DISCUSSION COMMENTARY

THE CIRCLE-TOUCH TEST: TRANCE-LOGIC, DISSOCIATION OR DEMAND CHARACTERISTICS?

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Although Wilton, Barnier and McConkey (1997, this issue pp. 9–15) give a clear account of their experiment and results on the circle-touch test, they do not go into any real detail about the possible *explanations* for their pattern of results. What they do say, however, seems to invite a number of questions regarding exactly what their subjects experienced.

TRANCE-LOGIC, DISSOCIATION AND SIMULATION

Wilton *et al.* suggest that their results are best understood 'in a theoretical framework that recognizes the interactive influence of the social and cognitive processes operating within the hypnotic setting and within the hypnotized individual'. This might suggest that they are proposing an explanation using the sorts of concepts and terminology associated with the 'socio-cognitive' or 'cognitive-behavioural' theoretical school of hypnosis; that is the approach adopted by theorists who reject the idea of hypnosis as a trance state, or a condition especially associated with profound dissociations (see for example, Coe & Sarbin, 1991; Kirsch, 1991; Lynn & Rhue, 1991; Spanos, 1986, 1991; Spanos & Chaves, 1989; Wagstaff, 1981, 1991).

Nevertheless, the main thrust of Wilton *et al.*'s interpretation of their results is to suggest that they are illustrative of the concept of 'trance-logic'; a concept more associated with supporters of the state and/or dissociationist positions (see, for example, Bowers, 1983; Hilgard, 1986, 1991; Laurence & Perry, 1981; Nogrady, McConkey, Laurence & Perry, 1983; Orne, 1959). In fact, it was the allegedly unique character of the phenomena associated with the 'hypnotic state' that gave rise to the term 'trance-logic'; that is, there is a special sort of logic shown by people in a 'hypnotic trance', which is not shown by people who are not in this 'trance'. To proponents of the state and/or dissociationist positions, therefore, traditionally one of the most important characteristics of trance-logic is that it is not shown by simulators (Bowers, 1983; Orne, 1959). For example, in his famous paper of 1959, Orne assumed that, because it is not shown by simulators, trance-logic indexes the 'essence' of hypnosis . The late Kenneth Bowers also saw trance-logic as a phenomenon that characterizes hypnosis as an altered state, because, he claimed, it is absent in ordinary alert subjects (Bowers, 1983). In Bowers's view, the phenomena associated with trance-logic indicate unconscious perceptual processing and are evidence for dissociative processes. Laurence and Perry (1981) and Nogrady *et al.* (1983) also argue that trance logic is associated with 'hidden-observer' responding, and thus is related to dissociative processing in hypnosis.

In contrast, socio-cognitive theorists have argued that so-called trance-logical responses have nothing to do with either profound dissociative processes, or some

special capacity of 'hypnotized' individuals to tolerate logical incongruity because of their ability to enter an altered state of consciousness; instead, they are explained in terms of ordinary psychological processes, such as incomplete responding and the use of mundane imagination in acting out the hypnotic role (see, for example, de Groot & Gwynn, 1989; Lynn & Rhue, 1991; Spanos, 1986; Wagstaff, 1981; 1991). According to this position, the fact that simulators sometimes fail to show so-called trance-logical responses, is due to the characteristics of the simulating role; typically simulators are 'low susceptibles' told to be excellent hypnotic subjects. As a consequence, they do not exhibit the partial or incomplete responses that socio-cognitive theorists propose account for most alleged 'trance-logical' phenomena (see Spanos, 1986; Wagstaff, 1981, 1991; Wagstaff and Benson, 1987).

Given this background, if any so-called 'trance-logical' phenomena *can* in fact be shown by simulators, there seems little point in using the label 'trance-logic'. This is obviously important in the present case, given that, in their introduction, Wilton *et al.* report that reals and simulators respond similarly on the circle-touch test. If we accept the logic of the real-simulator design (see, Orne, 1959, 1971; Wagstaff and Benson, 1987), then essentially this means that what may look like some special capacity to tolerate logical incongruity, may simply be a response to the demand characteristics of the situation; subjects respond as they do on the circle-touch test, because this is what they think is expected of them. In their present study, Wilton *et al.* did not include any non-hypnotic control groups at all. As such, it is impossible to rule out simulation in accordance with demand characteristics as a very viable explanation of their findings.

However, as Bowers often pointed out, one of the major problems with the real-simulator design is that it does not allow us to eliminate the possibility that the real and simulating subjects were responding in the same way, but for different reasons. As such, it is worth examining in more detail some possible alternative explanations for Wilton *et al.*'s results.

WAS ANAESTHESIA EXPERIENCED IN A COMPELLING WAY?

Wilton *et al.*'s subjects were all scored as hypnotic virtuoso's or near virtuoso's on their scales of hypnotic susceptibility; in other words, they were the subjects who, according to Wagstaff (1991, 1996), and Perlini, Spanos and Jones (1996) are most likely to bias or exaggerate their responses in accordance with experimental demands, and these include reports of anaesthesia. The first question, therefore, is whether anaesthesia was really experienced in a compelling way as Wilton *et al.* claim. If it was not, then there is little point arguing that the circle-touch test indexes some ability to employ dissociative processes, or tolerate logical incongruity.

No matter what their theoretical persuasion, most researchers are in no doubt that suggestions, including those given in the context of hypnosis, can significantly reduce pain and, by implication, induce anaesthesia. Thus, the major theoretical arguments do not concern whether hypnotic suggestions for anaesthesia can or do 'work', but how effective they are, and the mechanisms involved.

In most experiments on hypnotic analgesia, subjects are typically asked to reduce pain in some specific region of the body, such as the hand, arm, or leg. Depending on the interpretation of the researchers, genuine pain reduction is then assumed to be accomplished either by a profound dissociative process, or the use of cognitive strategies such as distraction, and other processes such as, relaxation, the promotion of self-efficacy, reductions of anxiety, and changing attributions of pain (Barber, Spanos &

Chaves, 1974; Bowers, 1983; Hilgard, 1986; Hilgard & Hilgard, 1983; Spanos & Chaves, 1989; Wagstaff,1981). In his two-factor theory of pain, Hilgard (1986), in fact, allows all of these processes to affect pain reduction. The circle-touch test, however, does not fit the standard format for the production of hypnotic anaesthesia. In the circle-touch test, the subject is specifically instructed to produce anaesthesia in a highly specific area; a circle in the palm of the hand traced by the experimenter. There appears to be nothing in the experimental or clinical literature on analgesia to definitively indicate that *total* suggested anaesthesia in such a well-defined area is even *possible*. The best that might be expected is for the subject to show some loss of sensation in the whole hand or palm.

Notably, the correlations that Wilton *et al.* found between effort, belief, instructions and hypnotic susceptibility, are of little use in this regard; hypnotic suggestions implicitly assume 'effortless' responding, and it is not, therefore, surprising that some highly susceptible subjects tend to bias and/or seek to interpret their responses in this way.

Making the assumption, nevertheless, that at least some of the subjects did experience total anaesthesia solely in a well-defined part of their palm, raises the question, what would a theory of hypnotic dissociation predict to be an appropriate response?

DOES NO MEAN YES?

According to Hilgard's (1986) neodissociation theory, highly susceptible subjects will sometimes report 'hidden' pain because, when true hypnotic analgesia is experienced, the pain is experienced but hidden in a dissociated part of consciousness behind an amnesic barrier. This dissociated pain can, however, be reported if it is suggested to the subject that there is another part of him or her that feels more aware of what is happening; the 'hidden observer'. The typical response of the 'hidden observer', however, is to say *'yes'* when asked when a sensation is felt, not *'no'*. If Wilton *et al.*'s subjects were dissociating, therefore, their 'hidden observers' should really have said 'yes' when touched inside the circle (and have been indistinguishable from those not showing total, or any, anaesthesia).

One is reminded of the following passage from Barber *et al.*(1974) regarding hypnotic deafness:

> The fact that a subject can hear is sometimes rather obvious. For instance, after deafness has been suggested, the experimenter may ask, 'Can you hear me?' A few 'hypnotized' subjects will answer, 'No, I can't hear you'. (p. 69)

Arguably such reports could reflect the operation of dissociative processes, but again, should not the dissociated 'part' say 'yes' rather than 'no'? Barber *et al.*'s interpretation thus was not that such subjects are exhibiting dissociation or showing an interesting tolerance of incongruity, but that instead they have simply made a mistake, or have assumed that this response is one which the experiment requires. With regard to making mistakes, in television game shows in which people are asked to reply to questions without saying 'yes' or 'no', many slip up. However, we might expect 'slip-ups' to be more prevalent the more complex the task; and if we add to this the problems that subjects might have had interpreting the experimental demands, it may be possible to come up with an explanation of Wilton *et al.*'s results without recourse to trance logic, dissociative processes, and unusually focused total anaesthesia.

TASK DEMANDS AND THE CIRCLE-TOUCH TEST

In Wilton *et al.* in the condition in which people were instructed to say 'yes' outside the circle, and the word no was not mentioned, not a single subject said 'no' when touched inside the circle (see their Table 1). There was thus no evidence of slip-ups (or trance-logic or dissociation for that matter). The task demands were simple and straightforward: 'show indications of anaesthesia inside the circle', and in the main this is what most subjects did.

However, considering those subjects who were instructed to say 'no' when touched inside the circle, one can only guess at what these poor subjects thought was being demanded of them and their thoughts: 'If I feel pressure should I say "no" as a signal for "yes"?'; 'Are hypnotized subjects supposed to say "no" when they cannot feel things?'; 'Is this a trick to catch me out?'. The result, not surprisingly, was a mixture of different responses; a glimmer of a 'no' outside the circle, a slight increase in the number of 'no' responses inside the circle, and a drop in 'yes' responses both inside and outside the circle (because 'no' means 'yes'; or maybe 'no' means 'yes' and 'no'). Under the circumstances, perhaps it was not surprising that most subjects, most of the time, appeared to elect to say nothing when touched either inside or outside the circle.

The task for the third group ('yes' outside, 'no' inside) was perhaps a little less ambiguous, but somewhat more complex. To the subject figuring out the appropriate response, the instructions seem to imply 'say "yes" when you are supposed to feel something, and "no" when you can't', hence there were more 'no' responses inside the circle. Possibly, these were responses to experimental demands to say 'no' (because the instructions imply that 'hypnotic subjects do this'), potentially mixed with some slip-ups for those who thought it was a trick. There was also an increase in 'yes' responses outside the circle, perhaps because the instructions made it very clear that this was expected, and one or two 'no's outside the circle, which again could have been slip-ups.

Differential responses between and within subjects, therefore, would simply reflect different ways of interpreting the instructions. Further, it is worth noting that, contrary to the impression sometimes given, simulators can give a wide variety of responses to the same instructions (see Sheehan & Perry, 1976; Wagstaff, 1981), and heterogeneity of responding is expected in the face of confusing task demands.

CONCLUSIONS AND RESEARCH SUGGESTIONS

To gain greater insight into the processes that may be operating in these situations it is suggested that first, simulating control groups, both high and low in susceptibility, are essential. One of the main reasons for adopting such groups is not just to see whether they come up with the same responses, but, by interview, to assess their *interpretations* of the task demands. A second way forward might be to give all (both real and simulating) subjects the Experiential Analysis Technique (Sheehan & McConkey, 1982). Although responses to the EAT may themselves be biased by demand characteristics, they may, nevertheless, yield some useful information with regard to how subjects interpreted and experienced the instructions. Third, it would seem very important to assess the impact of such instructions in non-hypnotic situations (i.e., with subjects given non-hypnotic suggestions). If circle-test responses truly index 'trance-logic', that is some defining characteristic of a hypnotic 'trance', it would not be expected for them to be manifested in non-hypnotic situations.

For the moment, however, I entirely agree with Wilton *et al.* that their results 'are most appropriately understood in a theoretical framework that recognizes the inter-active influence of the social and cognitive processes operating within the hypnotic setting and within the "hypnotized" individual' (my parentheses). However the results stand; I can see nothing to justify the conclusion that *any* of their subjects showed total anaesthesia solely for an area marked out on their palms, nor that the responses of their subjects reflected the operation of a 'trance-logical' process as it has usually been defined and interpreted in the literature. Rather, their results are readily explicable in terms of the subjects' varied attempts to comply with a set of ambiguous, and sometimes complex, task demands.

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