., Syracuse, NY 13210, USA. E-mail: Anbarr@mail.upstate.edu.

Barnier, A. J., & McConkey, K. M. (2003). Hypnosis, human nature, and complexity: Integrating neuroscience approaches into hypnosis research. International Journal of Clinical & Experimental Hypnosis, 51(3), 282-308. This article looks at ways that neuroscience approaches may be integrated into hypnosis research to continue and enhance the contribution of hypnosis to understanding normal and abnormal behavior and experience, as well as to reveal more about the nature of hypnosis itself. The authors review influences on and advances in hypnosis research in the past century, illustrate the value of hypnosis in investigating psychological phenomena, and identify elements for the successful integration of neuroscience approaches into hypnosis research. They believe that hypnosis research offers powerful techniques for isolating psychological processes in ways that will allow their neural bases to be mapped. Successful integration will be achieved, they believe, when researchers add levels of explanation, rather than shift the emphasis from one level or feature to another. Address for reprints: Amanda J. Barnier, Ph.D., School of Psychology, University of New South Wales, Sydney, NSW 2052, Australia. E-mail: A.Barnier@unsw.edu.au.
Cox, R. E., & Barnier, A. J. (2003). Post-hypnotic amnesia for a first romantic relationship: Forgetting the entire relationship versus forgetting selected events. *Memory, 11*(3), 307-318. This study investigated the impact of suggestion focus on post-hypnotic amnesia (PHA) for memories of a first romantic relationship. During hypnosis, high and low hypnotizable subjects recalled specific memories from this period in response to 10 cue phrases (elicitation). They then were given a PHA suggestion that targeted either the entire period or specific memories from that period. Subjects’ explicit memory was indexed by cued recall after PHA was administered (memories recalled to “old” and “new” cues; Recall 1) and after it was cancelled (Recall 2). A social judgement task was used to index dissociations between implicit and explicit memory. PHA had the greatest impact on high hypnotizables’, but not low hypnotizables’, memory performance (in terms of memories recalled to old cues, recall latency, and qualitative memory ratings) when the suggestion targeted the entire period rather than specific events. These findings are discussed in terms of the parameters of PHA’s influence on memory, its value for exploring the nature and structure of autobiographical memory, and its utility as a laboratory analogue of functional amnesia. Address for reprints: E. E. Cox, School of Psychology, University of New South Wales, Sydney, NSW 2052, Australia.

Cyna, A. M., & Andrew, M. I. (2003). Induction of labor using switchbox imagery during hypnosis. *Australian Journal of Clinical & Experimental Hypnosis, 31*(1), 74-87. This is a report of seven consecutive cases of the attempted induction of labor using hypnosis with imagery of a switchbox. All seven patients had an unfavorable cervix for labor and medical indications for delivery. During hypnosis, the women independently experienced, unprompted, similar colors when looking for the switch to turn on their labor. Red to green color changes were experienced by five women. Two patients experienced visual hallucinations of these images during the hours preceding childbirth. The patients who did not see a color change experienced a uterine contraction or an increase in the strength and frequency of contractions during or immediately after hypnosis. The authors expressed the belief that hypnosis contributed to the establishment of labor in two patients and early labor in another. Hypnosis may have made a useful contribution to the successful outcomes in two other women who may have had labor accelerated after a limited response to prostaglandin vaginal pessaries. No address available for reprints.

De Benedittis, G. (2003). Understanding the multidimensional mechanisms of hypnotic analgesia. *Contemporary Hypnosis, 20*(2), 59-80. Pain is a multidimensional sensory experience involving a three factorial model: sensory-discriminative, motivational-affective, and cognitive. Each dimension is subserved by discrete neuroanatomical pathways and is apparently coded at different levels and sites of the central nervous system. Evidence shows that hypnosis can be effective in the down-modulation of pain sensation in acute and chronic pain. In acute pain, hypnotic analgesia effects are specific, positively correlated with hypnotic responsiveness, and unrelated to endogenous opioid mechanisms. Neural mechanisms underlying hypnotic states and responses to suggestions for analgesia remain largely unknown. On a psychophysiologic basis, Hilgard’s neo-dissociation theory provided an heuristic framework to explain some
aspects and apparent paradoxes of hypnotic analgesia. Recent neurophysiological research has shed some light on the mystery of pain relief in hypnosis. It seems that hypnotic suggestions for analgesia may modulate pain processing at multiple levels and sites in the central nervous system. Peripherally, hypnosis may modulate nociceptive input by down-regulating A delta and C fibers stimulation and reducing sympathetic arousal. At a spinal level, hypnotic analgesia has been shown to be linearly related to a reduction of the nociceptive flexion (RIII) reflex, a polysynaptic spinal reflex. At a supraspinal cortical level, studies have shown that hypnotic analgesia can modulate directly both sensory and affective dimensions of pain perception (the affective being reduced significantly more than the sensory), thus confirming, at least in part, the neo-dissociative theory. Further, highly hypnotizable subjects possess stronger attentional filtering abilities than do low hypnotizable subjects. This greater cognitive flexibility may result in better focusing and diverting of attention from the nociceptive stimulus as well as better ignoring irrelevant stimuli in the environment. Cognitive control processes are associated with a “supervisory attentional system,” involving the fronto-temporal limbic cortices. Multiple, hierarchical pain control systems during suggestions for hypnotic analgesia provide a new description of the neurobiological basis of this phenomenon, demonstrating specific patterns of central and peripheral activation associated with the hypnotic state and with the processing of hypnotic suggestions.

Address for reprints: Giuseppe De Benedittis, Pain Research & Treatment Unit, Institute of Neurosurgery, University of Milan, Policlinico 35, Via F. Sforza, 20121 Milan, Italy. E-mail: g.debenedittis@planet.it.

Evans, B. J. (2003). Hypnosis for post-traumatic stress disorder. Australian Journal of Clinical & Experimental Hypnosis, 31(1), 71-90. Describes clinical and research literature about PTSD and acute stress disorders. The relevance of hypnosis as an adjunct to treatment is discussed, concentrating on evidence for the above average hypnotizability of many PTSD patients. Detailed suggestions are then offered, including many ideas from David Spiegel, for the use of hypnosis in PTSD treatment. Address for reprints: Barry Evans, Ph.D., University of Melbourne, CPM Services, P.O. Box 188, Heidelberg, Vic 3084, Australia.

Faymonville, M. E., Roediger, L., Del Fiore, G., Delgueldre, C., Phillips C., Lamy, M., Luxen, A., Maquet, P., & Laureys, S. (2003). Increased cerebral functional connectivity underlying the antinociceptive effects of hypnosis. Brain Research & Cognitive Brain Research, 17(2), 255-262. The neural mechanisms underlying the antinociceptive effects of hypnosis are not well understood. Using positron emission tomography (PET), the authors recently showed that the activity in the anterior cingulate cortex (mid-cingulate area 24a’) covaries with the hypnosis-induced reduction of affective and sensory responses to noxious thermal stimulation (Faymonville et al. [2000], Anesthesiology, 92, 1257-1267). In the present study, this group assessed changes in cerebral functional connectivity related to the hypnotic state, compared to simple distraction and the alert resting state. Nineteen highly hypnotizable right-handed volunteers were studied using H(2)(15)O-PET. The experimental conditions were hot noxious or warm non-noxious stimulation of the right hand during the resting state, mental imagery, and hypnotic state. Using a psychophysiological interaction analysis, they identified the brain areas
that would respond to noxious stimulations under the modulatory action of the mid-cingulate cortex in, and only in, the hypnotic state. Hypnosis, compared to the resting state, reduced pain perception by 50%. Pain perception during rest and mental imagery was not significantly different. Analysis of the PET data showed that the hypnotic state, compared to normal alertness (i.e., rest and mental imagery), significantly enhanced the functional modulation between mid-cingulate cortex and a large neural network encompassing the bilateral insula, pregenual anterior cingulate cortex, pre-supplementary motor area, right pre-frontal cortex and striatum, thalamus and brainstem. These findings point to a critical role for the mid-cingulate cortex in the modulation of a large cortical and subcortical network underlying its influence on sensory, affective, cognitive and behavioral aspects of nociception, in the specific context of hypnosis.

Address for reprints: M. E. Faymonville, Dept. of Anesthesiology and Intensive Care Medicine, CHU Sart Tilman, University of Liege, 4000, Liege, Belgium.

Gurgevich, S. (2003). Clinical hypnosis and surgery. Alternative Medicine Alert, 6(10), 109-120. This is a nice summary article that briefly summarizes hypnosis literature on the subject, reviewing evidence about hypnosis and surgery, including pain, nausea, and vomiting, blood loss, wound healing, and pediatric surgical applications. Information about the cost effectiveness of hypnosis for surgery is provided, along with cautions about lay hypnotists and how to find qualified hypnosis professionals. This would be a good literature review article to provide either to patients or to health care professionals. Address for reprints: E-mail: DrSteve@tranceformation.com.

Kandyba, K., & Binik, Y. M. (2003). Hypnotherapy as a treatment for vulvar vestibulitis syndrome: A case report. Journal of Sex & Marital Therapy, 29(3), 237-242. The effectiveness of hypnotherapy in alleviating pain has been demonstrated with several disorders and diseases involving both acute and chronic pain. Although hypnosis has been suggested as treatment for dyspareunia resulting from vulvar vestibulitis syndrome (VVS), empirical data and case reports showing its effectiveness have been lacking. This paper presents a case report on the use of hypnotherapy to treat a 26-year-old woman suffering from VVS. Psychotherapy consisted of 12 sessions, of which eight utilized hypnosis. The goal of hypnosis was to help the client decrease her anticipatory anxiety, create a positive association of pleasure with intercourse, and to provide a sense of control over her pain. Despite having persistent pain with intercourse for three years with several partners, she experienced no further pain following treatment, and remained pain free at a 12-month follow-up. Address for reprints: K. Kandyba, Dept. of Psychology, Concordia University, Montreal, Quebec, Canada. E-mail: kandyba@vax2.concordia.ca.

Kihlstrom, J. F. (2003). The fox, the hedgehog, and hypnosis. International Journal of Clinical & Experimental Hypnosis, 51(2), 166-189. A theoretical article in which the author encourages support for diverse theoretical viewpoints, emphasizing a multidimensional theoretical conceptualization of hypnosis, rather than a unidimensional focus. Address for reprints: John F. Kihlstrom, Dept. of Psychology, MC 1650, University of California, Berkeley, 3210 Tolman Hall, Berkeley, CA 94720-1650, USA. E-mail: kihlstrm@socrates.berkeley.edu.
Killeen, P. R., & Mash, M. R. (2003). The four causes of hypnosis. *International Journal of Clinical & Experimental Hypnosis, 51*(3), 195-231. This is a theoretical article hypothesizing efficient causes (triggers), material causes (substrate), formal causes (models of structure), and a final cause (function) of hypnotic response. Address for reprints: Peter Killeen, Dept. of Psychology, Box 1104, McAllister St., Arizona State University, Tempe, AZ 85287-1104, USA.

Liossi, C. (2003). Using hypnosis in the paediatric oncology setting. *Australian Journal of Clinical & Experimental Hypnosis, 31*(1), 32-40. One of the best-documented uses of hypnosis with children is in the treatment of cancer in managing chemotherapy-related nausea and vomiting, and for procedure-related pain where it has achieved the status of an empirically supported intervention. This paper reviews this literature and the author’s clinical experience. No address for reprints.

MacLeod, C. M., & Sheehan, P. W. (2003). Hypnotic control of attention in the Stroop task: A historical footnote. *Consciousness & Cognition, 12*(3), 347-353. Raz, Shapiro, Fan, and Posner (2002) recently provided a compelling demonstration of enhanced attentional control under post-hypnotic suggestion. Using the classic color-word interference paradigm, in which the task is to ignore a word and to name the color in which it is printed (e.g., RED in green, say “green”), they gave a post-hypnotic suggestion to subjects that they would be unable to read. This eliminated Stroop interference in high suggestibility participants but did not alter interference in low suggestibility participants. The authors replicated this pattern and further demonstrated that it is not due to a visual strategy (such as blurring or looking at a different location), as sociocognitive theorists would suggest. As a historical footnote, they described a “case study” from 18 years ago in which they observed the same result using a hypnotic instruction with a single highly suggestible individual in which they suggested that he could not read. The elimination of Stroop interference has important implications for both the study of attention and the study of hypnosis. Address for reprints: C. M. MacLeod, Dept. of Life Sciences, University of Toronto at Scarborough, 1265 Military Trail, M1C 1A4, Scarborough, Ontario, Canada.

Milling, L. S., & Breen, A. (2003). Mediation and moderation of hypnotic and cognitive-behavioural pain reduction. *Contemporary Hypnosis, 20*(2), 81-97. The moderator function of hypnotic and non-hypnotic imaginative suggestibility and the mediator function of response expectancies were evaluated in the analogue treatment of pain. A total of 167 subjects were assessed for hypnotic and imaginative suggestibility and randomly assigned to distraction, cognitive-behavioral package (i.e., stress inoculation training), hypnotic cognitive-behavioral package, hypnotic analgesia suggestion, placebo control, or no-treatment control conditions. The four “active” treatments were found to reduce pain more than the no-treatment control condition. There were no statistically significant differences between the four treatments, but only the cognitive-behavioral package reduced pain more than placebo. Response expectancies were found to partially mediate the effects of treatment on pain. Imaginative suggestibility, which they defined as a generalized tendency to respond to imaginative suggestions given non-hypnotically, moderated the effects of the cognitive-behavioral condition. Contrary
to prediction, neither hypnotizability (which they uniquely defined as hypnotic suggestibility with imaginative suggestibility statistically controlled), nor hypnotic suggestibility moderated the effects of the hypnotic treatments. Address for reprints: Leonard S. Milling, Ph.D., University of Hartford, Dept. of Psychology, 200 Bloomfield Ave, West Hartford, CT 06117, USA. E-mail: milling@mail.hartford.edu.

Milling, L. S., Levine, M. R., & Meunier, S. A. (2003). Hypnotic enhancement of cognitive-behavioral interventions for pain: an analogue treatment study. Health Psychology, 22(4), 406-413. Recent meta-analyses have shown that adding hypnosis enhances the effectiveness of cognitive-behavioral psychotherapy. This hypnotic enhancement effect was evaluated in the present study in the analogue treatment of pain. Subjects scoring in the high (n = 135) and low (n = 150) ranges of hypnotic suggestibility were randomly assigned to one of six conditions: Stress Inoculation Training, the same treatment provided hypnotically, non-hypnotic analgesia suggestions, hypnotic analgesia suggestions, an hypnotic induction treatment, or a control condition. The five analogue treatments reduced experimental pain more than the control condition, but they were not different from one another. Under circumstances optimized to detect an enhancement effect, neither Stress Inoculation Training nor analgesia suggestions produced more relief when delivered in a hypnotic context than identical treatments provided non-hypnotically. Address for reprints: Leonard S. Milling, Ph.D., Dept. of Psychology, 200 Bloomfield Ave., University of Hartford, West Hartford, CT 06117, USA. E-mail: milling@mail.hartford.edu.

Munte, S., Munte, T. F., Grotkamp, J., Haeseler, G., Raymondos, K., Piepenbrock, S., & Kraus, G. (2003). Implicit memory varies as a function of hypnotic electroencephalogram stage in surgical patients. Anesthesia & Analgesia, 97(1), 132-138. This article will be valuable to people interested in the hearing under anesthesia literature. Previous studies (summarized in Brown, Scheflin, & Hammond, Memory Trauma Treatment, and the Law) have noted a correlation of implicit memory with certain electroencephalogram (EEG) measures during anesthesia. In this study, the authors tested the relationship between chemical anesthesia depth as measured by the EEG and implicit memory in anesthetized patients, assessed by a postoperative reading speed test. Thirty-two patients undergoing laparoscopic herniotomy and 30 age-matched volunteer controls were studied. All patients received IV midazolam 2-3 mg followed by an induction dose of propofol and remifentanil. The anesthesia was maintained with propofol and remifentanil infusions and cisatracurium. Each patient was exposed to two of four stories, repeated six times. The first story was presented during light to moderate anesthesia EEG stages, and the second story was presented during deep anesthesia (which they refer to as “hypnosis”). Presentation of stories was balanced between patients and “hypnotic” (anesthesia) stages. The controls listened to the two stories without receiving anesthesia. The reading speed for the previously presented stories and two new stories was measured approximately 7 hours later with a computer program. No signs of inadequate anesthesia were observed, and no explicit memories of intra-operative events were revealed by a structured interview. No change of reading speed was observed for words presented during deep anesthetic stages. In contrast, an increased reading speed of 20 ms per word was found for content words (i.e., nouns,
verbs, and adjectives), but not for function words (conjunctions, prepositions, and so on), presented during light to moderate stages of anesthesia. Increased reading speed for semantically rich content words indicates that anesthetized patients are able to process acoustic information during light and moderate, but not deep anesthesia. In summary, in this study, implicit memory was observed during general anesthesia at light to moderate, but not deep stages. Anesthesia stages were determined by a commercial electroencephalogram device, and implicit memory was measured by using a postoperative reading speed task. It was concluded that during light to moderate phases of anesthesia, patients should be protected against acoustic information that could negatively influence their postoperative outcome. Naturally, we would add that this is an important time to be offering positive therapeutic suggestions. Address for reprints: Dr. S. Munte, Department of Anaesthesiology, Medical School of Hannover, Hannover, Germany. E-mail: Muente.Sinikka@MH-Hannover.de

Neuschatz, J. S., Lynn, S. J., Benoit, G. E., & Fite, R. (2003). Hypnosis and memory illusions: An investigation using the Deese/Roediger and McDermott paradigm. *Imagination, Cognition, & Personality, 22*(1), 3-12. The authors used the Deese/Roediger and McDermott paradigm to examine the effect of hypnosis on memory. The study yielded a high rate of false recognition (> .70), regardless of whether participants were hypnotized or not. Both non-hypnotized and hypnotized subjects reported high false recognition rates and were very confident in their remembrances, independent of their recognition accuracy and of their level of hypnotic susceptibility (medium vs. high). This confirms other research summarized in Brown, Scheflin, and Hammond (1998) which shows that hypnosis does not appear to impair memory accuracy or artificially inflate confidence. Address for reprints: Steven Jay Lynn, Ph.D., Psychology Dept., State University of New York at Binghamton, Binghamton, N.Y. 13905, USA. E-mail: slynn@binghamton.edu.

Olness, K. (2003). Integrating biofeedback into pediatric hypnotherapy. *Hypnos, 30*(2), 85-89. Recent articles and meta-analyses demonstrate confusion among health care professionals about biofeedback and hypnosis. Reviews of recent articles describe biofeedback protocols that have included within them hypnotic inductions and “relaxation” which include hypnosis and biofeedback. In therapeutic interviews described as either hypnosis or biofeedback, the patient must change mental imagery to achieve the desired state or physiologic change. If the therapists monitors physiologic measures while coaching a patient through a self-hypnotic exercise, invariably there will be changes in measures (e.g., increased peripheral temperature, decreased pulse rate). Regardless of the confusion, the benefit of adding physiologic monitoring (biofeedback) to hypnosis is the enhancement of a sense of personal control and competency. Children recognize that by changing their thinking, they can impact body processes. This makes the experience more concrete and provides trance ratification and gives a child increased confidence about achieving the desired therapeutic outcome. Address for reprints: Karen Olness, M.D., 11100 Euclid Ave., MS 6038, Cleveland, OH 44106, USA. E-mail: kno@po.cwru.edu.
Patterson, D. R., & Jensen, M. P. (2003). Hypnosis and clinical pain. Psychological Bulletin, 129(4), 495-521. Hypnosis has been demonstrated to reduce analogue pain, and studies on the mechanisms of laboratory pain reduction have provided useful applications to clinical populations. Studies showing central nervous system activity during hypnotic procedures offer preliminary information concerning possible physiological mechanisms of hypnotic analgesia. Randomized controlled studies with clinical populations indicate that hypnosis has a reliable and significant impact on acute procedural pain and chronic pain conditions. Methodological issues of this body of research are discussed, as are methods to better integrate hypnosis into comprehensive pain treatment. Address for reprints: David R. Patterson, Ph.D., Dept. of Rehabilitation Medicine, University of Washington School of Medicine, Seattle, WA 98104, USA. E-mail: davepatt@u.washington.edu.

Rainville, P., & Price, D. D. (2003). Hypnosis phenomenology and the neurobiology of consciousness. International Journal of Clinical & Experimental Hypnosis, 51(2), 105-129. The authors present a model of consciousness phenomenology to demonstrate that the experiential dimensions characterizing hypnosis (relaxation and mental ease, absorption, orientation and monitoring, and self-agency) reflect basic phenomenal properties of consciousness. This excellent paper summarizes changes in the brain associated with relaxation-mental ease and absorption produced in hypnosis. These areas are critically involved in the basic representation of the body-self and the regulation of states of consciousness. The combination of modern brain imaging and experiential methods offers a unique perspective on hypnotic phenomena and provides new observations that are consistent with the position that hypnosis is an altered state of consciousness and not simply associated with sociocognitive variables. Address for reprints: Dr. Pierre Rainville, Department de Stomatologie, Faculte de Medecine Dentaire, Universite de Montreal, CP 6128, Succ. Centre-ville, Montreal, Quebec, Canada H3C 3J7. E-mail: pierre.rainville@umontreal.ca.

Ray, W. J., & De Pascalis, V. (2003). Temporal aspects of hypnotic processes. International Journal of Clinical & Experimental Hypnosis, 51(2), 147-165. The cortical processes underlying the hypnotic process are discussed, particularly those related to the temporal appearance of specific EEG waveforms in relation to pain. The non-hypnotic pain research suggests, in terms of temporal processing, that the early EEG components are more sensory in nature, while the later components are of a more emotional or evaluative nature. The authors report that the influence of hypnosis is less on the EEG components associated with the initial sensory experience and more on the later components that carry with them rich cognitive-emotional information. Their research review clearly suggests an inhibitory process for high hypnotizable persons associated with hypnotic analgesia. Address for reprints: Dr. William J. Ray, Dept. of Psychology, Pennsylvania State University, University Park, PA 16802, USA. E-mail: wjr@psu.edu.

imaging technology that is available for use in hypnosis research. Address for reprints: Dr. William J. Ray, Dept. of Psychology, Pennsylvania State University, University Park, PA 16802, USA. E-mail: wjray@psu.edu.

Ray, W. J., & Tucker, D. M. (2003). Evolutionary approaches to understanding the hypnotic experience. International Journal of Clinical & Experimental Hypnosis, 51(3), 256-281. The authors examine hypnosis from an evolutionary perspective, viewing hypnosis in terms of an action pattern that represents a self-contained behavioral program, although one that is not as rigid as seen in lower organisms. They hypothesize that such a program develops within the context of a long developmental sequence emphasizing social connections, imitation of significant figures, and the use of linguistic symbols to regulate both external and internal processes and actions. The authors speculate about the involvement of the cingulate cortex in facilitating hypnosis the experience of autonomous actions or analgesia. They note that hypnotizability is associated with the ability to reduce pain experience, modulate the immune system, and achieve greater benefits of psychosocial therapies as a functional significance of the hypnotic experience. Address for reprints: Dr. William J. Ray, Dept. of Psychology, Pennsylvania State University, University Park, PA 16802, USA. E-mail: wjray@psu.edu.

Raz, A., Landzberge, K. S., Schweizera, H. R., Zephania, Z. R., Shapirod, T., Fand, J., & Posnerd, M. I. (2003). Post-hypnotic suggestion and the modulation of Stroop interference under cycloplegia. Consciousness and Cognition, 12(3), 332-346. Recent data indicate that under a specific post-hypnotic suggestion to circumvent reading, highly hypnotizable subjects successfully eliminated the Stroop interference effect. This study examined whether an optical explanation (e.g., visual blurring or looking away) could account for this finding. Using cyclopentolate hydrochloride eye drops to pharmacologically prevent visual accommodation in all the subjects, behavioral Stroop data were collected from six highly hypnotizables and six less hypnotizables using an optical setup that guaranteed either sharply focused or blurred vision. The high hypnotizables performed the Stroop task when naturally vigilant, under post-hypnotic suggestion not to read, and while visually blurred, while the lower hypnotizables ran naturally vigilant, while looking away, and while visually blurred. Although visual accommodation was precluded for all subjects, posthypnotic suggestion effectively eliminated Stroop interference and was comparable to looking away in controls. These data strengthen the view that Stroop interference is neither robust nor inevitable and support the hypothesis that posthypnotic suggestion may exert a top-down influence on neural processing. Address for reprints: Dr. Amir Raz, Dept. of Psychiatry, Weill Medical College of Cornell University, White Plains, NY 10605, USA. E-mail: amr2006@med.cornell.edu.

Smith C.A., Collins C.T., Cyna A.M., & Crowther C.A. (2003). Complementary and alternative therapies for pain management in labour. Cochrane Database Systematic Reviews, 2003(2), CD003521. Many women would like to avoid pharmacological or invasive methods of pain management in labor and delivery, and this may contribute to the popularity of complementary methods of pain management. This review examined currently available evidence supporting the use of alternative and complementary
therapies for pain management in obstetrical labor. The authors searched the Cochrane Pregnancy and Childbirth Group trials register (July 2002), the Cochrane Controlled Trials Register (The Cochrane Library Issue 2, 2002), MEDLINE (1966 to July 2002), EMBASE (1980 to July 2002) and CINAHL (1980 to July 2002). The inclusion criteria included published and unpublished randomized controlled trials comparing complementary and alternative therapies with placebo, no treatment, or pharmacological forms of pain management in obstetrics. All women in the first and second stage of labor, whether primiparous or multiparous, and in spontaneous or induced labor, were included. A meta-analysis was performed using relative risks for dichotomous outcomes and weighted mean differences for continuous outcomes. The outcome measures were maternal satisfaction, use of pharmacological pain relief, and maternal and neonatal adverse outcomes. Seven trials involving 366 women and using different modalities of pain management were included in the review. The trials included one involving acupuncture (n = 100), one involving audio-analgesia (n = 25), one involving aromatherapy (n = 22), three trials of hypnosis (n = 189) and one trial of music (n = 30). The trial of acupuncture decreased the need for pain relief (relative risk [RR] 0.56, 95% confidence interval (CI) 0.39 to 0.81). Women receiving hypnosis were more satisfied with their pain management in labor compared with controls (RR 2.33, 95% CI 1.55 to 4.71). No differences were seen for women receiving aromatherapy, music or audio analgesia. It was concluded that acupuncture and hypnosis may be beneficial for the management of pain during labor. However, few complementary therapies have been subjected to proper scientific study and the number of women studied is small. Address for reprints: Dr. Caroline A. Smith, Dept. of Obstetrics and Gynaecology, The University of Adelaide, Women’s and Children’s Hospital, 72 King William Road, North Adelaide, Australia. E-mail: caroline.anne.smith@adelaide.edu.au.

Spiegel, D. (2003). Negative and positive visual hypnotic hallucinations: Attending inside and out. International Journal of Clinical & Experimental Hypnosis, 51(2), 130-146. Perceptual alterations in hypnosis affect brain function. For example, those hypnotic suggestions that reduce perception by creating an illusory obstruction to it reduce brain response to perception in the cognate sensory cortex, as measured by event-related potential (ERP) amplitude and regional blood flow on PET scans. Hypnotic suggestions that affect the subject’s reaction to perception activate the anterior attentional system, especially the anterior cingulate cortex. Hypnosis involves activation without arousal and it is suggested that it may particularly be mediated via dopaminergic pathways. Hypnotic alteration of perception has been found to be accompanied by measurable changes in both perceptual and attentional function in those specific regions of the brain that process these activities, modulated by the nature of the specific hypnotic instruction. “Positive obstructive hallucinations seem to allow for a hypnotic focus inward, activating the functioning of attentional neural systems and reducing perceptual ones” (p. 130). David Spiegel, M.D., Stanford University, School of Medicine, 401 Quarry Rd., Stanford, CA 94305-5718, USA. E-mail: dspiegel@leland.stanford.edu.

(cue-controlled relaxation and desensitization in which the patient reframed her fears and transformed fear-related images into something benign) as an adjunct in phobia treatment. The patient experienced these interventions as having a real quality and they were successful in reducing her longstanding fear of the wind to a normal level within 3 sessions. Improvement was maintained at 18-month follow-up. The outcome was discussed in relation to virtual reality approaches to phobia treatment and how hypnosis may facilitate cognitive behavioral techniques. Address for reprints: Dr. David Oakley, Hypnosis Unit, Department of Psychology (Remax House), University College London, Gower Street, London WC3E 6BT, United Kingdom.

Woody, E. Z., & McConkey, K. M. (2003). What we don’t know about the brain and hypnosis, but need to: A view from the Buckhorn Inn. International Journal of Clinical & Experimental Hypnosis, 51(3), 309-338. The authors point the field toward a new generation of research that can successfully coordinate multiple methods of inquiry and effectively connect psychological with biological understanding. They look at issues concerning hypnotic susceptibility as a trait, hypnosis as a state, and the psychological processes underlying hypnotic responses. They suggest ways in which some old questions can and need to be asked in some new ways. They illustrate how to move toward a neuropsychological understanding of hypnosis by describing the classic suggestion effect, and they consider possible psychological mechanisms to explain this effect. It is argued that the neuroscience of hypnosis needs to build on a sound psychological foundation and add to, rather than replace existing levels of analysis. Address for reprints: Dr. Erik Z. Woody, Dept. of Psychology, University of Waterloo, Waterloo, Ontario, Canada N2L 3G1. E-mail: ewoody@uwaterloo.ca.

Woody, E. Z., & Szechtman, H. (2003). How can brain activity and hypnosis inform each other? International Journal of Clinical & Experimental Hypnosis, 51(3), 232-255. The authors apply Teitelbaum’s conception of the method of physiological psychology as interlocking stages of analysis and synthesis to examine studies of brain function and how they can advance our understanding of hypnosis. They examine animal analogues of hypnosis, studies of brain injury as a window on the mechanisms underlying hypnosis, brain imaging studies of hypnosis, and the potential for developmental and comparative approaches to hypnosis as allies to psychophysiological approaches. It is concluded that hypnosis is a powerful technique for studying brain mechanisms involved in conscious experience and that the brain mechanisms may shed new light on longstanding theoretical debates about hypnosis. The authors raise stimulating questions to be addressed by future research. Address for reprints: Dr. Erik Z. Woody, Dept. of Psychology, University of Waterloo, Waterloo, Ontario, Canada N2L 3G1. E-mail: ewoody@uwaterloo.ca.