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LEVELS OF EXPLANATION AND THE CONCEPT OF A HYPNOTIC STATE

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Abstract

Kallio and Revonsuo's (2003) account shows that the state/nonstate debate remains a fundamental controversy in the area of hypnosis. However, we argue that sociocognitive criticisms of state/dissociation theory do not arise primarily because these approaches involve different levels of explanation, but because the postulated cognitive and physiological mechanisms involved are different. We also point out the limitations of using hypnotic virtuosos in hypnosis research, and question the utility of using the notion of ASCs as an explanatory construct. We conclude that the issues that divide theoretical opinion on hypnosis operate across at a variety of explanatory levels.

Key words: ASC; hypnotic virtuosos, levels of explanation, sociocognitive theory, state/nonstate debate, state/dissociation theory

Kallio and Revonsuo's account is both interesting and thought provoking, and shows that the state/nonstate debate remains a fundamental controversy in the area of hypnosis. However, there are a number problems with their approach.

For example, the central tenet of Kallio and Revonsuo's argument is that state and nonstate accounts differ primarily in terms of their level of explanation; the idea is that nonstate theories reside primarily at the social psychological level, whereas state theories reside at the subpersonal level and include cognitive and neural levels of explanation. However, as Kallio and Revonsuo acknowledge, most nonstate theorists now label themselves sociocognitive theorists; in other words, their approaches integrate work from both the social and cognitive domains, including physiological correlates of such related processes. Thus Spanos and his associates have had much to say about the cognitive mechanisms underlying hypnotic responding and the physiological correlates of hypnotic hallucinations (Spanos, 1991; Perlini, Spanos and Jones, 1996); both Kirsch and Lynn (1999) have used modern theories of working memory in their expectancy approach, and Wagstaff (1998, 2000) has postulated some possible neurological correlates of hypnosis from a sociocognitive perspective. In contrast, before the development of Woody and Bowers' ideas of frontal lobe inhibition, little attempt if any was made by those such as Hilgard, Bowers, Evans, Orne etc. to integrate state/dissociation theory with neurological processes or contemporary theorizing in cognitive psychology (such as models of working memory).

Given this, it could just as well be argued that the nonstate, sociocognitive criticisms of state/dissociation theory do not arise primarily because they involve different levels of explanation, but because the postulated cognitive and physiological mechanisms involved

are different; for instance, Hilgard's (1978, 1986) theory assumes that there exist dissociated and fairly autonomous control subsystems, whereas Spanos (1991) argues that, at a cognitive level, there are no such autonomous systems, and Kirsch and Lynn (1999) argue that control in hypnosis should best be viewed in terms of the sort of cognitive supervisory attentional system postulated by Shallice and others. In the same way, more recently, both state and nonstate theorists have argued that physiological findings have the potential to inform us about what happens during hypnosis, however, there have been disagreements about how the findings are to be interpreted (Wagstaff, 2000).

Another difficulty concerns Kallio and Revonsuo's view that researchers should concentrate their efforts on hypnotic virtuosos. According to Spanos (1991), it is the virtuoso who is most likely to be exaggerating his or her reports; hence those who have been shown to fake that most difficult of suggestions, the negative hallucination, are also most likely to exhibit virtuoso performance on a range of other suggestions. Martin and Lynn (1996) have also shown that a standard hypnotic susceptibility test does a fairly good job of differentiating reals from simulators; i.e. those who score highest on the scale (virtuosos) most closely mirror simulators. If we assume these studies tell us anything, then, in fact, the medium susceptible subject might be a better candidate for close examination, as they are more likely to be truthful.

Perhaps most problematic, however, is Kallio and Revonsuo's view of what constitutes an ASC and its place in the explanation of hypnotic phenomena. For their approach to make sense, it is essential that they disentangle the idea of a hypnotic ASC as a phenomenon to be explained from that of an ASC as the explanation of hypnotic behaviour. The main thrust of the nonstate criticism of hypnosis as an ASC has not been to deny that hypnotic subjects experience ASCs, but rather that the concept of an ASC unique to hypnosis is unhelpful (and even misleading) in explaining the phenomena we associate with hypnosis (including reports of ASCs themselves). Indeed, as Barber (1969) noted, there is an inherent circularity in the use of ASC as an explanatory construct: hypnosis involves an ASC which gives rise to changes in subjective experience, as evidenced by these changes in subjective experience. From this perspective, the notion of a hypnotic ASC is not a useful explanatory construct, but rather something that itself must be explained (by, for example, role enactment, expectancy, relaxation, attention focus, etc.). In an attempt to get round this problem, Kallio and Revensuo argue that the ASC of hypnosis only really makes sense in terms of the notion of an altered background state to consciousness, rather than the phenomenal contents of consciousness. As an example, they point out that the experience of seeing an elephant may be the same during dreaming or under the influence of LSD. But this is not necessarily a distinction between background and phenomenal contents. Just because a man may experience some stimuli as the same whilst he is awake and taking LSD does not mean that LSD does not affect the phenomenal contents of his consciousness. Indeed, how could one possibly know whether someone's 'state of consciousness' has been affected by something without an indication of a change in the phenomenal contents of that person's consciousness? The idea that one can infer (say from neurological evidence or reaction times) changes in the background state of consciousness in the absence of any change at all in the contents of phenomenal awareness makes little sense, unless one invents an entirely new definition of the term 'consciousness'. Hence, whilst the notion of a hypnotic ASC as a change in background state or set to experience is interesting, it does not escape the problem of circularity; the proposition simply becomes: hypnosis involves a change in the background state of consciousness which gives rise to changes in phenomenal experience, as evidenced by changes in phenomenal experience.

However, an alternative way of viewing hypnosis as a 'state', and one which might correspond better to Kallio and Revonsuo's position, might be to argue that hypnosis involves an unusual physiological (or cognitive, or both) state of the brain that gives rise to a range of hypnotic phenomena, including a special ASC as manifested in unique changes in conscious experience. Unfortunately, however, the study of sociocognitive neuroscience is insufficiently developed to address questions such as whether hypnosis involves unique patterns of brain activity, or whether patterns of neural activity support the idea of unique, hypnosis specific, changes in conscious experience. Consider the proposed model experiment on page 146 (Kallio and Revonsuo 2003). The idea is that virtuosos would be given a baseline control condition and an induction, and the two would be compared in terms of their neural activity. This model will not help unless we know precisely how to interpret the neural activity. For example, what precise neural activity accompanies phenomena in suitably motivated people such as lying, trying harder, using one's imagination, being excited, in a state of conflict, focussing attention, acting, being given a nonhypnotic or 'waking' suggestion, and combinations of these? Without this knowledge, how do we know we are tapping the neural mechanisms underlying an ASC as opposed to some other kind of behaviour or experience?

To answer such questions, a neuroscientific theory of hypnosis must start by addressing the methodological issues that have been part and parcel of past work on the state/ nonstate controversy as found, for example, in Barber (1969), Sheehan and Perry (1976), and Spanos and Chaves (1989); e.g. they must employ a range of procedures including simulating, imagination, task motivated and waking nonhypnotic suggestion between subjects controls, instead of the flawed within subjects methodology. For instance, there is a large volume of evidence to show that hypnotic susceptibles behave unusually in control situations when they know they will also be tested 'with hypnosis'. Studies on 'virtuosos' tell us little unless we already know precisely how they behave in different contexts, and how others behave in comparable situations, given comparable instructions with and without 'hypnosis'.

In conclusion, we believe that Kallio and Revonsuo are to be commended for fully grasping the nettle and attempting to define what exactly is meant by an altered state of consciousness in the context of hypnosis. We would argue, however, that as an explanatory construct, the notion of a hypnosis as an ASC is non-starter, and the hypnotic state only makes sense as an explanatory construct if divorced from the phenomena it seeks to explain (such as changes in conscious experience). In addition, whilst we agree that some of the differences between modern theories of hypnosis may reflect different levels of explanation, we also believe that many of the differences go beyond levels of explanation and concern more fundamental views about processes and mechanisms. No researcher with any experience would deny that many hypnotic subjects experience ASCs, but more important are issues concerning the nature and veracity of reports of such experiences, whether they are unique to contexts defined as hypnosis, and whether one needs to posit unique processes and mechanisms to account for them and other phenomena associated with hypnosis; such issues concern a variety of levels of explanation.

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