

AUTHOR'S REPLY

THE ESSENCE AND MECHANISM OF SUPERB HYPNOTIC PERFORMANCES

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In the target paper I have argued that superb hypnotic performances are associated with three special types of subject: the fantasy-prone, the amnesia-prone and the positively set. The unique characteristics of each of these three types that give rise to their different 'response styles' (ways of responding to suggestions) are clarified and reconceptualized in this Reply in light of the discussion comments and criticisms of 14 hypnosis experts. In what follows I underline my view that the essence and mechanism of superb hypnotic performances are related to the three different ways responsive subjects allow the suggested ideas to become their thoughts.

The most fundamental, agreed-on fact that pervades all the histories of hypnotism (and its predecessor, mesmerism or animal magnetism) is that a small number of people are 'really good' hypnotic subjects who seem to shift to a state of consciousness associated with marked responsiveness to certain kinds of suggestions (Binet and Féré, 1888; Bernheim, 1891/1980; Podmore, 1907/1963; Janet, 1925; Shor and Orne, 1965; Ellenberger, 1970; Tinterow, 1970; Edmonston, 1986; Laurence and Perry, 1988; Gauld, 1992; Crabtree, 1993). These highly susceptible, hypnotizable subjects catalysed the dramatic history of hypnotism during the past 200 years by convincingly demonstrating to a sufficient number of hard-headed researchers that they actually experienced suggested hallucinations, anaesthesias, negative hallucinations, limb/body rigidity, automatic movements, age regression, compulsive post-hypnotic behaviour, and post-hypnotic amnesia.

A major task for theories of hypnosis is to explain why only a certain few individuals are 'really good' hypnotic subjects who apparently shift into a state of consciousness that is conducive to responding dramatically to difficult suggestions. Recent hypnosis research has provided a new and quite convincing solution to this basic hypnosis conundrum. The evidence now available indicates that highly responsive hypnotic subjects, or 'highs', can be divided into three distinct subgroups. One subgroup is composed of fantasy-prone individuals who experience the traditional hypnotic phenomena by utilizing their talent for realistic fantasizing plus three associated talents (psychosomatic plasticity, vivid early memories and vivid sensory experiences). The second subgroup of 'highs' consists of individuals who are not fantasy-prone but who are instead amnesia-prone; these subjects are able to profoundly experience the traditional hypnotic phenomena by using their special talents (for example, for mentally separating and compartmentalizing particular memories, thoughts and perceptions). These two kinds of 'highs' merit the name 'hypnotic virtuosos' because they utilize special 'skills' or 'talents' (related either to their fantasizing skills or to their skills for mentally compartmentalizing) to respond dramatically to hypnotic induction

procedures and to virtually all of the traditional (hypnotic) suggestions. Intermixed with these two kinds of hypnotic virtuosos is a third subgroup of very good hypnotic subjects who obtain very high scores on the standardized (Stanford, Harvard, Barber) susceptibility or suggestibility scales. This third group of 'highs', which is neither fantasy-prone nor amnesia-prone, is characterized by a strong positive set towards the hypnosuggestive situation. These positively set 'highs' want to be hypnotized; want to experience an altered state of consciousness and suggested hypnotic phenomena; believe they can benefit in some way from hypnosis; have positive attitudes, beliefs and expectations about hypnosis and hypnosuggestions; trust the hypnotist; and attend to, think with and imagine the ideas that are suggested to the best of their ability while 'letting go' of contrary and interfering thoughts. Although these positively set subjects are typically not as dramatic in their hypnotic behaviour as the fantasy-prone or the amnesia-prone subjects, they score very high on the standardized scales and they experience the suggested phenomena in their own way.

The main thrust of my target chapter was to present evidence for three types of 'highs' in order to convince my colleagues to shift from the traditional unidimensional hypnosis paradigm, which does not differentiate among highly responsive subjects, to a three-dimensional paradigm, which sees at least three types of 'highs' who experience hypnosis and the hypnotic phenomena in three qualitatively different ways. I was pleased that all 14 of the hypnosis experts who discussed my proposal in this issue of *Contemporary Hypnosis* accept or are ready to accept the existence and importance of both the fantasy-prone virtuoso and the positively set 'high', and that 12 of the 14 experts accept or are ready to accept the existence and importance of the amnesia-prone virtuoso.

Taking account of the 14 expert critiques, let us look again at each of the three proposed types of 'highs' to ascertain how their delineation and acceptance by the hypnosis research community will drastically change everything pertaining to our understanding of the realm of hypnosis, including how the basic terms are conceptualized and what kinds of questions inspire further research.

The fantasy-prone virtuoso

Since the 14 expert discussants are representative of the larger community of hypnosis investigators, their general agreement, that a subgroup of hypnotic virtuosos use their well-developed fantasy ability to experience hypnotic phenomena, has important implications. First, it implies that the fantasy-prone virtuosos, who were originally discovered about 20 years ago (Wilson and Barber, 1981, 1983) and were confirmed and further specified in three subsequent research projects (Myers, 1983; Myers and Austrin, 1985; Lynn and Rhue, 1986, 1988; Barrett, 1990, 1996) should henceforth play a much more important role in hypnosis research and theory. It seems odd that although fantasy-prone hypnotic virtuosos have been well known for two decades, they have been neglected in theories of hypnosis. A recent example is Kirsch and Lynn's (1995) presentation of the hypnosis 'theoretical landscape' in which they do not mention people who are fantasy-prone hypnotic virtuosos. Instead, they mention just a 'construct of fantasy proneness' which, they say, is 'virtually identical' to 'the constructs of absorption and imaginative involvement' (p.850). I will now attempt to clarify this confusion between 'the construct of fantasy proneness' and the person of the fantasy-prone hypnotic virtuoso by specifying 'what makes this person

tick' and how this kind of person, when considered as a living being instead of just as a theoretical construct, can significantly enhance our understanding of hypnosis and hypnotic phenomena.

There is converging agreement in the four sets of pertinent investigations that fantasy-prone hypnotic virtuosos have at least a dozen characteristics in common. They have secretly spent much or most of their time since early childhood fantasizing or daydreaming vividly and realistically. Their description of their childhood emphasizes animated dolls and stuffed animals, many types of pretend games, and a make-believe world of 'real as real' (imaginary) playmates, guardian angels and other such beings. Now, as adults, they continue to have a vivid, secret, fantasy-life and they still tend to believe in angels and other kinds of spirit beings.

In addition to their 'fantasy talent', they have several associated 'talents' that also assist in catalysing their high hypnotic responsiveness. These include a 'talent' for remembering early childhood experiences; a 'talent' for physiological reactivity or psychosomatic plasticity; a 'talent' for vivid sensory experiences; and a 'talent' for 'psychic' or paranormal experiences (including precognitions and out-of-body experiences).

Although these fantasy-prone individuals enjoy hypnosis and find it 'natural', they do not need a hypnotic induction procedure to respond at a high level to test suggestions. With or without a hypnotic induction, they respond dramatically to the Creative Imagination Scale and to virtually all of the test suggestions on the Stanford and Barber susceptibility or suggestibility scales. Their typical 'hypnotic response style' can be characterized as follows: they experience the traditional Liébeault-Bernheim drowsy-sleepy hypnotic induction by fantasizing that they are in a very relaxing situation; they use their ability for 'real as real' fantasy to experience suggested hallucinations; they 'negatively hallucinate' or 'block out' an object or person that is present by hallucinating something to cover it or hide it; they respond to suggestions for analgesia by imagining they are in a non-painful situation; they use their well-developed fantasy abilities to experience both age progression and past-life regression and, in combination with their talent for recall of early memories, they experience vivid age regression to childhood. Their psychosomatic plasticity together with their fantasy abilities catalyse their responses to suggestions for physiological alterations, for example, production of weals and blisters and involution of warts (Barber, 1984).

To understand the realm of hypnosis at a deeper level, we need a more profound understanding of the fantasy-prone virtuoso. We need to ask and answer questions such as the following:

- What is the range of similarities and differences among fantasy-prone individuals in their life histories, their special experiences, their special talents, and their 'waking' and hypnotic styles of responding to different types of suggestions (ranging from 'Your arm is rising by itself' to 'This is the first day of your fully conscious life and everything is fresh and new and sparkling clear').
- The self-guided fantasies of fantasy-prone individuals have an automatic, non-voluntary aspect; after their thoughts or images trigger the fantasy and set its theme, the fantasy unfolds (like a dream and also like a motion picture) and continues 'on its own' effortlessly, seemingly automatically. Does the same kind of automaticity propel the fantasy-prone virtuoso's hypnosuggestive performance; that is, do the suggestions (given with or without a hypnotic induction) set the themes of dream-like, movie-like fantasies which unfold effortlessly, seemingly automatically, and guide the subject's hypnotic behaviour?

- Is the development of the ability for 'real as real' fantasy catalysed by continually motivated efforts to mentally recreate, re-experience and amplify positive sexual experiences? This hypothesis derives from three kinds of surprising data from Wilson and Barber's (1981, 1983) project that were confirmed in Barrett's (1990, 1996) investigation: (a) All of the fantasy-prone virtuosos who were carefully interviewed stated that their fantasies had exciting sexual content; (b) Three-quarters of the fantasy-prone claimed they were able to attain orgasm solely by sexual fantasizing; (c) Follow-up interviews with fantasy-prone virtuosos indicated that they had typically experienced 'an early awakening of the sexual instinct', had intermittent sexual relations during childhood, and had developed their fantasy talent during the intermittent periods while trying to imaginatively revive the pleasurable sexual experiences.
- Did early sexual experiences also stimulate the development of their other special 'skills' or 'talents'? Was the development of their psychosomatic plasticity or physiological reactivity catalysed by repeated early erotic stimulation of the entire body and by localized sensitization of primary and secondary sexual areas, leading to powerful feelings and emotions and to mind-affecting-body phenomena including orgasm and localized changes in blood flow, muscle tension, glandular secretions and so on? This conjecture, derived from interviews with fantasy-prone virtuosos, resembles Otto Fenichel's hypothesis, derived from psychoanalytic patients, that psychosomatic plasticity requires (a) 'a general erogenicity of the body which makes it possible for every organ and every function to express sexual excitement'; and (b) 'a tendency to turn from reality to fantasy, to replace real sexual objects [persons] by fantasy representations' (Krohn, 1978: 59). Were the other 'talents' of the fantasy-prone – vivid memories of early childhood, sensory sensitivity, psychic or paranormal experiences – also catalysed by early and continual sexual stimulation (as some of our follow-up interviews suggest)?
- Although increasingly realistic sexual fantasizing seems to be the most important catalyst for the development of the fantasy-prone virtuoso, two additional catalysts have been proposed and need to be investigated. A small subgroup of fantasy-prone individuals were apparently stimulated to develop their fantasy talent by their striving to escape mentally from a negative, insecure home environment that commonly included a physically abusive parent or a parent with severe emotional problems. A third small subset of fantasy-prone individuals were apparently encouraged to fantasize, to pretend, and to indulge in make-believe play by parents, grandparents, teachers or other adults.

The best estimate at present is that fantasy-prone virtuosos constitute about 2% of student subjects. There is another subgroup of hypnotic virtuosos, the amnesia-prone, who constitute about 1% of student subjects. Let us now turn to this second category of talented subjects to see how they fared under the criticism of the 14 hypnosis experts and how they affect our understanding of hypnosis.

The amnesia-prone virtuoso

Twelve of the 14 discussants accept or are ready to accept the existence and theoretical importance of the 'amnesia-prone hypnotic virtuoso'. However, Graham Wagstaff and Steven J. Lynn and collaborators disagree, and hypothesize that anyone who acts like an 'amnesia-prone hypnotic virtuoso' is enacting the 'stereotypical and outmoded' role of the somnambule according to his or her expectations of how hypnotized people are supposed to act. We can place Wagstaff and Lynn's objections and

criticisms in a proper context, by first listing the types of evidence we now have for the reality and significance of the amnesia-prone virtuoso.

Using similar stringent criteria as Wilson and Barber (1981, 1983) to pinpoint 'deep trance' subjects or hypnotic virtuosos, Barrett (1990, 1996) found that nearly 2% of her original group of 1200 student subjects met Wilson and Barber's criteria for fantasy-prone virtuosos. Barrett's remaining 'deep trance' subjects or hypnotic virtuosos (about 1% of her original 1200 subjects) were not fantasy-prone but, instead, could be characterized as amnesia-prone since they manifested a variety of macro- and micro-amnesias throughout their lives. Differing drastically from the fantasy-prone virtuosos, the amnesia-prone virtuosos remembered little, if anything, about their childhood before the age of five. They also had scattered amnesias for other periods in their lives, 'lapses' or micro-amnesias in their daily lives, amnesia for their night dreams (and for their few, if any, daydreams), amnesia for immediately preceding memorable occurrences (for example, totally forgetting the contents of an exciting book just read or an enthralling motion picture just seen), amnesia for negative life experiences (such as severe beatings), and amnesia for much or everything that had just occurred during the hypnotic session.

In contrast to the fantasy-prone who were quickly or immediately responsive to suggestions (given with or without a hypnotic induction), the amnesia-prone were gradually affected by the drowsy-sleepy hypnotic induction and after a while seemed entranced, manifesting marked loss of muscle tone, passivity or lethargy, sleep-like appearance and a tendency to fall out of their chairs. During hypnosis, these amnesia-prone individuals were as dramatically responsive to test suggestions as the fantasy-prone individuals, but in their own way, with their own 'hypnotic style'. For instance, in contrast to the typical testimony of fantasy-prone subjects that their (hypnotist-guided) hallucinations differ only in their subject matter or content from their self-guided, realistic fantasies, the amnesia-prone insisted that their (hypnotic) hallucinations (and all their other hypnotic behaviours) were produced by the power of hypnosis or the skill of the hypnotist (not by their own mental processes). The amnesia-prone virtuosos had difficulty speaking during hypnosis. When awakened, they typically seemed confused, struggled to talk, asked 'What happened?', were slow to answer questions, and seemed to have forgotten much or all that occurred during the session.

Barrett's discovery of the hidden amnesia-prone virtuoso filled a lacuna in modern hypnosis research. Using the tools of modern hypnosis investigations – the Stanford and Harvard Scales, the Tellegen Absorption Scale, the Field Inventory of Hypnotic Depth – she isolated in the academic laboratory the unusual type of person (the amnesia-prone somnambule) who had catalysed most of the dramatic events in the 200-year history of hypnotism and mesmerism.

Until the modern (post-1953) surge in hypnosis research, the leading investigators (beginning with Puységur and extending at least through Morton Prince) emphasized that 'true hypnosis' or 'deep hypnosis' is characterized by post-hypnotic amnesia and is found in certain kinds of amnesia-prone people who they typically called hysterics. (Some of our most knowledgeable modern scholar-researchers, such as André Weitzenhoffer and Leon Chertok, also emphasized that true hypnosis is followed by spontaneous amnesia.) When sufficient information is provided about any one of these pre-modern somnambules, they almost always seem to have the same basic characteristics as Barrett's amnesia-prone virtuosos, including several kinds of amnesias

(‘lapses’, blank periods, or micro-amnesias scattered throughout daily life, amnesia for their childhood, amnesia for sleepwalking, spontaneous post-hypnotic amnesia) plus psychosomatic plasticity or unusual physiological reactivity, plus amnesia-oriented ‘psychic’ abilities such as automatic writing and trance mediumship.

If we begin at the beginning with Puységur, we find that both of his noted somnambules, Victor Race and Alexandre Hebert, showed the defining characteristics of the amnesia-prone. For instance, Alexandre Hebert manifested four kinds of amnesia: amnesia for his natural somnambulism or nocturnal sleep-walking, amnesia for his nocturnal sleep-talking, amnesia for his mesmerically induced somnambulism, and amnesia for many seemingly unforgettable events in his life. Similarly, other celebrated somnambules – Despine’s Estelle, Azam’s Félicité X, Liébeault’s Camille, Charcot’s Blanche Wittmann, Janet’s Bertha and Flournoy’s Hélène Smith – were also characterized by dramatic hypnotic responsiveness with spontaneous post-hypnotic amnesia and a variety of macro- and micro-amnesias throughout their lives.

These somnambules, and most of the other somnambules that are described in detail in the hypnosis literature, can be diagnosed as amnesia-prone with the same assurance that we can diagnose Félicité X, who had ‘the memory of large tracts of her life disappear.... She would not [remember] the whereabouts of her husband and her children; she would not [remember] the dog which played at her feet, nor the acquaintance of yesterday. She knew nothing of her household requirements, her business undertakings, her social engagements. Once the relapse came during her return from a funeral, and she had to sit silent and learn gradually from the conversation around her whose [funeral] she had been attending’ (Gauld 1992: 366–7).

Janet (1901/1977) described some of his ‘hysterical somnambules’ (for example, Bertha, Justine, Lucie, Margaret and Maria) in sufficient detail to conclude that they were psychosomatically plastic, highly suggestible, hypnotic virtuosos; they were also amnesia-prone since, for example, they ‘lose, not all their remembrances [memories] acquired during a certain period, but a certain category of remembrances, a certain group of ideas of the same kind, constituting a system. Thus, they will forget what relates to their family or all the ideas relating to [a particular] person. A woman, after confinement, will forget not only the birth of her child, but even the facts connected with it; she might likewise forget the name of her husband and even forget her marriage, while she will remember other facts quite foreign to the birth of her child’ (Janet 1901/1977: 79).

Patients acting like Barrett’s amnesia-prone hypnotic virtuosos and also like 19th-century hysterical somnambules are seen today in psychiatric clinics. Many striking examples were provided in an in-depth investigation (Bliss, 1980, 1984a, b, 1986) of more than 100 psychiatric patients who were superb hypnotic subjects. Although a few of Bliss’ hypnotic virtuosos seem to be fantasy-prone, the great majority were amnesia-prone. In fact, they resembled both Barrett’s amnesia-prone and Janet’s hysterics in (a) their dramatic hypnotic performances (hallucinations, analgesia, amnesia, systematized anaesthesias, compulsive post-hypnotic behaviour, and so on); (b) their amnesia for particular periods in their lives (including much of their childhood); (c) their ‘lapses’, ‘blank periods’ and other micro-amnesias in their daily lives, amnesia for their hypnotic behaviour, and amnesia for behaviours they disowned that could be attributed to an ‘alter ego’ or an ‘alternative personality’. These amnesia-prone patients typically reported that during their daily lives, they at times entered a void-like (not fantasy-like) mental space in which ‘everything is just blank, there is no

consciousness, just “nothing” and it seems as though nothing is or was’. They also typically described their experience of hypnosis ‘as a state of nothingness, a void ... my body is gone, your voice is the only thing that is there’.

During recent years, numerous books and scientific papers have reported on hundreds of individuals seen in psychiatric clinics who resemble Bliss’ amnesia-prone hypnotic virtuosos (Kluft, 1985; Putnam, 1989; Ross, 1989; Spiegel, 1993; Lynn and Rhue, 1994; Michelson and Ray, 1996). In addition to their dramatic hypnotic performances and their post-hypnotic amnesia, these patients had experienced physical, psychological and/or sexual abuse, and had amnesia for much (or nearly all) of their childhood and fragmentary recall of their adult lives. These patients, like many other people, had more than one personality (each adapted to a different kind of life); however, they differed from others in that at least one of their personalities was amnesic for another personality and, consequently, they met the critical diagnostic criterion for dissociative identity disorder (formerly called multiple personality). Waller, Putnam and Carlson (1996) and Waller and Ross (1977) reported that about 3% of the general population may meet criteria for amnesia-prone individuals since they answer ‘Yes’ to amnesia-indicating interview items such as ‘I found new things among my belongings that I did not remember buying’, ‘I found myself in a place but was unaware how I got there’, ‘I did not recognize friends or family members’, and ‘I felt I was two different people’. Research is needed to determine how particular kinds of life experiences can induce a small number of people to become amnesia-prone. The fast-growing, modern scientific literature on dissociation, which focuses primarily on amnesia-prone people, strongly indicates that a traumatic early home environment with physical, psychological, and/or sexual abuse can lead to a proneness to amnesia.

The results of my own clinical interviews with indisputably amnesia-prone individuals yielded a similar conclusion, together with a series of hypotheses that can be evaluated in further research:

- A substantial proportion of amnesia-prone people repeatedly experienced trauma during childhood, for example, repeated vicious beatings by an angry or sadistic parent. Over time the child learned to escape psychologically from the traumas by mentally compartmentalizing the experiences in a separate mental compartment in which they were isolated and ‘forgotten’. Since the ‘forgotten’ traumas are mentally separated from the personal consciousness, but not obliterated, they can be recalled again (by the personal consciousness) under certain circumstances. The compartmentalized, isolated, ‘forgotten’ experiences, with their associated memories, feelings, emotions and cognitions, have their own dynamics and can potentially act as a separate centre of consciousness, ego state, or personality.
- In some cases, the development of proneness to amnesia was catalysed by an adult’s emphatic, emotionally charged, convincing warnings to a child, ‘If you tell anyone about this [their tabooed sexual relationship], I’ll kill you!’
- Some children learn to mentally compartmentalize and forget chosen stimuli as they practise mentally separating, ‘not hearing’, and ‘forgetting’ the mother’s continuous serious criticisms (for example, ‘You goddamned whore, slut ...’) which are based on the mother’s awareness of the child’s sexual relations with the father. (The precise ‘mental mechanisms’ used to mentally compartmentalize selected stimuli can vary widely; for instance, one amnesia-prone told us that she ‘blocked out’ her mother’s crazy harangues by mentally experiencing a void or nothingness, whereas another amnesia-prone stated that she did not hear her

mother's vicious criticisms although she recorded them mentally in an imagined 'voice box' and could listen to them later if she wished.)

- In other cases, the tendency to amnesia can be traced back to an unusual scenario in which the secret, tabooed sexual relations were ostensibly hidden from both the child and the participating adult (usually a father, sometimes a brother) because they occurred during the night when the child and adult were supposedly sleeping but were physically close together. From such furtive sexual interactions that are 'hidden' under the ostensible cover of sleep and not verbalized or acknowledged to others (or to themselves), some children learn to remain apparently asleep, to obey the adult's explicit or implicit wishes or desires, and to 'forget' (mentally separate and compartmentalize) the secret sexual events and the associated tabooed memories, experiences, emotions, thoughts and guilt feelings. A drowsy-sleepy hypnotic induction can reinstate the hidden feelings associated with these early sexual experiences and, consequently, the amnesia-prone hypnotic subject may seem asleep (and may actually be in a hypnogogic state between waking and sleep), may obey the hypnotist's desires or suggestions seemingly automatically, and may 'forget' what occurred and thus manifest post-hypnotic amnesia. (If some amnesia-prone hypnotic subjects enter a waking-sleep state associated with vivid hypnogogic imagery, we would have a surprising answer to Wagstaff's question, How can amnesia-prone subjects hallucinate when they do not claim special imagery abilities?)

Wagstaff does not believe that the approximately 1% of experimental subjects that I am calling 'amnesia-prone hypnotic virtuosos' are either amnesia-prone or hypnotic virtuosos.¹ Instead, he argues that these subjects are just trying to act the way they believe very good hypnotic subjects or somnambules are supposed to act and their behaviour is not different from that of simulating subjects pretending they are deeply hypnotized. This argument leads to a paradoxical question: Is the simulator imitating the amnesia-prone somnambule or hypnotic virtuoso, or is the amnesia-prone somnambule imitating the simulator (who is imitating the somnambule), or is each or neither imitating the other? Orne's (1979) research with simulators, together with three types of hypnosis research data that have accumulated over the past two centuries – historical data (summarized by Gauld, 1992), clinical data (exemplified by Janet, 1901/1977; Bliss, 1986; and Michelson and Ray, 1996), and recent experimental data (Barrett, 1990, 1996; Barber, in press) – richly document the answer to this question: (a) there exists a small number of amnesia-prone individuals (with a history of various kinds of amnesias) who are hypnotic virtuosos as a result of special hypnosis-conductive 'abilities' developed during a special kind of life history, for example, the well-practised 'ability' to mentally set aside, compartmentalize and 'forget' particular experiences; and (b) while trying to act like they are deeply hypnotized, some simulators imitate the behaviour of amnesia-prone somnambules or hypnotic virtuosos.

I agree with Wagstaff's implicit contention that the trance-like, automatic-like, dramatic hypnotic responsiveness that I attribute to amnesia-prone hypnotic virtuosos can be overtly simulated or imitated by subjects who are not amnesia-prone if they are motivated to do so and are well acquainted with the behaviours that have been historically associated with amnesia-prone somnambules. Imitated behaviour, however, is experienced differently from the behaviour imitated. The rich literature pertaining to the behaviours of amnesia-prone somnambules, which includes almost all the major writers on hypnotism prior to Clark Hull (1933), converges on the

conclusion that amnesia-prone hypnotic virtuosos experience suggested and non-suggested amnesias, positive and negative hallucinations, analgesia and so on in their own special way related to their special 'abilities' associated with their special life experiences.

More or less in agreement with Wagstaff, Lynn et al. contend that the behaviour of amnesia-prone people during hypnosis is determined by social psychological and social factors such as culturally derived beliefs about hypnosis, self-response expectations and the demand characteristics of the hypnotic situation. Although the evidence does not support the contention that social psychological and social factors determine the behaviour of amnesia-prone subjects, there is no doubt that these subjects, like all socialized humans, are influenced by these factors (and many other social factors). In discussing the social dimension of hypnosis, I recently stated the following (Barber, in press): 'Human beings are social animals in every fiber of their being – in everything they think, and do, and are. Living together in groups and cooperatively interblending their lives in countless ways, they reciprocally influence each other's thoughts, emotions, actions, and experiences.... During the socialization process humans learn the rules, regulations, expectations, and obligations that are necessary to live harmoniously and with mutual benefit in their society.... As a result of their socialization, people in social situations have common aims: to avoid embarrassment, shame, rejection, and ridicule; to make a good impression (which includes being social, polite, and "nice"); and to meet social obligations and carry out the duties and requirements of their social roles. These subtle social goals which underlie all social interactions are also present and play important roles in hypnotic behavior ... although all hypnotic subjects are socialized individuals and are thus influenced by social norms and numerous subtle social factors, they are not necessarily influenced to the same degree and in the same way. I expect that subjects in particular categories – positively-set "high," fantasy-prone "high," amnesia-prone "high," medium responsive subject, low responsive subject – are affected to different degrees and in different ways by particular social factors. Further research is required to delineate these hypothesized complex interactions between types of subjects and the social variables in the hypnotic interaction.'

The positively set 'high'

We can conclude the preceding discussion with a summary statement: as a result of unusual (often taboo) life experiences, about 3% of student subjects have developed a special 'talent' – either a fantasy talent (2%) or a talent for mentally compartmentalizing and 'forgetting' meaningful experiences (1%) – which they can use to perform as hypnotic virtuosos (provided they do not have negative, resistive attitudes towards hypnosis or the situation and are willing 'to give it a try'). These talented hypnotic virtuosos, however, are a small proportion of the highly responsive subjects participating in modern hypnosis experiments. Typically, in these experiments, from 13% to 26% of the students were rated as 'high' hypnotic responders, passing at least 83% (10 of the 12) of the test suggestions on the Stanford Scales or 88% (7 of the 8) of the test suggestions on the Barber Suggestibility Scale. The evidence at present indicates that the most important characteristic of these (non-fantasy-prone, non-amnesia-prone) 'highs' is their 'hypnosuggestive readiness, that is, their readiness to think, imagine, and mentally "flow with" the hypnotic induction and suggestions

while “letting go” of contradictory and extraneous thoughts. Their “hypnosuggestive readiness”, in turn, is due to their “positive set” which includes three dimensions: positive attitudes (toward the idea of hypnosis, towards the particular hypnotic situation, and toward the particular flesh-and-blood hypnotist); positive motivation (to experience hypnosis and/or the suggested effects); and positive expectancies (that they can experience hypnosis and/or what is suggested’ (Barber, in press).

These positively set ‘highs’, who comprised the large majority of very good subjects in modern experimental hypnosis, were first delineated experimentally in the 1960s (Barber and Calverley, 1962, 1963a, b; Barber, 1969, 1970, 1972, 1973) and were further clarified by research conducted by Sarbin and Coe (1972), Gibbons (1979), Wagstaff (1981), Sheehan and McConkey (1982), Straus (1982), Spanos and Chaves (1989), Kirsch (1991), Lynn and Rhue (1991), and other investigators who formed the ‘non-state’ cognitive-behavioural-social-psychological school of hypnosis. In general, the work of this school indicates that the positively set ‘highs’ have their own ‘hypnotic style’ (their special way of successfully responding to test suggestions); for instance, they ‘hallucinate’ by imagining the suggested object or person ‘in their mind’s eye’, they pass suggestions for ‘post-hypnotic amnesia’ by trying not to think about the events of hypnosis, they age regress by trying to recall and re-experience events during their childhood, and they pass test suggestions for analgesia, negative hallucinations, blindness and deafness by trying their best not to sense or feel sensory stimuli or painful sensations and not to see or hear persons or objects that are present.

All 14 discussants accept or are ready to accept that the positively set ‘high’ plays a very important role in both experimental and clinical hypnosis. It seems that the positively set ‘high’ will have an impact on future theories of hypnosis and will be important in understanding ‘the power of suggestions’ and the efficacy of suggestive therapeutics (Janet, 1925; Barber, 1981).

Consensus and criticisms

Most of the discussants accepted the guiding postulate of the three-dimensional paradigm (that there are three basic types of ‘highs’) and they went on to discuss its implications for clinical, experimental and historical hypnosis research. They stated, for instance, that ‘All of the major approaches to the topic hypnosis have been correct, at least in part ... [since] each has been making inferences drawn primarily from distinct and fundamentally different subsets of excellent hypnotic subjects’ (John Chaves). The conceptualization of three types of highly responsive subjects reconciles ‘the traditionally conflicting “state” and “non-state” views of hypnosis’ (Michael Jay Diamond). We now need a ‘somewhat cool reassessment of considerable parts of the experimental work of the past few decades’ (Alan Gauld). ‘It is time to reflect on who, and what, we as hypnosis researchers have been studying for the past 40 or so years. What exactly have our “high” subjects been high in?... Spanos and Chaves (1991), among others, have emphasized the social constructive nature of hypnosis; but perhaps we researchers have been co-constructors, and now find ourselves looking into a mirror, studying an entity that our own research practices and theories helped to create ... Existing hypnosis scales ... may no longer be making the kind of distinctions that researchers need to make’² and ‘unitary characterizations of hypnosis and hypnotic suggestibility are no longer warranted’ (Eric Woody with Pamela Sadler). Since ‘there are a variety of hypnotic experiences, and a variety of hypnotic

subjects as well', researchers must re-evaluate 'the various measures of "hypnotizability" [that] classify their subjects on a uni-dimensional scale, assuming that what is being measured is a single trait, one that exists "on a continuum"' (Stanley Krippner).

The discussants also proposed new lines of research:

- Chaves proposed that 'The limits of the performance capabilities of the amnesia-prone and fantasy-prone subjects need to be more fully explored in methodologically rigorous ways'; 'Understanding of the complex interplay between psychological and physiological events evidenced in these [fantasy-prone and amnesia-prone] individuals may provide new insights into the mechanisms that might be important in enhancing control of our bodies in health and disease'; and [with regard to the positively set] 'we need ... to distinguish the merely compliant from those subjects who can learn to produce the various subjective phenomena that are called for when suggestions are administered.'
- Gauld proposed that research is needed to determine whether 'gifted fantasizers' are positively set (in the same way as positively set subjects) 'but their positive motivation [is] largely disguised by their striking talents as fantasizers'. (I would add two supplementary hypotheses that could lead to a deeper understanding: (a) Fantasy-prone (and also amnesia-prone) individuals need not be positively set like the positively set subjects; the prerequisite for their responding as hypnotic virtuosos is that they do not have negative or resistive attitudes, motivations or expectations towards the hypnosis or suggestive situation. (b) Although some fantasy-prone subjects enter the hypnosuggestive session with favourable attitudes, motivations and expectations, other fantasy-prone individuals may develop such a positive set either after they interrelate with the suggestor or hypnotist and are exposed to his or her pre-experimental motivational-attitudinal-expectancy instructions or after the hypnosuggestions begin and they perceive that they are being asked to experience what is easy, 'natural', interesting, rewarding and exciting for them.) Gauld also proposed that we look for other types of 'highs' since there may 'turn out to be more "mixed and betwixt" types of hypnotic virtuosos.' (I have proposed that an important 'mixed and betwixt' type is the rare virtuoso who is both fantasy-prone and amnesia-prone (Barber, 1999, in press). From my in-depth interviews, I predict that those scattered hypnotic virtuosos who are both fantasy-prone and amnesia-prone will be mainly women who developed superior fantasy abilities while imaginatively re-experiencing sexual relations (usually with their father), and who developed special abilities for mentally isolating and forgetting particular material when motivated to mentally block out or compartmentalize negative experiences (typically psychological abuse from a mother aware of the sexual relations).)³

There were a number of intended criticisms of my target article that are not really criticisms:

- Wagstaff's critique stated that Barrett's research, which unearthed two types of 'highs', contradicts my postulate that there are three basic types of high responders. The apparent contradiction disappears when we look more closely at the criteria that were used to rate the subjects as 'highs'. Wilson and Barber (1981, 1983) and Barrett (1990, 1996) used very strict criteria to label individuals as 'excellent' or

'deep trance' hypnotic subjects. In contrast, the 'non-state' or cognitive-behavioural-social-psychological school of investigators (Barber, 1969, 1972; Sarbin and Coe, 1972; Barber, Spanos and Chaves, 1974; Wagstaff, 1981; Spanos and Chaves, 1989; Kirsch, 1991; Lynn and Rhue, 1991) which discovered and clarified the positively set 'high' used less strict criteria.⁴

- Richard Brown criticized my formulation in that it does not focus on 'waking' responsiveness to suggestions which could then be used to explain 'hypnotic' responsiveness. This is not actually a criticism since the new paradigm reformulates 'waking' and 'hypnotic' responsiveness in a new way, within the context of two postulates: neither the fantasy-prone nor the positively set need a hypnotic induction to respond as 'highs' and, in general, their 'waking' responsiveness is not basically different from their 'hypnotic' responsiveness; however, the amnesia-prone subjects respond in a special way to a traditional hypnotic induction and, in general, their 'hypnotic' responsiveness differs from their 'waking' responsiveness and it is these few subjects who give meaning to the distinction between 'waking' and 'hypnotic' response. If these amnesia-prone individuals did not exist, it is doubtful that we would have a dichotomy of 'waking' and 'hypnotic' responsiveness.
- My formulation was also criticized by Brown because 'there is no discussion of the issue of hypnotic involuntariness which is arguably one of the most important aspects of hypnosis'. This criticism misses the most important component of the three-dimensional paradigm: all important concepts pertaining to hypnosis, including the concept of 'hypnotic involuntariness', are reformulated and reconceptualized so that they encompass the behaviour of all three types of highly responsive subjects. The new paradigm transforms the notion of hypnotic 'involuntariness' (which earlier investigators called 'automatism') from an undifferentiated one-dimensional concept into a differentiated concept with three denotable components: (a) The 'automatism' or 'involuntariness' of amnesia-prone somnambules or virtuosos who, throughout the history of hypnotism (Gauld, 1992), have seemed to enter a special state conducive to dramatic responding in a seemingly non-volitional, automatic way to the traditional difficult hypnotic suggestions (for hallucinations, analgesia, blindness, deafness, negative hallucinations, amnesia, and post-hypnotic behaviour). (b) The qualitatively different 'involuntary' aspect of the responses to hypnotic suggestions of the fantasy-prone virtuosos. Their 'real as real' fantasies which are stimulated by suggestions to hallucinate (or fantasize) objects that are not present, to age regress to (or fantasize) a time in childhood, to experience (or fantasize) becoming drowsy and sleepy and so on unfold effortlessly, seemingly 'on their own', automatically and without volition. (c) The 'involuntariness' associated with response to 'easy' ideomotor suggestions for non-volitional movements of a limb, the body, or particular muscles, for example, arm levitation, arm lowering, postural sway, and movement of Chevreul pendulum. The major prerequisite for responding non-volitionally to ideomotor suggestions is a positive set to respond to suggestions; as stated by Lynn (1997) 'given the intention to feel and behave in line with the hypnotist's suggestions, [positively set] hypnotized individuals show no hesitation to experience the suggested movements as involuntary because (a) these movements are actually triggered automatically, and (b) the intention to cooperate with the hypnotist as well as the expectation to be able to do so create a heightened readiness to experience these actions as involuntary.' (See also Kirsch and Lynn, 1999.)

- The target article (Barber, 1999) was also criticized for its failure to consider three overlapping hypotheses: (a) The three types of 'highs' can be unified 'under a high level [cognitive] theory' (Gregg). (b) 'The suggested responses of fantasy-prone, amnesia-prone, and positively set are mediated by the same basic set of psychological mechanisms' (Brown). (c) 'The same causal mechanisms are responsible for suggested responses in both hypnotic and non-hypnotic contexts' (Brown). In another article (Barber, *in press*) I outlined a higher-level (cognitive) conceptualization or theory that proposes that the same causal psychological mechanism mediates the (hypnotic and non-hypnotic) responsiveness to suggestions of the three types of 'highs'. The basic postulates of the unifying conceptualization include: (a) the three roads to high responsiveness – realistic fantasizing, mentally compartmentalizing, and utilizing the positive set of wanting to be hypnotized and expecting to benefit markedly – converge on a 'final common path' where all three types of 'highs' 'think with the ideas suggested ... so that the hypnotist's [or suggestor's] thoughts (as expressed in his suggestions) become the subject's thoughts ... and the subject's thoughts directly affect his or her subjective experiences and overt behaviors.' (b) "Thinking with suggestions" is a shorthand term for 'verbally or non-verbally, consciously or non-consciously, attending to, thinking with, imagining, feeling, and experiencing the suggested ideas while letting go of irrelevant and contradictory thoughts.' (c) When the three types of subjects use their special talents and/or positive set 'to think with (and also to attend to, imagine with, feel with) the suggested ideas [they] converge on a 'final common path' which constitutes the mechanism of hypnosis [or high responsiveness to suggestions], namely, the hypnotist's ideas become the subject's thoughts and the subject's thoughts produce the hypnotic experiences and behaviors' (Barber, *in press*).

Notes

1. Wagstaff finds it difficult to accept that he, Spanos, Coe and other researchers have been studying the positively set 'highs' and have missed the amnesia-prone virtuoso. However, I find this very easy to accept for several reasons: (a) Amnesia-prone subjects may comprise about 1 in 100 of present-day experimental subjects and can be easily lost within the mass of the other 99 subjects. (b) Although they played important roles throughout the history of hypnotism, and are the 'stars' of important clinical works on hypnosis (for example, Janet, 1901/1977, 1907; Bliss, 1980, 1984a, b, 1986), they were not delineated and conceptualized as 'amnesia-prone virtuosos' until very recently (Barber, 1999). (Although the amnesia-prone virtuosos were not separated out from other highly responsive subjects in Hilgard's (1977) neo-dissociation theory, it seems to me that he implicitly had them in mind in much of his theorizing.) The history of science shows repeatedly that before an existing phenomenon is delineated and conceptualized it can be missed by an entire scientific community. (The most recent example is the existence of fantasy-prone virtuosos who were not perceived by the hypnosis research community until after they were delineated and conceptualized around 1980.) (c) The amnesia-prone were also easily 'missed' because of their 'incongruous' behaviour, for example, they at times seemed to fall asleep during the hypnosis session and were not included among the tested subjects or their fragmentary memories of the session prevented them from validly scoring themselves on the Harvard Group Scale of Hypnotic Susceptibility or from receiving a valid Subjective Score on the Barber Suggestibility Scale.
2. Although I generally agree with Woody's statement that 'Existing hypnosis scales ... may no longer be making the kind of distinctions that researchers need to make', I must state an

important qualification: a very high score (37–40) on the Creative Imagination Scale indicates a fantasy-prone individual (Barber and Wilson, 1978/1979; Wilson and Barber, 1978).

3. The discussants also offered other useful suggestions for research. For instance, John Watkins made an eloquent plea that we should study the efficacy of the sensitive hypnotist-therapist who transmits trust within an intensive interpersonal relationship and is in 'resonance' with his patient. My general agreement with Watkins is evident in my recent statement: 'The effects of scripted, standardized instructions which are read by standardized "hypnotists" (or presented via a tape recording) [in hypnosis experiments] are minimal compared to the effects of extemporaneous, non-standardized inductions created moment-to-moment by charismatic hypnotists with personal power, wisdom, and interpersonal efficacy who are able to formulate deeply meaningful and poetic suggestions "on the spot" that reverberate with deep levels of the subject's personality and who have learned to utilize various strategies, such as "coupling suggestions with actual events" and "reinterpreting failure" (Barber and DeMoor, 1972), to help the subject become maximally involved in the suggested experiences' (Barber, in press).
4. Wilson and Barber (1983) reported: 'Our criterion for designating a subject as an excellent hypnotic subject was that she responded profoundly to and passed all or virtually all of the items on the Creative Imagination Scale and the Barber Suggestibility Scale and also responded profoundly to and passed all or virtually all of the suggestions she was given after the hypnotic induction procedure. The excellent hypnotic subjects had thus responded easily, quickly, and fully to a large variety of suggestions including the classical hypnotic suggestions for anesthesia, rigidity, positive and negative hallucinations, age regression, posthypnotic behavior, and amnesia' (p.342). Barrett's (1990, 1996) criteria for selecting 'deep trance' subjects were very similar to and just as rigorous as those used by Wilson and Barber to select their 'excellent' hypnotic subjects. In contrast, less strict criteria were typically used by the 'non-state' investigators to designate subjects as 'highs' in the experiments in which the positively set were discovered; typically, a subject was considered to be highly responsive if he or she obtained a relatively high score on just one scale – typically the Barber Suggestibility Scale or the Harvard Group Scale – and was not further tested or evaluated as in the Wilson and Barber and Barrett projects.

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