of the volitional status of suggested behavior have not only become
the subject of passionate debate but constitute the crux differ-
centiating theories of hypnosis (Kirsch & Lynn 1998a). Hypnosis
data drawing on cognitive science and neuroimaging have pro-
vided significant insights into this conundrum.
It is not a coincidence that some practitioners prefer the term
“self-hypnosis” to “hypnosis” (cf. Olness & Kohen 1996). Particip-
ents in hypnosis studies generally wish to be hypnotized and therefore consent to fill the hypnotic role and follow suggestions.
Their compliance differs from that of a voluntary response to a re-
quest in that they must make plans not only to execute a suggested
movement, but also to concurrently interpret the movement as non-volitional. Indeed, there are data supporting this mental process (Silva & Kirsch 1992). However, whether or not hypnotic responses are intentional, it is important to remember that they are experienced as involuntary by the subject. As it is likely that these responses are a product of both intentional and automatic
elements, the issue becomes more a question of whether the re-
sponse is elicited intentionally or attentionally (e.g., Raz & Shapiro 2002).

There are data showing that highly hypnotizable individuals can
eliminate involuntary and ballistic effects (e.g., Stroop interfer-
ence task) or specific posthypnotic suggestions (Bush et al. 2000). Consistent with Sheehan 2003; Raz et al. 2002, 2003b; Schatzman 1980),
When they do, specific brain changes related to this effect occur (Raz
2004). Furthermore, there are now genetic findings concerning
individual differences that might relate to the distinction between
highly and less hypnotizable people (Raz et al. 2003a; 2004; in press) as well as evidence that hypnotic inductions might lead to
behavioral lesions reminiscent of actions following veridical les-
sions (e.g., stroke) (Raz 2004). Indeed, the heritability of hypno-
tizability is among the highest of any psychological individual-
difference measure identified to date (Morgan 1973; Morgan et
al. 1970) and neuroimaging findings associated with such hypnotic
and attentional modulations consistently implicate differential ac-
tivation patterns in the anterior cingulate cortex (ACC) (Fan et al.
2003; Raz et al. 2003a; 2004; in press).

A popular theory of cognitive control proposes that the ACC is
part of a network involved in handling conflict between neural ar-
Eas. While some researchers view the ACC through the lens of a
conflict-monitoring model (Botvinick et al. 2001; Cohen et al.
2000), others construe it as a regulation model engulfling broader
processes of consciousness and self-regulation, including execu-
tive control and conflict resolution (Bush et al. 2000). Consistent with
the importance of the ACC to normal self-monitoring, there are
syndromes of abnormal agency that occur with extensive lesions
of the ACC and associated midline frontal cortex whereby a pa-
tient interprets the actions as caused by an outside force (Gold-
berg 1985). The ACC is well-situated to mediate limbic
motivational influences and the adjacent supplementary motor
areas, and lesions associated with ACC and medial frontal regions
have been documented to produce akinetic syndromes, in which
patients do not engage in actions despite being quite capable of
doing so (Damasio & Van Hoesen 1983). With their ACC im-
paired, these patients appear to lack motivation to act. Towards
this end, psychosurgery sometimes aims for the ACC to alleviate
chronic pain or decrease the symptoms of anxiety, as such inter-
ventions typically decrease the patient’s concern over life prob-
loms (Rainville et al. 1997).

The illusion of conscious will can be also harnessed towards a
low-cost and noninvasive therapeutic means. For example, hyp-
notic interventions have been used to alleviate tic symptoms in in-
dividuals diagnosed with Tourette syndrome (TS) (Craddock
1992; Culbertson 1989; Kohlen 1995; Kohlen & Botts 1987; Lind-
ner & Stevens 1967; Young & Montano 1988; Zahn 1987). Hypno-
tic suggestion is believed to engage self-regulatory mechanisms
(Ray & Tucker 2003), and, whereas effortful control can evanes-
cently suppress TS symptomatology, rendering self-regulation a
less by which to view TS formulation, the fact that volitional as
well as involuntary control of behavior can be interrupted and
modified by external suggestion proposes that, at least under ap-
propriate conditions, hypnotic influence may engage mechanisms
of control at an unconscious level. By understanding the substrates of
these processes, therefore, we may better understand not only
the interesting phenomenon of conscious will, but mechanisms of
self-regulation. This is particularly appealing in the context of hu-
man development, wherein studies have shown that the sense of
control over actions becomes stronger with age. In this regard,
studies of hypnotic susceptibility have repeatedly shown that chil-
dren are more hypnotizable than adults (London 1985; Olness &
Kohen 1996) and more readily attribute the cause of their actions
to an external source, suggesting that the separation of action from
authorship is perhaps more potent in younger age. The matura-
tion of self-regulatory mechanisms across development is instruc-
tive in this sense, because prefrontal brain development reflects
changes in perception of control over action as well as thought and
emotion and may lead to a more complete understanding of the
 correlates of conscious will (Bronson 2000).

In conclusion, Wegner’s book is a delightful composition and a
fine demonstration of how cognitive science can learn from the in-
sights of an accomplished social psychologist. Although we would
have liked to see a more rigorous treatment of relevant psycho-
neuroscience and, particularly, data concerning the neural correlates
of consciousness, books take time to prepare and some of the data
we cite here were probably unavailable as Wegner was putting pen
to paper. Apropos, Christof Koch’s latest, Quest for Consciousness
(2004) nicely complements Wegner’s efforts on these points.

Conscious will in the absence of ghosts, hypnotists, and other people

Johannes Schultz*, Natalie Sebanz*, and Chris Frith‡

*Department of Imaging Neuroscience, University College London, London, WC1N 3BG, United Kingdom; ‡Max-Planck Institute
for Psychological Research, 80799 Munich, Germany.

E-mail: j.schultz@filion.ucl.ac.uk

E-mail: sebanz@psy.mpg.de

E-mail: c.frith@filion.ucl.ac.uk

http://www.filion.ucl.ac.uk

http://www.mpi-puennchen.mpg.de/cgb/in/inhalterg.cgi?name=SEN
E&filetype=personal&language=en

http://www.filion.ucl.ac.uk/principles/frith.html

Abstract: We suggest that certain experiences reported by patients with schizophrenia show that priority, consistency, and exclusivity are not suffi-
cient for the experience of willing an action. Furthermore, we argue that if priority, consistency, and exclusivity cause the experience of being the
author of an action, this does not mean that conscious will is an illu-

Wegner (2002) discusses an impressive variety of phenomena
demonstrating that when the three conditions, priority, consist-
ency, and exclusivity are met, an action feels willed, whereas
when one or more do not apply, the cause of an action is attrib-
uted to forces other than the self. He convincingly shows that
the feeling of conscious will can be erroneous, such that a person can
either believe he was the author of an action even though he was
not, or that he can believe he was not the author while in actual
fact he was. The strongest version of Wegner’s claim would be that
priority, consistency, and exclusivity are both necessary and suffi-
cient for the experience of willing an action. However, we suggest that
certain experiences reported by patients with schizophrenia
show that priority, consistency, and exclusivity are not sufficient
for the experience of willing an action.

Patients with delusions of control report that their actions, even
quite trivial actions, are caused by some other person, not by themself, but
by some alien force. Patients report such abnormal experiences even
though they have the prior intention to make the action, the action
made is consistent with their intention, and there is no obvious am-
biguity about who is making the action. We have suggested else-
where (Holroy & Frith 2004) that what is missing is an aspect of

the feeling of what it is like to be in control of one’s actions; know-
ing what is going to happen and, at the same time, minimal aware-
ness of the stimulus consequences. Thus, will has a specific phe-
nomenology in addition to the knowledge of authorship.

We also propose that, even if priority, consistency, and exclu-
sivity are sufficient for the experience of being the author of an ac-
tion, this does not mean that conscious will is an illusion. The sit-
uation Wegner draws upon to claim that conscious will is simply
an emotion of authorship are all very specific and differ in impor-
tant ways from everyday settings. First, they are characterized by
a lack of exclusivity, such that the intention to perform an action
can either be attributed to oneself or another entity, be it a hyp-
notist, a ghost, or simply another person. Faced with a lack of exclu-
sivity, we are likely to attribute authorship of an action to some-
body else—unless priority and consistency are reinforced as in the
“I Spy” study, wherein people are tricked into attributing to them-
sele an intention they never had. In everyday life, most of our
actions and intentions can usually unambiguously be attributed to
ourselves. Second, Wegner focuses on situations where intentions
in action rather than prior intentions (Searle 1983) are at stake. He
investigates the feeling of authorship in situations where one did
not have a strong prior intention to perform a specific action.
However, there is little to no overlap with normal causality and be-
cause of sequence of intentions that have been formed following con-
scious deliberation. A recent experiment (Lackner et al., in prepa-
ration) suggests that when a prior intention for an action has been
formed, performance of the action is less susceptible to the influ-
ence of a distracter (a voice referring either to the action to be per-
formed or an action not to be performed) than when the action is
only accompanied by an intention in action. It seems that Wegner,
in his remarkable study of the phenomenal will, has extended his
conclusions slightly too far to include all kinds of intentions, and
while his thought-provoking ideas explain cases of intentions in ac-
tion, they do not explain prior intentions very well.

Finally, we suggest that from the finding that the phenomenal
will can be illusory it does not follow that the empirical will, de-
defined as “the causality of the person’s conscious thoughts as estab-
lished by a scientific analysis of their correlation with the person’s be-
oravior” (Wegner 2002, p. 14) is also an illusion. Although Weg-
ner claims to address only the phenomenal will, he uses demon-
strations of how the feeling of conscious will can be erroneous at
times to draw conclusions about the empirical will, suggesting that
all or most of our voluntary actions are caused by unconscious
forces rather than conscious intentions. From the observation that
the feeling of conscious will and actions are not causally related in
certain specific conditions such as hypnosis, automatisms, and par-
ticulal experimental settings, it does not automatically follow
that conscious thoughts are generally not causally related to ac-
tions.

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Is the illusion of conscious will an illusion?

Robert J. Stemberg
Department of Psychology, PACE Center, Yale University, New Haven, CT
06520-8388. Robert.Stemberg@yale.edu www.yale.edu/justemberg

Abstract: This book is a tour de force in showing that what we believe to
be actions dictated by conscious will are not, in fact, wholly dictated by
conscious will. However, Wegner has fallen into the trap of making claims
that go beyond his data to make his case more compelling and newswor-
thy. Psychology needs to be informed by common sense.

The Illusion of Conscious Will (Wegner 2002) is a wonderful book
that shows that much of what we believe to be consciously-driven
action is, in fact, more complexly driven than we are likely to think
possible. For those who maintain an illusion of tight control, the
book will be an eye-opener. For some not familiar with the foibles
of Strom Thurmond, Newt Gingrich, Bill Clinton, Richard
Nixon, and other very intelligent individuals may make clear, at
least to some, that even the brightest among us have much less
control over their actions than they would like to believe—and
certainly than they would like others to believe.

The title of the book implies that conscious will is a myth. In
deed, Wegner ends the book by stating that “the feeling of doing is
how it seems, not what it is—but that is as it should be. All is well
because the illusion makes us human” (p. 342). But is it an illusion?
I would argue that nothing in the book quite shows conscious
will to be an illusion. Rather, it is part of a complex chain of events
in which the conscious will does not necessarily come at the be-
ninning of the chain. However, as Aristotle and everyone since who
has studied causality has appreciated, causality always represents a
complex chain of events. One can almost always ask for a cause one
step further back in a causal chain. For example, why do people
procreate? Because they want to? Because of their motivations?
Because of their emotions? Because evolution drives them to?
Because God willed them to? Because they are victims of their genes?
The chain is long, and it is complex rather than simple. The
fact that there may always be a cause one step further back does not
mean that causal value cannot be assigned to each step along the way.
To argue otherwise is the ultimate in reductionism.

An example can be viewed in the case of the murders commit-
ted by Lee Boyd Malvo in and around the Washington, DC, area
in 2002. It is uncontroversial that Malvo committed them. But
why? Because he was under the dominating influence of John
Muhammed? Because he was psychopathic? Because he was
a natural-born killer? The causal chain, as in most events, is long and
complex. Unquestionably, research paradigms such as those used
by Wegner would show that his conscious willing of the killings
was not at the beginning of the causal chain. Was the jury there-
fore wrong in convicting him of murder and sentencing him to life
in prison? The causal chain is complex. But one would shoulder
the responsibility of their actions because their conscious volition was
at some midway stage of the decision process. Does Wegner or any-
one else want to move to this position—that no one is responsible
for, or her own actions? Do we want, in deciding what is, to
spend our time deciding exactly what “is” means, as some power-
ful defendants would have us do?

I believe there is a general lesson here. Mischel (1968) once ar-
gued that research did not support the notion of personality traits.
Jensen (1998) has argued that when all is said and done, general
ability (g) pretty much captures all that is worth capturing in the
study of intelligence. These claims seem, through common sense,
off-base. Mischel (Mischel & Peake 1983) later backed off from
his earlier claim. Perhaps someday Jensen or his disciples will back
off from theirs. When the evidence of everyday experience sug-
gests that the story told by psychological research is not quite
right, we need to listen to it and consider the possibility that our
paradigms are leading us astray, at least in our interpretation of
conclusions. Wegner’s research does not show conscious will to be
an illusion. It shows it to be complexly determined. But I would
suspect, or at least hope, that Wegner would not entirely exculpate
Malvo or Muhammad on the argument that what they did was not
the product of conscious will. Rather, the process was complex,
but in the end, we must take responsibility for our own actions,
however complexly determined they may be. The process by
which Malvo committed the murders may well not have started
with conscious will. But conscious will could have kept Malvo from
committing the murders. It didn’t. Hence, he is culpable. And his
culpability is no illusion, and it in no way makes him “human.”

Psychology, and science in general, have long been plagued by
their failure to recognize fully the relevance of the Hegelian di-

Commentary/Wegner: Précis of The illusion of conscious will