

## Just Going Along: Nonconscious Priming and Conformity to Social Pressure

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This research investigates whether conformity can be elicited or suppressed by nonconscious priming. In Experiment 1, participants were primed for either conformity or nonconformity using a scrambled sentences task and later placed into a conformity situation. As predicted, participants primed with conformity expressed views that were more similar to those of experimental confederates than did participants primed with nonconformity. To investigate whether the influence of the primes was symmetric, Experiment 2 included a neutral prime condition. Participants primed with conformity again tended to conform more than those in the other two groups, but the nonconformity primes did not induce participants to rebel against the group norm. Discussion focuses on the asymmetry in the effectiveness of the conformity and nonconformity primes. © 1999

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I just went. My mind just went. And I wasn't the only one that did it. A lot of other people did it. I just killed . . . a lot of people were doing it, so I just followed suit. I just lost all sense of direction, of purpose. I just started killing any kinda way I could kill. It just came. I didn't know I had it in me.

—American soldier involved in the My Lai massacre (Bilton & Sim, 1971, p. 7)

Conformity pressure often produces a strong feeling of internal conflict. On one hand, a person may feel that the opinions, attitudes, or behaviors of others are incorrect or, even worse, immoral. On the other hand, nobody wants to be ostracized by their friends or peers. Deciding what to do often requires considerable conscious deliberation, as one sizes up the costs of caving in versus the pain

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of eating lunch alone for weeks on end. Variations in numerous aspects of the situation lead to variations in the conscious perception of these costs, which, in turn, may influence behavior.

There are times, however, when behavior in conformity situations seems less deliberate and less controlled. People sometimes find themselves going along with the group reflexively—without much thought and without knowing why. The first author, for example, recently found himself running energetically across Manger Square in Bethlehem for the simple reason that everyone else in the square was also running (as it turned out, because of a surprise visit by Yasser Arafat). Similarly, the soldier involved in the My Lai massacre recalls his seemingly automatic reaction to the behavior of his fellow soldiers. He did not stop to consider his behavior, he just “followed suit.”

The present research seeks to investigate a potentially important instigator of this type of “mindless” or “automatic” conformity. Specifically, we investigate whether priming the construct of conformity or nonconformity can lead people to be more inclined to follow or resist the influence of others.

### *Automaticity in Social Cognition and Behavior*

Psychologists have known for some time that many cognitive processes are beyond conscious awareness or voluntary control (see Greenwald & Banaji, 1995, for a review). Attitudes, for example, may be activated by the mere presence of an attitude object (Bargh, Chaiken, Govender, & Pratto, 1992; Fazio, Sanbonmatsu, Powell, & Kardes, 1986), and comparisons arise automatically when one is in the presence of another person (Gilbert, Giesler, & Morris, 1995). Judgments about ourselves and others are likewise open to influences beyond conscious control, including the influence of information presented outside of awareness (Greenwald & Banaji, 1995).

More recently, researchers have documented such effects not just on judgment, but also on social behavior. In perhaps the most dramatic demonstration of this effect, college students primed with words associated with the elderly walked more slowly after leaving an experimental setting (Bargh, Chen, & Burrows, 1996). In another study by the same authors, white participants subliminally presented with faces of African Americans expressed more hostility in response to a computer failure than did those presented with white faces. Also, participants who are exposed to words associated with hostility tend to behave in a more hostile fashion (Carver, Ganellen, Froming, & Chambers, 1983; Herr, 1986). This research suggests that social behavior can be activated automatically, seemingly with no conscious thought or mediation.

We sought to expand on these findings by examining whether conformity—a behavior of long-standing interest to social psychologists that is typically characterized by conscious deliberation—can be influenced by analogous priming manipulations. Can people be led to conform by priming them with words related to conformity? Alternatively, can people be induced to rebel or deviate from a

group consensus by priming them with words related to nonconformity? We conducted two studies to find out.

## EXPERIMENT 1

### *Methods*

*Participants.* Thirty-four Cornell University undergraduates volunteered to participate for extra credit in their psychology courses.<sup>1</sup>

*Materials.* Participants were primed for conformity or nonconformity using a scrambled sentences task presented in the guise of a psycholinguistics experiment (Bargh et al., 1996; Srull & Wyer, 1979). Participants were presented with strings of five scrambled words and asked to create a grammatically correct sentence using four of the words in each string. For instance, the scrambled string “is kind angry she very” could be unscrambled to make “she is very kind” or “she is very angry.”

Two different versions of the task, each containing 30 strings of scrambled words, were created to prime participants either for conformity or nonconformity. In 20 of these strings, one word was semantically related to either conformity or nonconformity, depending on condition. To generate these priming words, 45 undergraduates in a psychology course at Cornell were asked to write down as many words as they could think of that were related to conformity and nonconformity. Words mentioned by at least 3 participants were included in the task. Only 19 nonconformity words fit this criterion, and thus one word (oppose) was repeated. To maintain balance across the two conditions, only the 19 most frequently mentioned conformity words were used as well, with one of the words (respect) being repeated. The resulting words did not vary across conditions in either length,  $t(36) = 1.23$ ,  $p > .20$ , or frequency of usage (Carroll, Davies, & Richman, 1971),  $t < 1$ .

In the conformity version, the critical priming stimuli were *adhere*, *agree*, *comply*, *conform*, *copy*, *customary*, *emulate*, *follow*, *habitual*, *imitate*, *maintain*, *mimic*, *obey*, *oblige*, *respect* (presented twice), *simulate*, *supportive*, *uniform*, and *uphold*. In the nonconformity version, the critical priming stimuli were *challenge*, *confront*, *counter*, *defy*, *deviate*, *differ*, *different*, *disagree*, *disobey*, *disrespect*, *ignore*, *individual*, *independent*, *oppose* (presented twice), *opposite*, *rebel*, *refute*, *reject*, and *unique*. The four filler words in each of the 20 critical strings were unrelated to either conformity or nonconformity, as were all the words in the 10 neutral strings. The sentences were presented in a random order that was the same for both conditions. The priming task was administered on a Macintosh LCII computer using a program created with Hypercard.

*Procedure.* Each session included three confederates who were unaware of the participant's condition. All members of the ostensible group of four were told that

<sup>1</sup> In both Experiments 1 and 2, approximately 65% of participants were women. However, gender had no effect on any of the dependent measures in either experiment and therefore is not discussed further.

the experiment concerned “psycholinguistic decision-making processes” and would involve a short computer task. The experimenter told participants that the session was actually a pilot test for an experiment to be run later in the semester. Consequently, he was interested in receiving feedback regarding the experiment and would be asking them a few short questions after they had finished.

They were then led to individual cubicles each equipped with a computer. From just outside the cubicles, the experimenter gave everyone some general instructions regarding the computer program and told them to assemble in the hallway when they were finished. The task required approximately 10 min to complete.

After several minutes, two of the confederates quietly left their cubicles and waited in the hallway. The remaining confederate was instructed to wait in the cubicle until the participant had finished and then to emerge 10 s later. Once all four were in the hallway, the experimenter led everyone to another room containing a large table and an overhead projector. The confederates always entered first and sat in previously assigned chairs, thereby assuring that the participant invariably sat in the same location. After everyone was seated, the experimenter reiterated that this was only a pilot test and that he would like some feedback about the experiment.

The experimenter then asked two questions: “How interesting was this experiment?” and “Overall, how much did you enjoy this experiment?”<sup>2</sup> After each question, two confederates immediately gave extremely positive verbal feedback and then waited a moment to allow the participant time to respond, if he/she desired. After a response or brief moment of silence, the experimenter told the group that, as a social scientist, he was leery of open-ended responses and would like a more concrete measure of their sentiments. A written version of each question and a scale ranging from 1 (not at all) to 11 (extremely) was then projected onto the wall. The experimenter requested that each person think about his/her response to the question and then gestured around the room saying, “Maybe we could quickly go around the room and get your responses.” The experimenter’s gesture made it clear that the confederates should respond first and the participant last. All confederates provided extremely positive responses ( $M = 9.67$  across both questions). Given the nature of the sentence construction task being evaluated, such responses were likely to be significantly at variance with the participant’s own attitudes.<sup>3</sup> After the participant provided his or her ratings, the confederates were dismissed and the participant was debriefed.

<sup>2</sup> Participants were also asked “How difficult was this experiment?” However, responses to this question were uncorrelated with the other two items in both studies (all  $p$ 's  $> .2$ ) and were thus excluded from all analyses. In Experiment 1, internal reliability (Cronbach's  $\alpha$ ) for the composite scale averaging across the dependent measures rose from .68 to .81 when this item was removed. In Experiment 2, internal reliability rose from .53 to .72. Consequently, the main conformity analyses in both Experiment 1 and Experiment 2 are based on the two items cited in the text.

<sup>3</sup> Indeed, a separate group of control participants in Experiment 2 who were neither primed nor exposed to any conformity pressure assigned the task a mean rating of 6.39 on the two scales.

### Results and Discussion

To examine whether participants were aware of the priming manipulation, we asked them during debriefing to indicate whether, and how, the sentence construction task might have been related to the later feedback session. Nearly all participants simply repeated the cover story in response to this probe, and none indicated correctly how the two parts of the experiment were related. In addition, participants were asked if they could remember any recurring themes among the words used in the sentence construction task. Once again, no participant voiced any awareness of the theme of conformity or nonconformity.

To create an overall conformity index, we averaged each participant's ratings on the two 11-point scales ( $\alpha = .81$ ). As predicted, participants primed with conformity rated the task more favorably ( $M = 8.56$ ) than did those primed with nonconformity ( $M = 7.41$ ), separate variance  $t(32) = 2.08$ ,  $p < .05$ . Stated differently, the ratings made by participants in the conformity condition were more similar to those voiced by the confederates (mean discrepancy = 1.11) than were those made by participants in the nonconformity condition (mean discrepancy = 2.26).

It is worth noting that although participants in the nonconformity condition conformed less than their counterparts in the conformity condition, their mean responses were nonetheless rather high ( $M = 7.41$ ). One would be hard pressed to argue that participants in the nonconformity condition were particularly rebellious. One ancillary finding that may help to explain these seemingly high conformity scores is that the variance in the nonconformity group was significantly larger than that in the conformity group (Levene's Test for Homogeneity of Variances = 6.17,  $p < .05$ ). Some of this difference doubtless results from the ratings in the conformity group being closer to the upper limit of the scale and therefore having less room for variability. This is unlikely to be the sole reason for the difference, however, as the average was still rather far from the absolute ceiling (8.56, with an upper limit of 11).

Another possible reason for this difference is that it may be difficult to prime nonconformity without running the risk of simultaneously priming conformity. Terms related to nonconformity are often—like nonconformity itself—coded with reference to conformity, whereas the converse is not true for conformity. *The New Merriam-Webster Dictionary* indicates that to “defy,” for example, is defined as “to refuse boldly to obey or to yield to” (Mish et al., 1989), and, of course, “disagree” and “disobey” explicitly denote the absence of agreement and obedience, respectively. The common terms used to denote conformity, in contrast, make no reference to the counter condition of nonconformity. To “obey,” for example, is defined simply as “to follow the commands or guidance of: behave obediently” (Mish et al., 1989). Nonconformity is thus linguistically “marked” and conformity “unmarked,” and, like marked forms generally, it is processed along with some reference to its unmarked counterpart (Clark & Clark, 1977). This suggests that the conformity primes may have been more successful—more pure—than the nonconformity primes, which may have inadvertently also

primed conformity. This would explain both ancillary features of our data: (1) that the ratings made by participants in the nonconformity condition, although significantly lower than those in the conformity condition, were still rather high in absolute terms and (2) that the *variability* of the ratings in the nonconformity condition was so large.

## EXPERIMENT 2

We conducted a second experiment to pursue this issue further. In particular, we included a neutral priming condition to examine whether the words used to prime nonconformity induce people to dissent as much as the words used to prime conformity lead them to conform. If the nonconformity primes inadvertently activate the construct of conformity for at least some (but not all) participants, the mean responses of participants in the neutral and nonconformity groups should be roughly comparable, with some participants in the nonconformity group rebelling and others conforming. This should also generate greater variability in the responses of participants in the nonconformity group compared to those in the other two conditions. On the other hand, if the nonconformity primes successfully activate pure nonconformity, then the responses of participants in the nonconformity condition should deviate from those of the confederates more than those of respondents in the control group.

Experiment 2 was also designed to investigate several alternative interpretations of the findings from the first experiment. First, the experimenter in Experiment 1 was aware of each participant's condition. We doubt, however, that experimenter demand produced the observed effects because of the tightly scripted interaction between the experimenter and participants and the more salient demand—constant across conditions—emanating from the confederates who were unaware of the condition. Nevertheless, to remove any doubt about this issue we devised a procedure for Experiment 2 that would keep the experimenter unaware of the participant's condition.

Second, although no one indicated any awareness of the priming manipulation during debriefing, this does not guarantee a complete lack of awareness. Some participants may have been consciously aware of the earlier primes when the dependent measures were collected, but any such awareness may have faded by the time of debriefing. To provide a more rigorous test of awareness in Experiment 2, a control condition was run in which participants were given the sentence completion task and then, without the time-consuming and distracting procedure of listening to the responses of the confederates, were asked whether they had detected any recurring themes in the sentence completion materials.

Finally, control participants were asked to rate the experiment on the two critical conformity measures, in the absence of conformity pressure. This served to investigate the potential artifact that exposure to the conformity words may have made the experiment more interesting and enjoyable.

## Methods

*Participants.* The participants were 120 Cornell undergraduates who volunteered in exchange for extra credit in their psychology courses. Sixty participants were run in one of three experimental conditions (conformity, nonconformity, neutral), and 60 were run in the three corresponding control conditions.

*Materials.* All materials were the same as those in Experiment 1, with the addition of the neutral priming condition. In this condition, the critical priming words used in the conformity and nonconformity conditions were replaced by the following: *allergic, alternate, chase, excuse, imprint, meet, mobile, naive, nervous, notion, orient, perplex, review, simplify, sociable, stretch, thirsty, transport, vault, and wonder*. These words did not differ from their counterparts in the other two conditions in either length, both  $p$ 's  $> .15$ , or frequency (Carroll, Davies, & Richman, 1971), both  $p$ 's  $> .35$ .

*Procedure.* The procedure was identical to Experiment 1 for the three experimental conditions. In the control condition, participants were run in groups of one to five and no confederates were used. After completing the computer task, control participants were told that the experimenter would like to receive feedback about the experiment and were handed a questionnaire containing the two critical attitude questions.

A third item was included to measure awareness: "Many of the words included in the sentences presented earlier on the computer were related to one another. Can you think of any general themes or topics that most of the words in the sentences were related to?" After completing the questionnaire, the participants were debriefed and dismissed.

## Results and Discussion

There were three primary questions of interest in this experiment. First, what was the direction of influence in the nonconformity condition? Were these participants induced to rebel against the group or did the nonconformity primes also inadvertently prime conformity? This was assessed by comparing the behavior of participants in the nonconformity and neutral groups. Second, can the predicted behavioral effects also be obtained in the absence of conformity pressure? This was assessed by examining the responses of the control participants, who completed the attitude measures without conformity pressure. Finally, were participants aware of the priming manipulations? This was likewise assessed by examining the responses of the control participants, who were asked immediately afterward whether they had detected any recurring themes in the sentence completion task.

*Conformity.* The primary dependent measure was each participant's average response on the two 11-point scales. These data are presented in Fig. 1, which shows that participants in the conformity condition gave higher ratings ( $M = 8.73$ ), which therefore conformed more closely to those of the confederates than did participants in either the nonconformity ( $M = 8.03$ ) or neutral ( $M = 7.77$ ) conditions. The critical contrast between the conformity condition and the other two

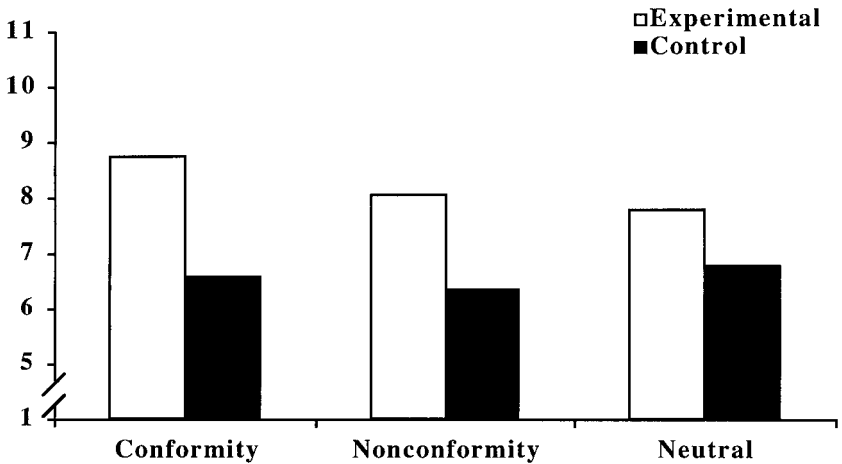


FIG. 1. Mean task ratings in experimental and control conditions.

conditions was significant, separate variance  $t(57) = 2.80, p < .01$ . Examined more closely, the responses of participants in the conformity group were significantly higher than those of participants in the control group, separate variance  $t(57) = 3.03, p < .005$ , and marginally significantly higher than those of participants in the nonconformity group, separate variance  $t(57) = 1.68, p = .10$ . The nonconformity and neutral conditions did not differ significantly from each other,  $t < 1$ . This is consistent with the claim that words used to prime nonconformity can also inadvertently prime conformity. This claim is further supported by the finding that the variance of participants' responses in the nonconformity group (2.85) exceeded by a considerable margin the variance of participants' responses in the conformity group (0.73), Levene's Test for Homogeneity of Variance = 3.84,  $p = .057$ . The variance of participants' responses in the neutral group (1.25) was between that of the other two groups but closer to the conformity condition.

*Behavior in the absence of pressure.* Participants in the control conditions answered the same two attitude questions as those in the experimental groups. As expected, a one-way ANOVA on their responses revealed no significant differences among the three priming conditions,  $F < 1$ , indicating no priming effects in the absence of conformity pressure (see Fig. 1). In addition, the variance in participants' responses in the conformity and nonconformity control groups were almost identical (Levene's Test for Homogeneity of Variance = .36,  $p > .5$ ).

*Tests for awareness.* We checked for awareness among the experimental participants during debriefing by asking them two questions. First, we asked participants whether, and how, the sentence construction task may have been related to the later feedback session. Once again, most participants simply relayed the cover story, and none indicated any awareness of the true relationship. Second, we asked participants whether they could remember any general themes



contained in the priming task. None mentioned anything related to either conformity or nonconformity. Thus, by the end of the experiment at least, it is clear that experimental participants were unaware of the content of the primes to which they had been exposed.

Results were slightly different for the control participants, who were asked to write down any themes they had discerned among the stimulus words immediately after they had been exposed to them. In the conformity condition, one person wrote "conformity," a second wrote "obedience," and a third wrote "obeying people." In the nonconformity condition, one person wrote "obedience/rebellion" and a second wrote "rebellion." None of the other themes mentioned were even remotely related to conformity or nonconformity. Thus, among the control participants, there was some awareness of the priming stimuli, but it was not pervasive (5 of 40 participants).

Does the awareness evidenced by these five participants call into question the results observed in the experimental conditions? We think not. First, it stands to reason that the ability to retrieve a theme running through the words contained in the scrambled sentences task would be greatest right after the task is completed and then fade with time. By the time participants in the experimental conditions left their cubicles, assembled in a common room, and listened to the experimenter's request for feedback, the relevant memory traces may have been inaccessible. This would explain why none of the experimental participants in either study reported a theme even remotely connected to conformity or nonconformity. Indeed, it is for this reason, presumably, that past research using the scrambled sentences paradigm has only assessed awareness of the priming stimuli among experimental participants and invariably found none (Bargh et al., 1996; Chartrand & Bargh, 1997; Srull & Wyer, 1979). More important, if participants were aware of the priming stimuli and behaved in accordance with some implicit "demand," we would not have obtained the results we did. In particular, participants who were aware of being exposed to nonconformity primes and who wished to please the experimenter would have conformed less than those in the neutral condition. We found, in contrast, that they conformed a bit more.

## GENERAL DISCUSSION

This research investigated whether conformity can be influenced by manipulations that are outside of conscious awareness. In both Experiments 1 and 2, participants primed with conformity words tended to conform more in a later situation than those primed with nonconformity words. In Experiment 2, participants primed with conformity words also conformed more than those primed with neutral words. In addition, a series of probes revealed that experimental participants were not consciously aware of the priming manipulation.

We also found that participants primed with nonconformity were not systematically induced to rebel against the group norm. In Experiment 2, although those primed with nonconformity again conformed less than those primed with conformity, they did not conform less than participants exposed to neutral primes.

Instead, priming for nonconformity appeared, if anything, to produce slightly more conformity behavior. It thus appears easier to induce people to mindlessly “go along” with group pressure than to “go against.”

### *Priming Conformity versus Nonconformity*

There are several potential explanations for this asymmetry, and thus several explanations for the results obtained in the nonconformity conditions of the two experiments. First, it is typically easier for people to conform than to rebel. This may have been particularly true in the present experiments in which deviating from the example set by the confederates involved telling the experimenter to his face that his experimental tasks were dull. Thus, our procedure may have simply set a much higher “hurdle” for expressing the impulse to rebel than the impulse to conform. Second, because our confederates modeled conformity and not dissent, participants in the conformity conditions may have been doubly primed—by the words presented in the scrambled sentences task and by the confederates’ behavior. There is recent evidence that one person’s behavior can lead to automatic mimicry by another (Chartrand & Bargh, 1999). Such an effect here would have accentuated the effectiveness of the conformity primes and suppressed the effectiveness of the nonconformity primes.

A third explanation is the one we referred to earlier: Priming nonconformity may simultaneously prime conformity and thus lead to weak or variable effects. As the very name implies, nonconformity tends to be understood in contrast to—and hence in reference to—conformity. Our conformity manipulation may thus have been relatively pure and effective, and our nonconformity manipulation relatively impure and ineffective.

The present findings cannot definitively decide between these three interpretations. That task is left to future research. Nevertheless, although not definitive, we believe the current data favor the latter “dual activation” explanation because that explanation is most congenial to the significantly greater variability of responses observed in the nonconformity condition. If the nonconformity primes inadvertently primed conformity for at least some of the participants, then one would expect particularly variable responses among the group of participants exposed to such primes. The priming stimuli would thus induce some participants to rebel and others to conform.

Analogous asymmetries, of course, can be found elsewhere in the psychological literature. One example is the marked/unmarked distinction mentioned earlier, and another comes from the field of visual perception, where visual traits are often encoded in a similar prototype–deviate dichotomy. For example, tilted lines tend to be encoded as a straight line with a certain degree of deviating tilt, whereas a straight line is coded independently as something of a standard (Triesmann & Gormican, 1988). The additional activation that the deviate induces (a straight line plus tilt) explains why it seems to “pop out” in a display of prototypes (straight lines), whereas a straight line does not pop out in a display of deviates. The presence of the additional feature of the deviate (the deviating tilt) is easy to

pick up in a field of stimuli that lack it; but the absence of such a feature is not so easy to detect in a field of stimuli that contain it. This, of course, is the well-known feature positive effect (Agostinelli, Sherman, Fazio, & Hearst, 1986; Fazio, Sherman, & Herr, 1982; Hearst, 1991).

If this interpretation is correct, then the asymmetry in the effectiveness of the conformity and nonconformity primes was not an artifact of our particular paradigm, but a potentially general phenomenon worthy of investigation in its own right. This interpretation also implies that it may be particularly difficult to activate the construct of nonconformity lexically because the marked/unmarked distinction applies most readily to verbal primes. This does not mean, however, that the asymmetry applies *only* to verbal primes. To the extent that the marked/unmarked distinction is more than a linguistic phenomenon—that it applies to the very constructs of conformity and nonconformity—the same asymmetry is likely to be found for nonlexical priming as well.

Much of the recent research on priming has been concerned with whether the behavior elicited is “automatic” in the sense of occurring without intention, control, awareness, or attentional resources (for a review see Bargh, 1994). We cannot say, of course, whether the conformity we observed in the two studies reported here are automatic in each of these ways. That was not our goal. It is clear, however, that our participants were not aware of the priming stimuli that exerted an influence on their behavior, and in that sense the conformity observed in these studies has something of an automatic quality. Thus our findings are consistent with the proposition that although some instances of conformity may be the product of conscious and agonizing deliberations, others may be less a deliberate product of stimuli outside our awareness. Sometimes we find ourselves “just going along.”

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