What's in a Phrase?
The Predictability and Productivity of Snowclones

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This study explores phrasal variation as it relates to a subclass of idioms called snowclones. Like other idioms, snowclone frames hold the same idiosyncratic meaning. However, they are less restricted in realization. This study aims to explore what, if any, restrictions exist on the variable realization of these snowclones and how predictable these parameters might be. It is found that collocation is correlated with the acceptance of the phrase by speakers. However, other factors also play a role in acceptance. Finally, some snowclones are shown to be more productive than others.

Asnowclone is a type of idiom in which the idiosyncratic meaning of the phrase is kept the same across usages but can also have varying realizations. For example, while *hit the bucket* seems semantically similar to *kick the bucket*, it is generally not accepted as sharing the same idiosyncratic meaning (to die). In contrast, both *to rent or not to rent* and *to shop or not to shop* indicate indecision or hesitation, even though they are about different concepts. However, snowclones are unique in that they are designed to be used as creative frames for speakers to fill in, especially to fit the context of the discourse or to make their phrasing stand out. Still, this creative license does not give speakers the freedom to fill in just anything if they want to preserve the idiosyncratic meaning of the phrase or schema.

This article explores the hypothesis that idiosyncratic meaning cannot be preserved within a multivariable snowclone (one in which speakers fill in two or more words) with any variation. Instead, some parameters or aspects of the filled-in words are required grammatically to preserve meaning. It is further hypothesized that these requirements include collocation. Finally, the article investigates the hypothesis that certain snowclones are more productive than others; that is, certain snowclones can be filled in with a wider array of possibilities while still allowing the speakers to accept the phrase as holding the idiosyncratic meaning. This study found evidence to support each of these hypotheses.

Literature Review

Linguists generally agree that "speakers seem to know (and use) many recurring multiword sequences" (Christiansen & Arnon, 2017, p. 543). One author points out that these multiword constructions are important in language use because they have the greatest communicative impact, which is "the level of success a speaker has in achieving his or her various goals within a given speech event" (Wray, 2017, p. 570). They add that there is a tension between the speaker's need to express the correct and specific message and the need to ensure that the delivery is adequate. This means that the hearer both understands the speaker's will and is persuaded to execute their will on the world. This complex issue is addressed by phrases, which are processed more quickly, hold attention better, and help avoid confusion by already being familiar to the listener. Not only are phrases useful for increasing

the communicative impact of an utterance, but they also help speakers maintain fluency and cope with fluctuations in the level of cognitive pressure, both internal and external (Wray, 2017).

Due to the prolific nature of phrases, many studies have found evidence that listeners parse multiword sequences the same way a morphologically complex word may be parsed or even stored as a unit in the lexicon (Culicover et al., 2017). This view posits that there must be rules that function as templates that can then motivate or support fragments of well-formed expressions. However, determining these rules is very difficult because they are not procedural rules. They cannot be determined or applied word by word (Culicover et al., 2017, p. 563), yet the phrase can have rules applied, such as inflection. For example, in the idiom *kick the bucket*, the words are used together within a larger sentence, so the phrase is not procedurally formed but does have available inflection: *she kicked the bucket*. This interesting feature is hypothesized to derive from the inheritance pattern found in multiword constructions. They inherit their structure from the schema of the phrase, while the individual words of the phrase inherit their syntactic category, morphological structure (such as their inflection class), and meaning from the independent word. However, these features make it difficult to propose rules that may control the grammatical construction and use of phrases.

Not only is it difficult to propose rules regarding the use of multiword constructions, but variation within phrases can also occur. While many think of idioms as being highly restricted in their use, some studies have explored the variation and productivity of certain idioms (where productivity is defined as the acceptability of variation while maintaining the idiosyncratic meaning of the phrase). A corpus approach has found that variations include insertion, lexical variation (meaning the use of synonyms), and truncations, as well as other variations on a given idiom (Moon, 1998). However, the degree to which a given variation is acceptable when compared to its canonical form varies. In a study exploring this topic, the researchers found that when it comes to meaning, speakers prefer the canonical form above all else, followed by lexical variation and integrated concept, where the idiom was altered slightly to better fit the context (Geeraert et al., 2017).

Moon (1998) proposes that there are several factors that indicate whether a phrase qualifies as an idiom. If a phrase meets these requirements, we can take it to be a canonical idiom. First,

the phrase is institutionalized; that is, "the string or formulation becomes recognized and accepted as a lexical item of the language" (Moon, 1998, p. 7). This means a phrase gains traction and is repeated across a language. Second, the phrase holds lexicogrammatical fixedness, meaning that the exact formation of the phrase holds some meaning. Third, the phrase is non-compositional, which means that a word-by-word parse does not yield the accepted meaning of the phrase. Each of these criteria of a canonical idiom is found to be lacking in some way by Moon but does act as a mirror to which idioms might be held.

Among studies that explore the intentional variation of idioms to better fit the context, one corpus-based study found that some idioms are more likely to be anchored, or modified significantly to better fit the context, than others. It goes on to conclude that "'allowing' a construction is not at all the same as 'encouraging' or 'mandating' it," meaning that while variation is, in many if not most cases, allowed, it does not mean that variation is necessary or even common for idioms (Minugh, 2007, p. 219). It is, however, generally agreed that meaning must remain consistent for a phrase to count as an idiomatic expression.

There is an exception to the rule that idioms do not mandate variation: snowclones. A snowclone is a specific type of idiom in which most of the phrase remains the same, but one or more key content words commonly change, while the meaning of the phrase remains the same (Pullum, 2003). Currently, there is some literature regarding idioms and the variation thereof, but there is not much literature regarding this linguistic phenomenon, which seems to at least encourage, if not require, phrasal variation. This makes snowclones unique regarding semantic sequences—a phrasal frame with a set idiosyncratic meaning.

Methods

While it is known that some variation is allowed for the meaning of a phrase to be understood, in a phrase in which variation is expected the parameters on what variation is allowed, if any, are not well understood. To better understand this, I selected three idiomatic expressions that commonly vary and explored several combinations of words to see what parameters may exist— specifically, to see whether the way in which two variable content words are collocated will affect how closely the phrase seems to fit the meaning of the idiom.

First, I used the Snowclones Database to select three snow-clones, all of which use two different content words within the phrase. Here, the first variable word is represented with X and the second word with Y, as constructed in the Snowclones Data-base. The phrases are as follows:

Whatever X your Y.

A few X short of a Y.

X is the new Y.

I chose phrases with documented variable entries in COCA that have been used in an idiomatic way, as shown in Table 1. This means that the phrases likely are true snowclones and thus have a specific meaning associated with the variable phrase. I then took the snowclone frames and created twenty-four different phrases. This meant taking the frames and filling them in with two words. However, because one of the things that is unknown is whether some words or word pairs work better than others for filling in the frames, I chose eight word pairs to fill in each of the three frames. Four pairs were attested by the corpus. Of these, I picked two pairs that seemed to be used in an idiomatic way. The other two pairs were also attested but seemed less likely to be used in an idiomatic way. The final four pairs were made of constructed pairs of words. Two of the non-attested pairs were chosen because the words themselves were highly collocated. In COCA, when looking at how frequently they were used together, they appeared 0.6 times per million words or more. The other two constructed pairs were chosen because they were not collo-cated, appearing together at a frequency of 0 per million words.

Table 1
Phrases Tested in COCA

Phrase	Frequency of pair	Attested in a corpus or created
Whatever toasts your bagel	0.86	Attested
Whatever lights your fire	0.49	Attested
Whatever strikes your fancy	0.17	Attested
Whatever suits your sensibility	0.12	Attested
Whatever bakes your cookie	1.46	Created
Whatever pops your popcorn	0.89	Created

Whatever cools your cream	0	Created
Whatever rescues your bookshelf	0	Created
A few bats short of a belfry	0.36	Attested
A few vermin short of a plague	0.19	Attested
A few votes short of a majority	1.02	Attested
A few axioms short of a set	0.01	Attested
A few flowers short of a bouquet	1.11	Created
A few slices short of a pizza	0.67	Created
A few lightbulbs short of a house	0	Created
A few yards short of a driveway	0	Created
Gatorade is the new Snapple	0.77	Attested
Wood is the new concrete	0.27	Attested
Internet is the new Wild West	0.02	Attested
Gold is the new currency	0.9	Attested
Raspberry is the new strawberry	2.18	Created
Hot chocolate is the new coffee	1.25	Created
The Instant Pot is the new oven	0	Created
Ostriches are the new flamingos	0	Created

A survey was created using these phrases. The survey asked participants to use a Likert scale to rate how closely the phrases seemed to be to the core meaning of the idiom. They were then asked to create their own phrases with the snowclone frame. Participants were given only one of the three possible snowclone frames to work with. Participants were also asked demographic information (how old they are, how much education they have received, and what gender they are), given that this could be a factor as to how accepted the variance in a phrase was. The three hypotheses I was interested in were first, whether the word pairs needed to have a relationship with each other to preserve the meaning of the idiom; second, whether this relationship was

collocation or whether another factor was significant; and third, whether some snowclones were more productive than others.

The rating was done via a Likert scale, where participants were asked to rate how close to the intended meaning of the idiom they found the filled-in snowclones to be. The possible answers were "not close at all," "somewhat close," and "very close." For data analysis purposes, the rating of "not close at all" was numerically represented as a 1, "somewhat close" was represented as a 2, and "very close" was represented as a 3.

The population that was represented in the data may be biased because many who were asked to fill out the survey were college students living in Provo, Utah. Other participants were connected with me on Facebook, and most live in the western United States. This data does not pass the Shapiro-Wilk test for normality. However, the statistical tests run on the data remain robust, even if the data is not normally distributed.

Results

A Kruskal-Wallis Analysis of Variance (ANOVA) was performed on the data, where the dependent variable was the rating given to a phrase and the grouping variable was the pair of words. A Kruskal-Wallis ANOVA is a statistical test to determine how statistically significant the results of a study are. The pair of words the participants were given had a significant effect on the rating they gave the entire phrase ($p < 0.001$).

A correlation matrix was performed on the frequency of the pair of words and on the rating people gave the pair, with the hypothesis that they were positively correlated. As shown in Figure 1, it was found that the acceptability of a phrase, or whether participants accepted the phrase as being close to the core meaning of the frame, was significantly positively correlated with how frequently the pair of words appeared with each other ($p = 0.023$). As frequency of the word pair increased, so did the acceptance of the phrase itself.

It was also explored to see if any other variables might be predictive factors for how acceptable people found the pairs, such as how many pairs they themselves produced, how old they are, how much education they have received, or what gender they are. A linear regression was performed on the data with the rating people gave the pairs as the dependent variable, the frequency as a covariate, and gender and education as factors. Neither gender nor education

were found to have a significant effect on the rating. In addition, a correlation matrix was run on the data, with rating, frequency, amount produced, and age as the variables that were compared. Neither age nor the number of pairs a person produced had an effect on the rating a person gave a pair of words.

Figure 1
Collocation of Pair versus Average Acceptance Rating
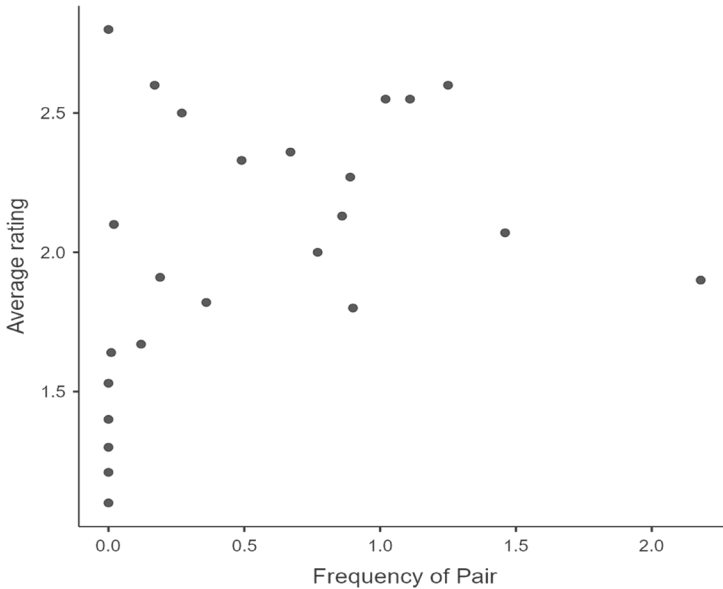
In terms of productivity, it was hypothesized that some snow-clone frames would be more productive than others, which would be determined by how many pairs of words participants could produce. A Kruskal-Wallis ANOVA was performed on the data, with rating and pairs produced being the dependent variables and snowclone frame being the grouping variable. The test showed that the snowclone frame influenced the number of pairs produced ($p = 0.005$). This means that there is evidence that different snowclone phrases have different levels of productivity.

Discussion
The first hypothesis I made was that not just any variation will be acceptable, even though these idioms encourage more variation

and creativity than other phrases and idioms. There was strong evidence for my hypothesis, as the differing word pairs had a strong effect on the acceptability score of the phrase or whether it continued to hold idiosyncratic, non-semantically transparent meaning. This means that while snowclone phrases invite more variability than other phrases and idioms, they still have parameters on what can be filled in. The idea of phrases and verbs having certain parameters is true for much of observed grammar as well. For example, the verb *put* must have two complements, and these complements must make semantic sense. However, little work has been done to determine what the parameters of snowclones are.

As stated in the second hypothesis, one of the possible parameters of the word pairs is that they need to be collocated, or used somewhat frequently with each other. There is evidence suggesting that a higher collocation of word pairs predicts a higher acceptability score. This means that one possible parameter of snowclones with multiword variation is that the words must be collocated. However, it may be that the words must be semantically related, and a high amount of collocation is a result of this factor.

In addition, some snowclones may have different rules that will predict what words or word pairs will function within the frame while simultaneously leaving meaning intact or "sounding right" to speakers. These could include rhyming, frequency of use within the frame, the speaker's agreement with the statement, or the pairs starting with the same sounds. In the production portion, for example, participants were asked to fill in the snowclone frame of "whatever X your Y." The response most people included in their answer was "whatever floats your boat." For some, this was the only answer they gave. Not only was this the most common answer, but it is also the most widely attested version of the snowclone in the corpus. This, then, is strong evidence that this is the original, or canonical, version of this snowclone frame, as this phrase holds meaning without semantic transparency. It can be observed that *float* and *boat* rhyme, meaning that rhyming may have an effect on the acceptability score of a phrase. We also see that two pairs of words that have a similar amount of collocation can vary in terms of their acceptability when the statement is more in line with the opinion of the speaker. While the word pairs of *flamingo/ostrich* and *Instant Pot/oven* have the same amount of collocation (none), the word pair of *Instant Pot/oven,* when inserted into the snowclone phrase "X is the new Y," was much more

accepted, with an average rating of 2.8. This is the highest acceptability score of any of the phrases. However, the pair of *ostrich/flamingo* had one of the lowest average ratings: a score of 1.3. This shows that there must be another factor other than the frequency of the words appearing together that affects the acceptability of the pairing within the phrase. It is also possible that the context of the surrounding discourse can influence the acceptance of the phrase. If there were a paragraph having to do with the popularity of ostriches and flamingos before participants read the phrase, they might be more likely to accept it. This means that there is evidence that the second prediction, that the factors determining the acceptability vary, is correct. However, there is strong evidence that collocation is one of these factors.

The final hypothesis was that the productivity of snowclone frames vary. It was found that people can come up with more word pairs for some snowclones than others. This means that while all idioms can have some degree of variance, some are possibly less restrictive as to the words the snowclone can accept. It is also possible that it is easier to find words that fit the parameters of some frames as opposed to others.

Conclusion

The results of the study supported the hypothesis that the acceptance of the variability of idiomatic phrases known as snowclones varies; that is, one cannot change the idiom in just any way and keep the meaning of the phrase. Instead, snowclone phrases have restrictions on how a speaker may vary the words in the phrase. The study also supported the hypothesis that one of the predictive factors of acceptability is the collocation of the word pairs. As the frequency of the pairs increases, the acceptance of the phrase also increases. The study also concludes that it is likely that some snowclones are more productive than others; that is, it is easier for speakers to use some snowclones creatively and produce new phrases using it as opposed to others. Further studies could be conducted to explore what other factors may influence what speakers will or will not accept in these variable idiomatic phrases. By understanding variation in idioms better, one can better understand creativity in language use and the limits language places on creativity.

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