



Humor as Violation and Deprecation: A Cognitive Anthropological Account

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Abstract

Over the past few centuries, scholars have expressed a number of models of humor which are divergent, but potentially complementary. Specifically, the Incongruity Hypothesis posits that humor is our confrontation with a stimulus that is surprising or inconsistent with the way we normally view the world. The Hermetic Hypothesis maintains that the incongruity of humorous statements or events exploits shared cultural (i.e., schematic) knowledge. The Deprecation Hypothesis suggests that humor involves lowering the status of a target individual, group, or object. This paper tests a number of predictions derived from these approaches using statements that isolate the types of violations in both form (i.e., schematic or ontological template violations) and content (i.e., deprecating or non-deprecating). Using cognitive anthropological approaches to the mind, the present results suggest that the most effective forms of humor are deprecating, schematic violations.

Keywords

Humor, schemas, ontological templates, cognitive anthropology

Much has been written on the psychology of humor since Plato, and most renowned philosophers have touched upon the topic at some point (see Provine, 2000; Roedkelein, 2002, for reviews). Articulating what is now called the Incongruity Hypothesis (Deckers and Kizer, 1975), Kant notes that humor “belongs to originality of mind... *Humour*, in a good sense, means the talent for being able to put oneself at will into a certain frame of mind in which everything is estimated on lines that go quite off the beaten track, (a topsy-turvy view of things) and yet on lines that follow certain principles, rational in the case of such a mental temperament” (Kant, 1928 [1790]: p. 203). In the same theoretical vein, Koestler notes that of all elements, humor’s effectiveness is driven by its “bisociative shock” – the surprising clash of the novel and the extant (Koestler, 1967: p. 91). Miller (2000)

argues that the comedic experience is about demonstrating the manifold nature of how things “can go wrong” by “violating expectations” (p. 415). A standard joke is set up in a baiting fashion and the punch line contains an element of surprise. Slapstick humor is employed in a similar fashion; the “punch-line” in this case being a physical surprise of the body doing something typically uncomfortable (e.g., Charlie Chaplin) or something uncomfortable being done to the body (e.g., The Three Stooges). While current linguistic approaches (e.g., Attardo 1997) maintain this component of incongruity as a key feature of the comedic experience, others emphasize aggression or deprecation as an essential component of humor.

In the spirit of Hobbes (1962 [1881]: p. 52), Pinker (1997) elaborates Koestler’s thesis: “Humor begins with a train of thought in one frame of reference that bumps up against an anomaly: an event or statement that makes no sense in the context of what has come before. The anomaly can be resolved by shifting to a different frame of reference, one in which the event does makes [sic] sense. And within *that* frame, someone’s dignity has been downgraded” (p. 549). Indeed, Alexander (1984) argues that all humor is aimed at lowering the status of others. This downgrading, however, is simply one function of humor. The same stimulus (e.g., a tease) containing the same incongruity (“your mother is so fat . . .”) can result in different responses. The target of a joke will probably not find the jibe very humorous, although an audience certainly might. The limit, then, of the Incongruity Hypothesis is the fact that incoming stimuli must be coded “positively” or “safe” in order to make one’s laughter reflex occur (Taylor, 2004: p. 22; Gervais and Wilson, 2005). What makes a joke funny is an unexpected punch-line, slapstick humor is surprising, and linguistic humor is an employment of an unexpected word/style for describing something.

Veatch (1998) argues that humor is a violation of moral sensibilities because the violation consists of creating misrepresentations of the way things should be. While in many instances this may be the case, political humor makes fun of those in high status where reality is what “ought not to be”, rather than the converse (e.g., poking fun at a political candidate for being long-winded when they should be concise). For those who dislike the target of the joke, the “moral principle” involved is not violated, but rather maintained and appreciation is a result of deprecation toward the target. Slapstick humor might be exploiting violations of the way normal behavior “should be”, but seeing someone slip on a banana peel is a violation of what we expect when watching someone walk, not what “ought” to happen in any prescriptive sense.

Presently, we may consider a number of types of humor: deprecating, non-deprecating, and “hermetic” (see below for discussion of the lattermost type). Non-deprecating humor consists of a positively coded incongruity without

deprecation whereas “downgrading” or aggressive humor consists of some element of discomfort or maligning a target. Two hypotheses emerge from the discussion above: the Incongruity and Deprecation Hypotheses. The Incongruity Hypothesis is the prediction that humor is the violation of expectations which triggers a positive response. The Deprecation Hypothesis, on the other hand, is the prediction that a particular degree of “downgrading” is a primary component of humor. By using cognitive anthropological models of the human mind, we may delineate different types of violations in order to determine whether humor operates at different levels of human cognition. Many have commented on what humor is, but which cognitive mechanisms compute humorous statements remains unexplored. There are two primary cognitive structures which are presently under consideration: schemas and templates.

Humor as Violation of Cognitive Structures

Bartlett (1995 [1932]: p. 201) originally defined a schema as organized, “unitary masses” of information which we use to understand new information. As defined by contemporary cognitive anthropologists, schemas are culturally shared hierarchically-structured informational units that are strictly learned. The relationships between such units are more or less flexible and ultimately link these domains together in a complex network of units (D’Andrade, 1995: pp. 122–123). For instance, the fact that we typically think of roses as red or pink and a symbol of affection is a schematic association built from experience. However, we can easily construct and compute statements which violate such schemas such as “a polka-dotted” or “plaid rose”.

There are a number of key differences between templates and schemas (for further discussion, see Barrett, 2008; Purzycki, 2010; Purzycki and Sosis, 2010). First, templates are inference-generating cognitive programs for objects which “fit” into them whereas the schemas are used to provide specific, related units of information regarding a particular informational object, action, protocol, etc. While a “default value” (D’Andrade, 1995: p. 124), for instance, concomitant to “dog” is likely to be “cat” because of our schemas of dogs, cats, and their relationships, this is not a default inference of the template ANIMAL, nor is it particular to all objects which this template serves to inform. Second, templates are far more general and serve to provide inferences essential to the objects; the inferences “contained within” templates are appropriate inferences for objects within these categories. Third, while we cannot fabricate entirely new ontological domains at such a deep level, we can create wholly new schematic domains such as “dark humor”, “what not to do when you

meet your in-laws”, and appropriately/inappropriately apply extant information to them. Fourth, children are already equipped with the necessary means to develop ontological templates; our minds are already equipped with the means to make sense of and organize the world (Keil, 1996). The seeds or skeletal systems of ontological templates “grow” in such a manner, and the attributes that are inferred crystallize, forming more or less concrete ontological templates (Boyer, 2001: p. 115; Gelman 1990). Schemas, on the other hand, are strictly learned.

People reason about entities in various domains (e.g., PERSON, ANIMAL, PLANT, ARTIFACT) in very similar ways and attribute a number of inferences to objects in these categories with little, if any, empirical evidence to support them (Boyer, 1994; Keil, 1996). For example, we intuitively understand that people and animals are driven by internal mental states (e.g., “a dog that wants his dinner”) while, under normal circumstances, plants and human-made objects do not. Tools are imbued with essential functions (e.g., just because one is using an eraser to hammer a pin does not make it a hammer) whereas we essentialize animals’ and plants’ species membership (e.g., rabbits do not give birth to squid and lions with tiger skins are still lions). We intuitively understand, also, that entities within these categories are susceptible to physical laws; all entities are solid and cannot pass through other objects, plants and artifacts are inanimate and therefore do not spontaneously move and so forth. These domains and their concomitant inferences can be thought of as categorical programs or “ontological templates,” (Boyer, 1994) which serve to guide our understandings of particular entities that fulfill the requirements of being in them.

There are two ways in which templates can be “violated”: breaches and transfers (Boyer, 2001: p. 59). Breaches are simply representations that contain a violation of one of the default inferences of a template (e.g., “a flower that disappears” violates intuitive physics or “a lion that turns into a sheep” violates species-specific essentializing) whereas transfers are the application of an intuition appropriate to one template to an object belonging to another template (e.g., “a rhododendron that pays attention to others” grants agency to an object governed by the PLANT template or “a rattle that looks for lost items” grants agency to an object in the ARTIFACT category). The basic relationship between templates and schemas is illustrated in Fig. 1. At the base of the model is the abstract ontological category (ANIMAL) and its related default inferences which serve to inform and conceptually ground a more specific schema of an entity which belongs to this category and its related units of information (“dog”, “furry”, “drool”, etc.). Ultimately, all schematic units are related, but for the sake of clarity and emphasizing the conceptual hierarchy of schemas, Fig. 1 does not suggest this.

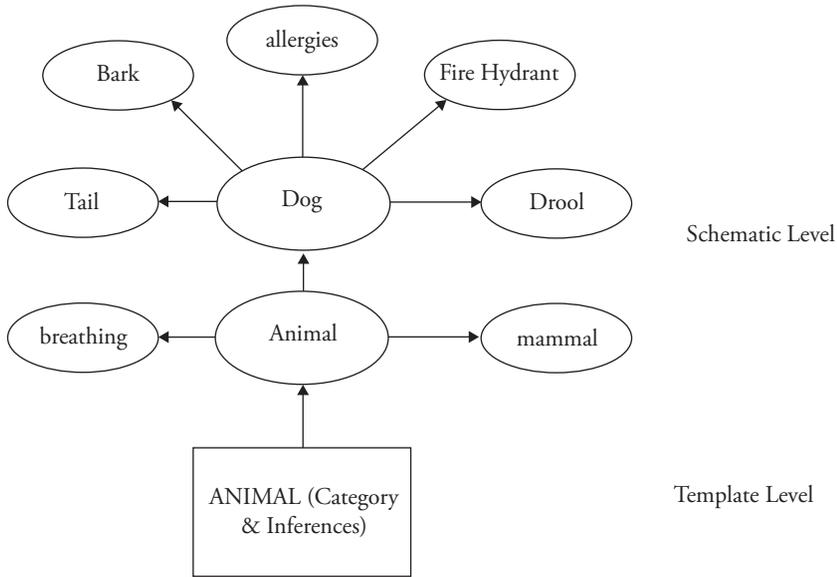


Figure 1. Templates and schemas.

What may be called “template-level violations” are violations of the inferences contained within these templates (breaches and transfers). Such minimally counterintuitive violations are the focus of the literature investigating what is known as “MCI Theory” (Boyer and Ramble, 2001; Norenzayan et al., 2006, Barrett et al., 2009; Johnson et al., 2010; Purzycki, 2010). On the other hand, “schema-level violations” are violations of the relationships between information related to and including entities which belong in these ontological categories (e.g., “a polka-dotted rose”). Barrett (2008) uses the term “counter-schematic” to describe violations which are “individually and culturally variable” and “counterintuitive” as a description of a violation of “normal human [cognitive] development”. Such violations may also be simultaneous, parallel violations at both template and schema levels. Take, for instance, the idea that “a flower was thinking about buying a human for his wife”. The transfer of agency to an object in the PLANT category is a template violation. However, the relationship between flower and human – in this case the latter being a symbol of love – is reversed. This relationship is at the schema level since flowers as a “symbol of love” are culturally specific.

Such statements are akin to what Cohen (1999: pp. 12–13) calls “hermetic jokes” which exploit shared “background information” which the audience “must supply...in order either to get the joke or to be amused by it”. It is shared, schema-level information which is the background information.

Cohen's categorization may be reframed as a prediction – the Hermetic Hypothesis – namely, that humor is more successful if shared cultural information is violated. While Cohen was primarily interested in a philosophical investigation of jokes, the present use of cognitive anthropological models of the human mind characterize such “background information” as schematic relationships.

Which violations are more effective for eliciting humor and what role does deprecation play in maximizing the degree to which an idea is funny? While humor may not necessarily require template-based violations (e.g., slapstick humor, insults, and some jokes do not consist of ontological violations), humor requires a violation nevertheless. Therefore, like the above-mentioned template-based violations, humor falls under the general rubric of “counter-intuitive”. More precisely, they are schematic-level violations. If Veatch's theory of humor as moral violation is valid, the violation which occurs ought to violate schemas of appropriate conduct, particularly if deprecation is considered incongruous. Furthermore, while deprecation can certainly be a form of humor, it is likely not a prerequisite for eliciting a humorous response. For example, if someone were to attempt to publicly humiliate someone else by pointing out that they have a full head of hair, it would be ineffective because there is nothing novel or incongruous about having a full head of hair. On the other hand, publicly stating that “you're so ugly, when you were born the doctor slapped your mother” is certainly deprecating, but also incongruous insofar that the schematic violation of the expectation that doctors are thought to slap newborns in order to open their lungs.

It may be argued that humor is ultimately subjective; however, there are decidedly objective components to the use of and judgments about humor. Schematic differences comprise the basis for judgment between individuals: what one finds funny, another may find intolerable and/or morally corrupt/objectionable. While this is not the forum for pursuing differences in “sense of humor”, this distinction likely rests with value differences. The essential components, as discussed above, are a humorous idea's novelty or violation of intuitions and the automatic coding of “positive”. Statements judged “intolerable” arguably contain the same element; they are simply coded negatively (and elaborated with conscious judgments such as “inappropriate” or “immoral”). There are cultural reasons for this difference that come in the forms of content (we joke about what we know because of the necessity to “get it”) and status/role (we do not joke about inappropriate topics with our wives' mothers upon a first meeting). In the world of humor, context is most, if not everything.

Methods

Variables

If humor is simply a violation, there should be no significant differences between how humorous people rate schematic and template violations: to examine this, four types of statements were constructed that varied by humor (humorous and not humorous) and where the violation occurs (template- or schema-level; see Appendix A). Schematic violation statements (SV) are statements with violations occurring only at the level of schemas. A “donkey that kicks below the belt” involves no deeper ontological violation, but rather a surprising act involving pain. Likewise, “a goat that passes out when nervous” also involves a surprise which evokes some decrease in comfort on the part of the subject. Template violations (TV) are statements which contain only violations at the template level (e.g., “a tulip that listens to people” attributes agency to a plant, and “a worm that turns into a bird” violates species’ essentialized membership). Template and schematic violations (TSV) are statements containing parallel violations at both the template and schematic levels. For instance, “a sheep that demands its wool back” attribute a human-specific inference – namely talking – to a nonhuman entity. The schematic violation occurs in its reversal of a relationship between a sheep and a farmer. “A willow that likes to trip people”, on the other hand, involves granting a willow tree agency and violating a schema for proper conduct. Statements without violations (NV) are statements which have no violations at the schematic or template levels (e.g., “a buffalo that sleeps” and “a cow that eats grass”).

Differences in evaluations of humorous statements with respect to which cognitive mechanisms were being violated were tested for; if humor consists of merely a violation (regardless of level), as anticipated by the Incongruity Hypothesis, TVs should be rated as equally humorous as TSVs and SVs. However, if humor violates implied, shared relationships as the Hermetic Hypothesis predicts (Cohen, 1999), TSVs and SVs should be rated significantly more humorous than TVs and NVs, which do not contain violations of shared relationships, but rather violations of what we infer to be true about all entities in these categories. If humor is facilitated when there is a target that/who is maligned, as expected by the Deprecation Hypothesis, deprecating statements should be rated as more humorous than non-deprecating statements. The three main hypotheses can be summarized as:

1. Incongruity Hypothesis: $TSV=SV=TV>NV$
2. Hermetic Hypothesis: $TSV=SV>TV=NV$
3. Deprecation Hypothesis: Deprecating statements > Non-deprecating statements

Procedure

Statements ($n=40$) were designed, recorded, and loaded onto an mp3 player. In order to control for order effects, statements were randomly assigned to slots in a playlist (TSV, SV, TV, NV, TSV, SV, TV, etc.) to control for potential effects of having too many potentially humorous statements together. Each playlist consisted of the Introduction, then the randomly assigned 40 statements. Thirteen different playlists were created and randomly selected to play to participants. Participants were approached in various locations at the University of Nebraska-Lincoln and asked to take part in a study about humor and memory. They were not compensated in any fashion. The introduction (adapted from Barrett, 1997) was as follows:

Dr. Jones was invited to the planet Mars to be the first Earthling to see the Grand Opening of the Martian Zoo Museum of Earth's Life-forms. As he walked through the hallways of the Martian Zoo, he noticed that each exhibit was labeled according to the animal or plant on display. The following are what he saw.

Participants ($n=49$, 26 males, age: $M=24.37$, $SD=3.56$) recorded their numerical judgments on a sheet of paper (a 7-point modified Likert Scale; 1=not funny at all, 7=very funny) as they listened to the narrative. One informant was deleted from the pool as his age (38) constituted an outlier to the sought-after age bracket ($18 < x < 36$) which represents a culturally-specific population (undergraduate college students).

Results and Discussion

Table 1 shows that there was no significant difference between the ratings of TSVs and SVs (Fig. 2). As predicted by the Incongruity Hypothesis, TVs were rated significantly higher than NVs, ($F(3, 48) = 58.14$, $p < 0.001$). Post-hoc Tukey's and Scheffé's (alpha level 0.01) tests were conducted for each category in order to test the overall hypothesis that there would be statistically significant differences between degree of humor for each variable showing that indeed, $TSV=SV$ (Tukey's $p=0.81$; Scheffé's $p=0.85$) and $SV > TV > NV$ ($p < 0.01$ for each test). However, contrary to the Incongruity Hypothesis, TVs were not rated as humorous as TSVs and SVs, but significantly less. Nevertheless, the more effective forms of humor occur at the specific, schematic level of human cognition – with or without deeper, ontological violations ($TSV=SV > TV > IR$).

The fact that there is no significant difference between the means of both humorous variables is not surprising. That the TVs are rated significantly more humorous than NVs may give some support to the theory behind the Incongruity Hypothesis, but the idea that humor is merely an incongruity is

Table 1
Results of Ratings

Item type	<i>N</i>	<i>M</i>	SD
Template and schema violations (TSV)	10	3.95	1.15
Schema violations (SV)	10	3.76	1.14
Template violation (TV)	10	2.60	0.97
No violation (NV)	10	1.52	0.83
Total	40	2.96	1.42
Deprecating	10	4.13	1.23
Non-deprecating	10	3.57	1.08
Total	20	3.85	1.19

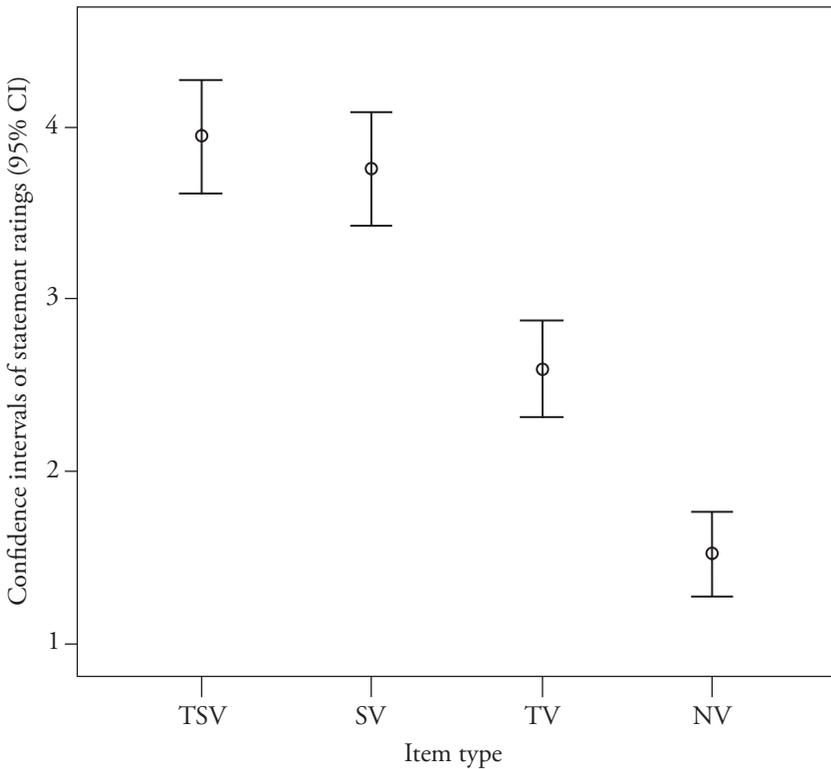


Figure 2. Means of humor ratings.

reduced. TVs are incongruous, but violate deeper inferences about categories rather than schematic relationships or understandings. The Deprecation Hypothesis is the prediction that aggressive or maligning forms of humor will be rated significantly funnier than other forms of humor. Of the twenty statements with schematic violations, 10 employ aggressive forms of humor and 10 contain descriptive forms of humor. Deprecating forms of humor consist of some form of discomfort either on the part of or caused by the subject involved in the statement. Non-deprecating forms of humor either exploit typical culturally specific relationships (e.g., “pig” and “table manners”) or describe something in a novel way (e.g., “coyote” sounding like a “giggling schoolgirl”). The deprecating statements were rated significantly more humorous than non-deprecating statements ($t=23.14$, $p<0.001$). There were no statistically significant differences between male ($n=26$, $M=4.26$; $SD=1.23$) and female ratings ($n=23$; $M=3.99$; $SD=1.24$) of humor in either deprecating humor ($t=-0.78$, $p=0.44$) or non-deprecating humor ($t=-0.20$, $p=0.84$).

In sum, the present cognitive anthropological account of humor suggests that humor is not merely a violation of intuitions, but more specifically a violation of shared, schematic relationships. The findings of primary significance in this study demonstrate that humor is particular to the exploitation of schematic relationships; statements with only deeper, template-level violations, by and large, do not elicit high levels of humor ratings. Such results reflect the relationship between cognitive structures and the nature of the violations of various stimuli. With regard to content, the results presented here suggest that deprecating forms of humor are more humorous than non-deprecating forms of humor. The most effective forms of humor, according to the present study, are deprecating, schematic violations.

Conclusion

The finding that forms of humor which contain an element of deprecation are rated significantly more humorous than descriptive forms of humor raises a question particular to anthropologists: Is deprecating humor culturally specific? Is it correlated with other cultural variables? Cross-cultural studies of humor are needed to assess these possibilities. If such studies find that aggressive humor is typically held to be funnier than descriptive humor this might suggest it that aggressive humor plays a significant role in our evolutionary history. Buckley’s (2003) arguments regarding humor as either a signal or an honest statement of superiority has direct implications for this prediction. Follow-up studies might consider using specific types of humor to determine which forms are more effective.

Miller (2002) argues that humor is a demonstration of proteanism, which evolved as a sexual selection device. If deprecation toward or ostracism of someone else is a main source of humor (for an audience), then arguably, aggressive humor would assist one in signaling that not only is one intelligent, but that a potential competitor is less qualified for sexual access (see Alexander, 1984, for evolutionary arguments). However, Bressler and Balshine (2006) demonstrate that women prefer humorous males while men do not prefer humorous females, and both sexes negatively correlated intelligence and trustworthiness to humor! On the other hand, Feingold (1992) found that when it comes to looking for mates, humor is not thought of as an indicator of how much a parent will invest in mutual offspring. The idea that humor is a signal of superiority and its possible sexual selectivity requires investigation and empirical support (Buckley, 2003).

The present research should facilitate further inquiry into the cognitive study of humor with respect to the nature of our minds. Such studies should serve to develop more evolutionarily-minded hypotheses to test whether or not deprecating forms of humor actually serves some purpose. Indeed, Green-gross' (2008) call for looking deeper into the evolutionary role of humor and status manipulation deserves consideration. Research may carry this further to investigate the underlying mechanisms that are triggered when appreciating different types of humor.

The present results suggest that both males and females appreciate aggressive forms of humor equally. Such implications may indeed suggest that the relationship between deprecation and humor might play a role in traditional divisions of sex-based sociality. Anecdotal evidence simply will not do. If it is indeed schematic and parallel violations which elicit higher evaluations of levels of humor, the idea that not all violations which might otherwise be rendered “safe” by a mind equipped to process novel information poses interesting questions and prospects for our species. Template-level violations simply do not trigger much of a humorous response. As humor operates primarily at the former, this suggests that the mind treats violations at these levels differently. With respect to MCI theory, Purzycki (2010) found that it is the humorous items with parallel violations have significantly better retention rates than those with only schema- or template-level violations. This likely has a significant impact on the cultural prevalence of certain kinds of statements (Sperber, 1996). Taken together, these studies suggest not only the validity in the distinctions between the levels of schemas and templates, but that they both have a significant part to play in our understanding of the relationship between human cognition and culture.

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Appendix A

Template and Schema Violations (TSV)

Non-deprecating

1. a chicken that transforms into a dumpling
2. a pig with impeccable table manners
3. a rabbit that has taken a vow of chastity
4. a raccoon that cusses like a sailor

Deprecating

5. a four-leafed clover that feels really unlucky
6. a corn stalk that enjoys husking people
7. a mouse that swallows cats whole
8. an oak tree that likes to urinate on dogs
9. a sheep that demands its wool back
10. a willow that likes to trip people

Schema Violations (SV)

Non-deprecating

11. a coyote that sounds like a giggling schoolgirl
12. a frog that sounds like belching
13. a goose that drinks really cheap whiskey
14. a groundhog that quickly rolls downhill
15. a horse that fancies hay-flavored jellybeans
16. a snake that is tied in a knot

Deprecating

17. a dog that whines when told to get a job
18. a donkey that kicks below the belt
19. a goat that passes out when nervous
20. a hamster that head butts little kids

Template Violations (TV)

21. a bear that can only be seen during a full moon
22. a crow that turns into a statue
23. a dandelion that believes in reincarnation
24. a goldfish that can completely disappear
25. a living lizard made of stone
26. a maple tree that lays eggs
27. a mole that visits people in their dreams
28. a thistle that gives good advice to people
29. a tulip that listens to people
30. a worm that turns into a bird

No Violations (NV)

31. a bee that makes a hive
 32. a buffalo that sleeps
 33. a cow that eats grass
 34. a duck that swims in ponds
 35. a puppy that requires milk from its mother
 36. a rat that eats seeds
 37. a Robin that sings pretty songs
 38. a rosebush that grows slowly
 39. a squirrel that climbs trees
 40. a weed that grows quickly
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