Hypnosis and witness recall: discussion paper

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Much interest has been expressed recently in the possible use of hypnosis to aid the memory of witnesses in police investigations. It is said that the police forces in the USA and Israel are already using hypnosis, and it has also been employed on a few occasions in the UK. However, as yet the techniques are limited to a great extent by the hypnotic susceptibility of the witnesses concerned (Haward 1980). In view of this consideration, it seems important to look closely at the claims made for forensic hypnosis, not only in order to maximize the efficacy of existing procedures, but also to extract techniques which could be used outside the context of hypnosis on witnesses who are not hypnotically susceptible.

The evidence for the claims made for forensic hypnosis comes from two main sources – anecdotal reports, and laboratory experiments of hypnotic memory facilitation and age regression. Whilst it could be argued that the anecdotal reports speak for themselves, proponents of forensic hypnosis, nevertheless, base much of the a priori appeal of hypnosis on the results of certain laboratory experiments.

Learning and memory

It is unfortunate that those who have argued most forcibly for the use of forensic hypnosis (e.g. Kleinhauz et al. 1977, Haward & Ashworth 1980, Hibbard & Worring 1981) have tended to cite some rather ill-controlled laboratory studies to support their case that hypnosis has some special capacity to improve memory. Typical examples they cite are those of Hammer (1954), Illovsky (1963), Rosenthal (1944), Sears (1954, 1955), Salzberg (1960) and Stalnaker & Riddle (1932). As has been previously pointed out (Barber 1965, Wagstaff 1981b) these studies suffer from a number of methodological inadequacies, the most serious being a failure to encourage or motivate subjects in the control situation.

This problem was emphasized more recently in a study by Krauss et al. (1974) in which hypnotized subjects were said to be able to recall as much material after three minutes of learning as waking subjects could after ten minutes of learning. Wagstaff & Ovenden (1979) were unable to confirm this result; their hypnotized subjects actually recalled less material after three minutes of learning than the waking subjects did after three minutes. Moreover, the waking group recalled as much after three minutes of learning as the waking subjects of Krauss et al. (1974) after ten minutes of learning. This may indicate that the latter’s waking control group was exceptionally undermotivated. Using appropriate controlled procedures, Parker & Barber (1964) found that hypnosis did not improve memory on a number of measures, and several other studies support the conclusion that memory in the hypnotic state does not surpass memory in the waking state (Fowler 1961, Schulman & London 1963, Lyon-James 1957).

Age regression

Age regression is one of the most dramatic hypnotic effects. Under the influence of hypnosis the subject is taken back to childhood and then manifests behaviour and reports childhood memories with great accuracy. Unfortunately, once again the proponents of forensic hypnosis have tended to cite a number of old and rather poorly controlled studies to support their case.

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One of the most popular examples is that of True (1949), who reported that some hypnotic subjects, taken back to childhood, recalled the day of the week on which their birthday or Christmas had fallen. This study has been criticized for a number of methodological inadequacies, in particular the fact that the experimenter was not experimentally 'blind' and could, unwittingly, have given cues as to the correct days to be recalled (O'Connell et al. 1970). Other problems involve the possible use of a formula for computing the dates, and even 'cheating' by looking up the dates in advance (Barber et al. 1974, Gibson 1977).

In another study it was reported that of 6 'deep trance' subjects taken back to the age of four months, 3 showed the Babinski reflex (Gidro-Frank & Bowersbuch 1948). However, as Barber (1969) has pointed out, four-month old infants do not usually exhibit the Babinski reflex. Sarbin (1956) has suggested that the 3 subjects who showed the response performed it voluntarily because they, mistakenly, thought it was appropriate.

A number of studies have investigated hypnotic age regression, using batteries of psychometric tests, to see if subjects taken back to a certain age perform as they would have done at that age. Using tests such as the Stanford Binet IQ test, the Rorschach ink-blot test, and word association and speech tests, both hypnotic and waking simulators usually perform at a level which is too mature, and the performance under hypnosis is not more accurate (Barber 1969, Barber et al. 1974).

Another study, cited very frequently in the forensic hypnosis literature, is that of Reiff & Scheerer (1959). These investigators reported that 5 hypnotized subjects gave more convincing and accurate performances of age regression than 3 simulating subjects. However, this study has also been criticized for a number of reasons, including an inappropriate application of the simulating control group, a failure to control for experimenter effects in the way questions were asked, and problems of sampling (O'Connell et al. 1970, Wagstaff 1981a).

Using a rather different approach, Parrish et al. (1969) tested hypnotically-age-regressed subjects with two different visual illusions (Ponzo and Poggendorff) in which lines of the same length are perceived as being of different lengths. Appropriate developmental trends were demonstrated as the subjects regressed back: i.e. a decrease in the Ponzo illusion and an increase in the Poggendorff illusion. As it is highly unlikely that a naive subject would be aware of the developmental trends associated with these illusions, this result would appear to indicate some special capacity to restore childhood experience; moreover, a group of waking simulators failed to show the appropriate responses. However, four carefully controlled subsequent studies have failed to confirm these findings (Barber et al. 1974). These studies demonstrated that both hypnotized and waking simulators perceived the two illusions in the same way as adults, and suggest that the results of Parrish et al. (1969) have little validity.

An even more remarkable visual effect has been claimed by Walker et al. (1976) in a study on 20 psychology students who were taken back to childhood under hypnosis and then made to attempt three 10,000 dot stereograms. A dot stereogram consists of two separate patterns of dots; viewed individually they are formless, but when one is superimposed on the other they form a picture, such as a triangle. Using these materials it is possible to test for eidetic imagery (photographic memory). The subject looks at one set of dots; this set is then removed and the subject attempts to project the image onto the other set. If an image emerges the subject is deemed to be a successful eidetic. Walker et al. (1976) argued that as children are more successful eidetics than adults, hypnotically-regressed subjects should be able to perform the stereogram tasks more successfully. None of their subjects was able to perform the stereogram task in the waking state or when hypnosis without regression was employed, but two of the subjects identified the correct images when hypnotically regressed. However, whilst children have a greater capacity for eidetic imagery than adults on relatively simple tasks, there is no evidence that any child can perform a 10,000 dot stereogram (Gummerman et al. 1972). Consequently, it is perhaps not surprising that Spanos et al. (1979), using 60 highly hypnotically-susceptible subjects, failed to find one instance of a hypnotically-regressed subject who could perform a 10,000 dot stereogram. They suggest that some of the subjects studied by Walker et al. (1976) may have successfully projected the images of the relevant stereograms between sessions in the experiment.
Another useful test for exploring hypnotic age regression is the Goodenough-Harris Drawing Test, or the ‘draw a man’ test. Fellows & Creamer (1978) used this test to see whether hypnotized subjects, taken back to the age of seven, would produce drawings similar to those of actual seven-year-olds. Hypnotized subjects did indeed produce more immature drawings than waking subjects given the same instructions. The scores – which in actual seven-year-old children average around 29 – were reduced by regression in hypnotized subjects from 55 to 38; the waking subjects could only reduce their scores from 54 to 51. Although this seems impressive, the performance of the waking group appears to have been extremely poor. When Wagstaff (1981a) asked a group of waking subjects to ‘draw a man as a seven-year-old would’, and scored the responses according to the criteria provided by Harris for the Goodenough-Harris Test, the average score was 38, i.e. the same as the hypnotically-regressed subjects studied by Fellows & Creamer (1978).

The conclusion to be drawn from the experimental literature is that there is no evidence that hypnotic subjects, regressed or otherwise, are able to recall more information from recent or long past events than motivated waking subjects (Barber 1962, 1969, O’Connell et al. 1970, Barber et al. 1974, Wagstaff 1981a). This view is in agreement with other studies which indicate that, when appropriate controls are applied, hypnotic performance is not superior to waking performance on a variety of motor and cognitive tasks. Thus, for instance, Morgan (1972) concludes: ‘a review of the experimental literature does not support the view that performance in the hypnotic or post-hypnotic states will necessarily surpass performance in the motivated waking state’; and Orne (1971) writes: ‘Studies with simulating subjects as well as other research . . . have demonstrated that hypnosis does not magically increase capacities beyond those available in a motivated waking condition’. This conclusion does not deny the phenomenological reality of hypnosis or age regression; it questions instead the assumption made by many proponents of forensic hypnosis, that laboratory studies have demonstrated a special capacity of hypnosis to facilitate memory. Nevertheless, there seems to be a contradiction between the experimental literature on hypnosis and memory, and the anecdotal claims made for hypnosis in police investigation. There are, however, a number of important differences between the standard hypnotic learning and recall paradigms that have been used in laboratory experiments and the witness interrogation procedure. Experimental studies have usually employed standard laboratory stimulus material, such as word lists, instead of material more relevant to details that a witness might be asked to recall. Further, in laboratory studies of learning and memory both learning and recall have occurred within the hypnosis situation, whereas in the eyewitness situation the learning tends to be incidental and occurs outside the recall context. It therefore seems necessary to evaluate the effectiveness of hypnosis in controlled situations similar to those that are the subject of police investigation. Research along these lines has now been started at Liverpool, where an attempt has been made to tackle two main questions: does ‘hypnosis’ or hypnotic induction help people to remember material relevant to police investigation and, if it does, what features of hypnotic procedures are responsible for any alleged improvements in eyewitness memory?

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The first experiment considered whether eye closure could be a confounding element. In many studies of memory and hypnosis it is quite possible that those in the hypnosis group will have their eyes closed, whilst the waking subjects will have their eyes open. In as much as eye closure could lead to less distraction and more concentration, this variable seemed worth testing in the absence of hypnosis. The results showed that eye closure had a small but significant effect on facilitating recall for pictures of everyday items. Although not all recall under hypnosis occurs with the eyes closed, this result suggests the eye closure variable should be taken into account when appropriate (Wagstaff, in preparation).

In the second experiment subjects were given a number of slides of people, cars, numberplates, etc. Some of the subjects were then given a hypnotic induction procedure, some were given instructions for relaxation, and the rest were untreated. The results showed that
hypnosis did not aid memory; in fact, for those who were not very hypnotically susceptible, the induction seemed to make their performance worse than the other groups (Wagstaff, in preparation).

The next step was to expand the instructions to include regression or 'revivification' procedures, which instruct the subject to 'relive' relevant events under hypnosis, including the mention of peripheral details, activities and thoughts and feelings. It is interesting to note that the revivification procedures recommended by forensic hypnotists (see e.g. Hibbard & Worring 1981) share much in common with the non-hypnotic guided memory procedures of Malpass & Devine (1981) which have been used successfully in aiding facial identification. The obvious comparison to make therefore was between a hypnotized group with revivification suggestions, a waking group with comparable guided memory instructions, and an untreated control group. In the experiment, subjects watched a realistic video on crime and violence, and were then assigned to one of the above groups; they were tested immediately and one week afterwards. The results showed that there was little difference between the three groups, though there was a slight, non-statistically significant trend for the hypnosis group to do rather worse than the other two groups (Wagstaff, in preparation).

In view of the failure of hypnosis to aid memory for details of everyday items, attention was turned to facial identification. Subjects were given a set of photographs or 'mug shots' to look at. A week later one group of subjects was hypnotized and given a revivification suggestion, another group was untreated. Both groups then had to pick out a face from an array of photographs which they recognized as being one of those they had seen the previous week. The results showed that hypnosis failed to improve memory. The only significant finding was that hypnosis increased the number of false positive responses, i.e. incorrect identifications which the subjects were 'sure' were correct (Wagstaff 1982).

Conclusions
The results of the studies reviewed in this paper suggest that, even in contexts relevant to forensic investigation, hypnosis does not facilitate memory to a degree greater than that achievable in a motivated waking state; indeed it may actually serve to inhibit memory in some cases. One reason for this could be the problem of low arousal. A number of our hypnotic subjects reported that hypnosis made them feel very drowsy, and it is possible this may have affected their performance. If this is the case, then the standard hypnotic relaxation techniques found in most hypnosis texts and manuals of forensic hypnosis may be counterproductive with witnesses who are not in a debilitating state of anxiety.

Of course, it could be said that systematic formal experiments are too artificial to examine fairly the claims made for forensic hypnosis, which invariably involves a close, informal, one-to-one relationship between the hypnotist and witness. Also, in many eyewitness situations the witness is under a great deal of stress, whereas in most laboratory situations the subjects are not. However, there are three main counters to these arguments. First, the proponents of forensic hypnosis frequently cite data from equally contrived and less relevant laboratory studies to support the view that hypnosis facilitates memory (see e.g. Hibbard & Worring 1981, Kleinhauz et al. 1977, Haward & Ashworth 1980). Second, it is frequently claimed that hypnosis can be used successfully on witnesses who are not under stress (Hibbard & Worring 1980, Haward & Ashworth 1980). Third, and most important, if standardized procedures are rejected and positive results can only be achieved when a host of other vaguely defined variables is present, the exact role of hypnotic induction becomes even more unclear and doubtful.

Nevertheless, it would be wrong to suggest that hypnotic techniques are of no use in police investigation for the interrogation of witnesses. However, the generalization from a few ill-controlled laboratory studies that hypnosis has some unique capacity to delve into the unconscious and stimulate memories with an accuracy unobtainable by other means, may be misleading. When case reports of the use of hypnosis in forensic investigation are examined, it seems that the alleged successes of hypnosis in these situations are more likely to be the result of incidental differences in the procedures used by the police and hypnotists. For example, in a
number of cases cited by Hibbard & Worring (1981) it seems evident that the 'breakthroughs' occurred when, for instance, the hypnotist managed to assure witnesses that they would not be in danger if they testified; or the atmosphere was convivial and reassuring so that embarrassing details (for instance, of rape) could be revealed with the minimum of distress; or details could be selectively recalled so that particularly painful events could be ignored. Moreover, in these cases the 'breakthroughs' often occurred during the preinduction rapport, i.e. before the witness had even been hypnotized. Another feature of the techniques used by forensic hypnotists is their unconventionality, e.g. hypnotists may get witnesses to close their eyes or draw pictures, play roles, describe incidental features and so on. Ingenuity of this kind could be a great aid in providing the associative cues necessary to recall relevant details. The real value of hypnosis in witness interrogation may lie, therefore, not in the ability of a special 'trance' or altered state to achieve 'supermemory', but in the reassuring atmosphere created by the hypnotist and attempts with a number of techniques to help the memory of the witness. There seems to be no reason why similar procedures should not be applied outside the context of hypnosis to witnesses who are not hypnotically susceptible. In this connection it is of interest that civilian witnesses appear to remember more of a violent event when interviewed by a non-authoritarian figure (Hollin 1981).

In summary, although controlled experimental work on hypnosis and eyewitness memory is far from complete, a review of the evidence suggests that: (1) Arguments based on ill-controlled studies of 'supermemory' under hypnosis may be misleading. (2) The real value of hypnosis may lie more in the special interaction or rapport that the hypnotist creates. (3) By emphasizing the less mystifying aspects of hypnosis in the form of the use of relaxation, concentration and imagination, many of the techniques presently applied by forensic hypnotists may be more widely accepted and be applicable to a greater number of witnesses.

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