How much for a transitive?
Subtle linguistic cues influence blame and punishment

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Abstract

When bad things happen, how do we decide who is to blame and how much they should be punished? In this paper we examined whether subtly different linguistic descriptions of accidents influence how much people blame and punish those involved. In three studies, participants judged how much people involved in particular accidents should be blamed and how much they should have to pay for resulting damage. The language used to describe the accidents differed subtly between conditions: either agentive (transitive) or non-agentive (intransitive) verb forms were used. Agentive descriptions led participants to attribute more blame and request higher financial penalties than non-agentive descriptions. Further, linguistic framing influenced judgments even when participants reasoned about a well-known event like the 'wardrobe malfunction' of Super Bowl 2004. Importantly, this effect of language held even when people were able to see the event for themselves on video. These results demonstrate that even when people have rich established knowledge and visual information about events, linguistic framing can shape event construal, with important real-world consequences. Subtle differences in linguistic descriptions can change the way people construe what happened and how they attribute blame and dole out punishment.

Introduction

When bad things happen, how do we decide who is to blame and how much they should be punished? Linguistic and contextual framing has been shown to affect people's reasoning in a variety of domains (e.g., Lee, Frederick, & Ariely, 2006; Levin, 1987; Levin & Gaeth, 1988; Loftus, Miller, & Burns, 1978; Loftus & Palmer, 1974; Shiv, Carmon, & Ariely 2005; Tversky & Kahneman, 1973; Tversky & Kahneman, 1981), including causal attribution (see Pickering & Majid, 2007, for a recent review). In this paper we build on this work by exploring the effects of linguistic framing in a domain of paramount real-world importance: blame and punishment.

Linguistic descriptions are of course ubiquitous in legal disputes. People linguistically frame incidents right from the very moment they occur and later in police reports, legal statements, court testimony and public discourse. Could the linguistic descriptions of an event influence how much we blame the people involved? Could language also influence how financially liable we think a person is for any resulting damage? Could linguistic framing shape construal even for well-known events (ones for which we already have rich knowledge and established mental representations) and even when we can witness the event with our own eyes?

The particular linguistic contrast of interest in this paper is between transitive agentive descriptions and intransitive non-agentive descriptions. A canonical agentive description (e.g., *Timberlake ripped the costume*) includes a person as the subject in a transitive expression describing a change of state (in this case, ripping). A canonical non-agentive description (e.g., *The costume ripped*) is intransitive and does not place the person as the subject for the change of state event.[1] Previous work has shown that people are sensitive to this distinction between agentive and non-agentive frames. For example, people are more likely to remember the agent of an event when primed with agentive language than with non-agentive language (e.g., Fausey & Boroditsky, 2010). The attributional consequences of these linguistic frames, however, are not well understood.

The linguistic contrast between agentive and non-agentive frames has the potential to have serious real-world consequences, especially in legal contexts. For example, in the 197,745 trials held between 1674 and 1913 at London's central criminal court (*Old Bailey Proceedings Online*, 2009), cases with the agentive phrase "*broke it*" in the court records resulted in a guilty verdict more often than cases with the non-agentive phrase "*it broke*" (76% and 70% guilty, respectively), with similar patterns for other consequential actions such as "*burned it*" versus "*it burned*" (77% and 57% guilty, respectively), $\chi^2(1, N = 2748) = 11.04$, $p < .05$. In the most serious of cases (when the charge was "killing"), the transitive/intransitive contrast as marked by different verbs also predicted verdicts. Saying "*killed*" resulted in more guilty verdicts than saying "*died*" (65% and 56% guilty, respectively), $\chi^2(1, N = 3814) = 21.34$, $p < .05$. These examples suggest that agentivity may be part of a suite of linguistic cues that are influential in legal reasoning.

In a correlational analysis like this, however, it is impossible to determine whether different linguistic forms actually caused a difference in verdicts. It could be that agentive descriptions indeed led the court more often to guilty verdicts. But it is also possible that people were simply more likely to use agentive language in cases where the defendant was actually more guilty. While the attributional consequences of transitivity have not been directly explored in the empirical literature, the question has been debated (and adjudicated!) in court. For example, in a case petitioning to change the title of a ballot measure (California's high-profile Proposition 8 in the 2008 election

[1] The distinction we draw here is different from active versus passive voice (e.g., Garvey, Caramazza, & Yates, 1976; Kassin & Lowe, 1979; White, 2003). Here we focus on transitivity and investigate not just the attributional consequences of transitivity (blame) but also the concrete real-world outcomes of these attributions (punishment).

titled "Eliminates right of same-sex couples to marry"), the judge rejected the petitioners' claim, ruling that "*There is nothing inherently argumentative or prejudicial about transitive verbs*" (*Jansson v. Bowen*, 2008). Few other questions in psycholinguistics have risen to a sufficient level of civic importance to be ruled on in high court.

With the high stakes of guilt, innocence and the legality of constitutional amendments on the line, it is important to empirically establish whether agentive and non-agentive frames indeed have any attributional consequences. In this paper we examine the effects of agentive and non-agentive linguistic frames on important real-world decisions about blame and punishment.

Study 1

In this study, participants read about an accidental restaurant fire that resulted in property damage. They then made judgments about the person involved in the accident. The survey was one of many unrelated surveys in a packet presented to participants.

Method

Participants. 236 students at Stanford University (96 male; mean age = 19.22 years) completed one survey in partial fulfillment of a course requirement. 116 read the agentive version of the story and 120 read the non-agentive version of the story.

Materials. Participants read either the agentive or the non-agentive account about an individual – Mrs. Smith – involved in a restaurant fire, and then answered two questions (Table 1). The two accounts contain all of the same content words (all of the same nouns, verbs and adjectives are used), involve the same individual and describe the same outcomes. The accounts differ only in the frames used to describe the accidental events (underlined in Table 1): transitive frames are used in the agentive account and intransitive frames in the non-agentive account.

Results and Discussion

Linguistic framing influenced both people's judgments of blame and financial liability. Participants who read the agentive account (M = 4.83, SE = .14) blamed Mrs. Smith more than did participants who read the non-agentive account (M = 4.01, SE = .15), $t(234) = 4.04$, $p < .001$, d = .53. Impressively, a subtle difference in language caused a big difference in dollars: people who got the agentive report ruled that Mrs. Smith should pay $247, or 36%, more in fines (M = $935.17, SE = $43.48) than participants who got the non-agentive report (M = $688.75, SE = $43.64), $t(234) = 3.99$, $p < .001$, d = .52.

In Study 1, linguistic framing influenced people's judgments of financial liability. One explanation for this result could be that Mrs. Smith was punished more harshly because she was also blamed more harshly. That is, the effect of language on financial liability might be indirect, such that language influences blame, which then determines punishment. Could language *directly* impact judgments of financial liability? This question is important because of the somewhat flexible sentencing process that occurs after guilt judgments in legal decision-making. A direct impact of language on sentencing would be an important applied result. Study 2 was designed to address this question.

Study 2

In Study 2, participants got an agentive or non-agentive accident description and also learned of a blame attribution generated by an independent review panel. This panel attributed either low, middle, or high blame to the person involved in the accident. After learning how blameworthy other people judged the person to be, participants determined the person's financial liability for the property damage. This paradigm allows us to target the independent role of language on financial liability sentences. People's decisions about financial liability may be guided by blameworthiness, language, or both.

Table 1: Studies 1 and 2 Reports and Questions

Agentive Report
Mrs. Smith and her friends were finishing a lovely dinner at their favorite restaurant. After they settled the bill, they decided to head to a nearby café for coffee and dessert. Mrs. Smith followed her friends and as she stood up, she flopped her napkin on the centerpiece candle. She had ignited the napkin! As Mrs. Smith reached to grab the napkin, she toppled the candle and ignited the whole tablecloth too! As she jumped back, she overturned the table and ignited the carpet, as well. Hearing her desperate cries, the restaurant staff hurried over and heroically managed to put the fire out before anyone got hurt.
Non-agentive Report
Mrs. Smith and her friends were finishing a lovely dinner at their favorite restaurant. After they settled the bill, they decided to head to a nearby café for coffee and dessert. Mrs. Smith followed her friends and as she stood up, her napkin flopped on the centerpiece candle. The napkin had ignited! As Mrs. Smith reached to grab the napkin, the candle toppled and the whole tablecloth ignited too! As she jumped back, the table overturned and the carpet ignited, as well. Hearing her desperate cries, the restaurant staff hurried over and heroically managed to put the fire out before anyone got hurt.
Questions for Study 1
Blame Mrs. Smith is discussing the damage with the restaurant. How much should she be blamed for the fire? (Likert scale from 1 to 7, anchored by "Not at all to blame" and "Completely to blame".)
Financial Liability The restaurant's insurance policy does not cover minor fires. The restaurant has sought legal action to require Mrs. Smith to pay for the damage. Total costs to the restaurant were $1500. How much should Mrs. Smith be required to pay?
Question for Study 2
Financial Liability The restaurant's insurance policy does not cover minor fires and so the restaurant has sought legal action to require Mrs. Smith to pay for the damage. An independent review panel used their standard blame assessment scale in reviewing this case. On this scale, 0 means "not at all to blame" and 8 means "completely to blame". The panel gave Mrs. Smith a {1,4,7}. The total costs to the restaurant were $1500. How much should Mrs. Smith be required to pay?

Method

Participants. 179 students at Stanford University (59 male; mean age = 19.01 years) completed one survey in partial fulfillment of a course requirement. 91 read the agentive account of the restaurant fire accident (33 low-blame, 30 mid-blame, 28 high-blame) and 88 read the non-agentive account (33 low-blame, 28 mid-blame, 27 high-blame).

Materials. As in Study 1, participants read either the agentive or the non-agentive narrative and then answered the financial liability question shown in Table 1. Thus, participants in this study answered only the financial liability question, after learning that an independent panel judged the person to be either a "one" (low), a "four" (mid) or a "seven" (high) in terms of blame.

Results and Discussion

The level of blame assigned by the independent panel influenced participants' judgments of financial liability (Figure 1). Overall, people judged that Mrs. Smith should pay more in damages when the independent panel ruled her to be highly to blame (M = \$974.19, SE = \$61.97) than when the panel assigned her a middle level of blame (M = \$615.00, SE = \$56.27) than when she was ruled to be of low blame (M = \$425.63, SE = \$50.89).

Interestingly, language also influenced financial liability judgments. As in Study 1, a subtle change in language led to a substantial change in financial liability: Mrs. Smith was held responsible for \$153, or 26%, more in damages by people who got the agentive report (M = \$730.75, SE = \$49.57) than by those who got the non-agentive report (M = \$577.77, SE = \$52.35).

A 3 (Blame: Low, Mid, High) by 2 (Language: Agentive, Non-agentive) factorial ANOVA revealed reliable main effects of assigned blame level (F (2, 173) = 25.23, p < .001) and of language (F(1, 173) = 5.53, p = .02). Assigned blame level and language did not interact, F (2, 173) = 1.40, *n.s*.

Guilt and linguistic framing independently influenced how much someone was required to pay for accidental property damage. Increasing assigned blame led to greater financial liability and agentive framing led to greater financial liability than non-agentive framing. This finding replicates the result from Study 1. Further, sentencing itself appears to be susceptible to linguistic framing effects.

Results from the first two studies suggest that agentive and non-agentive language can shape how people attribute blame and financial liability to individuals involved in accidents. Of course, in these two studies the only information that reasoners had about the accident was linguistic. Were people inevitably swayed by language because it was the only thing that guided what they imagined about the event? Perhaps people who received differently phrased reports imagined substantially different scenarios of what happened? In many real-life situations, the information we have about an event is purely linguistic – in court arguments, insurance claims, news accounts. But in other situations we may also have visual evidence, either as eye-witnesses or on videotape. Would linguistic framing still have an effect even if people were able to see the event with their own eyes? Further, the restaurant fire described in Studies 1 and 2 was a novel event, one for which participants had no other previous information. Would people be so easily influenced by linguistic framing if they were reasoning about an event that they already knew something about, for which they already had a rich set of mental representations?

To address these questions, we capitalized on a widely known, much discussed, well-publicized and video-recorded event: the "wardrobe malfunction" of Super Bowl 2004 when a performance by Justin Timberlake and Janet Jackson ended with Janet Jackson's breast being exposed on national television. Post-experiment questioning confirmed that this is indeed a well-known event; nearly all of our participants (96.9%) had heard about it and many had also seen the video (67.9%) before the experiment. With prior knowledge, and current visual evidence, could linguistic framing still influence blame and punishment?

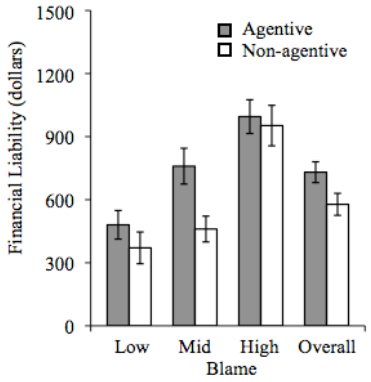

Figure 1: Independent contributions of guilt and linguistic framing to financial liability sentences (Study 2). Mean values are plotted on the y-axis, with whiskers representing +/- 1 SEM.

Study 3

In Study 3, participants reasoned about the wardrobe malfunction incident under one of three conditions: (a) they read about the incident, (b) they first read about the incident and then watched the video, or (c) they first watched the video and then read about it. In each condition, people read either an agentive or non-agentive account of the incident.

Method

Participants. 589 participants (188 male; mean age = 31.17 years) were paid for completing one survey online. Participants were recruited from the pool of English speakers who use Amazon's Mechanical Turk (https://www.mturk.com/mturk/welcome). 306 read the agentive account of the event (116 read-only; 88 read-then-watch; 102 watch-then-read) and 283 read the non-agentive account of the event (93 read-only; 106 read-then-watch; 84 watch-then-read).

Materials and Design. Participants read either the agentive or non-agentive account of the "wardrobe malfunction" incident (Table 2). In two conditions participants viewed a video of the final six seconds of the performance, which included the infamous malfunction.

After reading about the incident (and in two of the conditions also watching it on video), participants answered the questions shown in Table 2. The order of the three response options was randomized and the particular order presented to each participant was the same for the blame and financial liability judgments. Because Timberlake initiated movement right before the "wardrobe malfunction" and also because of his prominent apology to Super Bowl viewers (in which he coined the very phrase "wardrobe malfunction", Timberlake, 2004), our narratives focused on the actions of Timberlake. As a result, we expected that any effects of linguistic framing should be strongest for judging the guilt and financial liability of Timberlake. Also, because the FCC tried to fine CBS for broadcasting the incident, CBS was included among the possible targets for financial liability.

Results and Discussion

In brief, linguistic framing affected people's judgments of blame and financial liability in all conditions: language mattered whether it was presented before, after, or without video evidence. The main results of interest are shown in Figure 2.

Conclusions from these data are the same whether all three framing contexts are considered (as reported below) or whether only the two multimodal contexts are considered. Conclusions are also supported by nonparametric analyses.

Blame and financial liability attributions were analyzed using a 2 (Language: Agentive, Non-agentive) by 3 (Task context: Read-only, Read-then-watch, Watch-then-read) factorial ANOVA for each dependent measure. For clarity of presentation, we focus on effects of language here. Language and task context never interacted.

Blame. Linguistic framing influenced people's blame attributions (Figure 2a). Overall, people blamed Timberlake more after reading agentive language (M = 38.76%, SE = 1.59%) than after reading non-agentive language (M = 30.49%, SE = 1.43%), $F(1, 583) = 17.94$, $p < .001$. The effect of language was seen across the three conditions, with no interaction of the effect of language by condition, $F(2, 583) = .15$, *n.s.*

Language also affected attributions to chance. Overall, people attributed the outcome to chance more after reading non-agentive language (M = 42.87%, SE = 2.40%) than after reading agentive language (M = 33.92%, SE = 2.26%), $F(1, 583) = 8.99$, $p = .003$. Again this effect of language was seen across the three conditions, with no interaction of the effect of language by condition, $F(2, 583) = .20$, *n.s.*

Financial liability. The modal response for financial liability was $0 (57.2% of all data). This is likely because the sentence "*Eventually the fine was dismissed in court*" appeared in the liability question. Nevertheless, the linguistic framing of the event influenced people's judgments about financial liability. Overall, the proportion of people who gave any non-zero amount of financial liability to Timberlake depended on linguistic framing. 46.7% assigned a non-zero fine after reading agentive language, while only 38.5% did so after reading non-agentive language, $\chi^2(1, N = 589) = 4.05$, $p = .044$.

The amount of money for which Timberlake was held liable likewise depended on linguistic framing (Figure 2b). Participants who got the agentive report asked that Timberlake pay an extra $30,828.69, or 53%, more in fines than those who got the non-agentive report (*Agentive M* = $88,818.12, *SE* = $8,115.75; *Non-agentive M* = $57, 989.43, *SE* = $6,465.34), $F(1, 575) = 10.31$, $p = .001$.[2,3,4] Again there was no interaction of the effect of language by condition, $F(2, 575) = 1.22$, *n.s.*

Agentive and non-agentive linguistic framing did not affect people's attributions of blame or financial liability to Janet Jackson or CBS.

Table 2: Study 3 Reports and Questions

Agentive Report
Justin Timberlake and Janet Jackson performed during the 2004 Superbowl Half-time Show. Toward the end of the song, Timberlake followed Jackson across the stage and stood beside her. As they sang the last line, Timberlake reached across the front of Jackson's body. In this final dance move, he unfastened a snap and tore part of the bodice! He slid the cover right off Jackson's chest! This incident made for a lot of controversy.
Non-agentive Report
Justin Timberlake and Janet Jackson performed during the 2004 Superbowl Half-time Show. Toward the end of the song, Timberlake followed Jackson across the stage and stood beside her. As they sang the last line, Timberlake reached across the front of Jackson's body. In this final dance move, a snap unfastened and part of the bodice tore! The cover slid right off Jackson's chest! This incident made for a lot of controversy.
Questions
Blame. In your opinion, was someone to blame or was it just chance? Please allocate the percentage of blame. Be sure your numbers add up to 100%! (Response options: Justin Timberlake, Janet Jackson, Chance)
Financial Liability. The FCC (Federal Communications Commission) tried to fine CBS $550,000 for this incident. Eventually the fine was dismissed in court. How much do you think each of the parties below should have been fined for this incident? (Response options: Justin Timberlake, Janet Jackson, CBS)

[2] Eight participants whose financial liability responses exceeded $550,000 were excluded from this analysis.

[3] These conclusions are the same when analyses consider just those participants who assigned Timberlake a non-zero fine (N = 244). Among these participants, those who got the agentive report assigned more fines (M = $193,726.47 , SE = $12,893.53) than those who got the non-agentive report (M = $153,179.61, SE = $12,430.78), $t(242) = 2.22$, $p = .028$.

[4] These data show some heteroscedasticity, but our main conclusions remain the same after appropriate corrections. A t-test which does not assume equal variances confirms a reliable difference between the financial liability assigned by participants who got agentive versus non-agentive reports, $t(559.36) = 2.97$, $p = .003$.

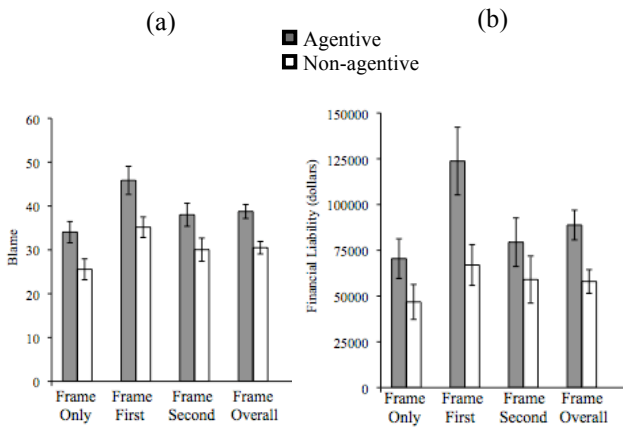

Figure 2: Language changes punishment of an observed individual (Study 3). (a) Blame attribution to Timberlake, (b) Financial liability to Timberlake. Mean values are plotted on the y-axis, with whiskers representing +/- 1 SEM.

In an additional set of analyses, all of the reported contrasts were conducted with an additional factor: whether or not the participant reported having seen the video of this incident prior to the experiment. This factor was not a reliable main effect nor did it interact with effects of linguistic framing in any of the analyses.

Linguistic framing influenced how much people punished an individual involved in an event, even when they witnessed the event with their own eyes, and even though the event was one our participants already knew about. Agentive language led to harsher punishment than non-agentive language. Replicating results from the first two studies, linguistic framing not only influenced attributions of blame but also financial liability. In the case of the wardrobe malfunction incident, an agentive report led people to think that Justin Timberlake owed more than $30,000 more (an extra 53%) in fines compared to a non-agentive report. In real-world contexts, visual evidence of accidents is rarely presented in the absence of linguistic framing. These results suggest that the form of this framing guides punishment.

General Discussion

In three studies, linguistic framing influenced participants' judgments about blame and punishment. Financial liability judgments in particular were strongly affected by linguistic framing: agentive descriptions led to 30-50% more in requested financial damages than non-agentive descriptions. Judgments of financial liability were affected by linguistic frame even when blame was held constant. This finding suggests that linguistic framing can have an influence not only on verdicts of guilt and innocence, but also on the sentencing process. Impressively, linguistic framing influenced reasoning even about an event that people knew a lot about, had seen before, and witnessed (again) right before judging the individual involved.

Previous inquiries into effects of language on attribution have examined the role of verbs, voice, and word order in guiding how people determine the cause of an event (e.g., Brown & Fish, 1983; Garvey, Caramazza, & Yates, 1976; Kasof & Lee, 1993; Kassin & Lowe, 1979; Pryor & Kriss, 1977; Schmid & Fiedler, 1988; Semin, Rubini, & Fiedler, 1995). Here, we provide the first report on the impact of transitivity on both people's attributions of blame and also on the real-world outcomes of these attributions (punishment). These studies extend previous research in several important ways. First, we probed people's decisions about a concrete form of punishment – financial liability, freely estimated in dollars – in addition to more abstract ratings of blame. Second, we examined effects of linguistic framing in the presence of previous knowledge as well as with current visual evidence – a condition that is absent from many previous attribution framing studies but present in many real-world reasoning contexts. Finally, we considered the transitive/intransitive alternation, a property of event description that both has important real-world consequences and differs interestingly across languages.

Previous work has shown that languages differ from one another in their preference for agentive versus non-agentive frames (e.g., Fausey & Boroditsky, 2010; Fausey, Long, & Boroditsky, 2009). The present findings raise the possibility that speakers of different languages may prescribe more or less severe punishment as a function of the frequency of particular grammatical frames in their language. While there have been many demonstrations showing the power of linguistic frames in shaping people's decisions, there has not been much contact between such findings and the literature investigating cross-linguistic differences in cognition. Establishing that linguistic framing has psychological consequences in a domain where languages naturally differ from one another opens the possibility for connecting these two rich bodies of knowledge.

In particular, as Sher and McKenzie (2006) have pointed out, the linguistic frames typically provided in framing studies often are not informationally equivalent. Each linguistic description is situated in a set of pragmatic norms within a language, and participants may be responding to the pragmatic cues implied by the choice of frame. The possibility of cross-linguistic comparisons offers an exciting extension to the framing literature: rather than having frames provided by an experimenter, in the cross-linguistic case, speakers of different languages may self-generate different frames for the same events because of the prevalent patterns in their respective languages (e.g., Maass, Karasawa, Politi, & Suga, 2006). In this way, cross-linguistic comparisons may allow us to investigate conceptual framing not just as a phenomenon in the communicative context (where participants may use pragmatic information to infer what the experimenter must mean by their choice of frame), but also in contexts where the participant naturally frames the event for themselves.

The linguistic (and cross-linguistic) framing of agentivity is of particular importance in court proceedings. Filipovic (2007) highlights a case from Northern California, in which a Spanish-speaking defendant's non-agentive (and

appropriate in Spanish) description of events ("*se me cayó*", roughly "*to me it happened that she fell*") was translated into English for the broader court into the agentive (and appropriate in English) "*I dropped her.*" Do these two descriptions mean the same thing? Or does this change in framing have serious attributional consequences? Our results raise the possibility that speakers of different languages may arrive at rather different conclusions regarding blame and punishment for the same events.

In three studies we find that agentive descriptions of events invite more blame and more severe punishment than do non-agentive descriptions. These results demonstrate that even when people have knowledge and visual information about events, linguistic framing can significantly shape how they construe and reason about what happened. In the case of agentive and non-agentive language, subtle differences in linguistic framing can have important real-world consequences. Deciding how much to blame an individual, and how much to hold them financially liable, appears to be broadly susceptible to linguistic framing.

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