Snap! Crack! Pop!

A corpus study of the meanings of three English onomatopoeia

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Abstract

The focus of this essay is on examining the meanings of the onomatopoeia (sound imitating words) *snap, crack* and *pop*. Previous studies on onomatopoeia and sound symbolism are used to define the terms and create a model for an alternative categorization of these meanings. This model is then applied in a corpus study, conducted on the COCA (Corpus Of Contemporary American English) and BYU-BNC (The British National Corpus) corpora, to find a way to more accurately describe the meanings and functions of these words. For this purpose the context in which *snap, crack* and *pop* are used is also addressed by observing how frequently they occur in formal and informal texts and which adjectives and adverbs frequently modify them. In the study it was discovered that these three words took on many different meanings that would be hard to list separately in a dictionary. These meanings did follow a pattern linked to the properties associated with the word. The study found *snap, crack* and *pop* to be informal words with a tendency to add emotion or effect to a statement. It is therefore concluded that sorting onomatopoeia by sound and non sound-related meaning and describing the informal characteristics of these words leads to a greater understanding of how they are used.

Keywords: Arbitrariness, *crack*, emotive, ideophones, mimetics, mimes, non-arbitrariness, onomatopoeia, phenomimes, phonomimes, *pop*, psychomimes, register, semantics, *snap*, sound symbolism and style.
# Table of contents

1 Introduction .............................................................................................................. 1
  1.1 Aim, scope and research questions .................................................................. 1

2 Theoretical background ......................................................................................... 2
  2.1 Defining onomatopoeia ...................................................................................... 2
    2.1.1 Sound symbolism ...................................................................................... 2
  2.2 Categorizing onomatopoeia .............................................................................. 3
    2.2.1 Japanese onomatopoeia/mimesis ................................................................. 3
    2.2.2 Ideophones .................................................................................................. 4
    2.2.3 Working definition ...................................................................................... 5
  2.3 Characteristics of onomatopoeia ....................................................................... 5
    2.3.1 Non arbitrariness ....................................................................................... 5
    2.3.2 Style and register ...................................................................................... 6

3 Material and method .............................................................................................. 7
  3.1 Problems and limitations .................................................................................. 8

4 Results ................................................................................................................... 8
  4.1 Snap .................................................................................................................. 8
    4.1.1 Phonomimetic meanings ......................................................................... 9
    4.1.2 Phenomimetic meanings ....................................................................... 10
    4.1.3 Psychomimetic meanings ....................................................................... 12
  4.2 Crack ................................................................................................................ 13
    4.2.1 Phonomimetic meanings ....................................................................... 13
    4.2.2 Phenomimetic meanings ....................................................................... 14
    4.2.3 Psychomimetic meanings ....................................................................... 16
  4.3 Pop .................................................................................................................... 16
    4.3.1 Phonomimetic meanings ....................................................................... 16
    4.3.2 Phenomimetic meanings ....................................................................... 17
    4.3.3 Psychomimetic meanings ....................................................................... 19
  4.4 Style ................................................................................................................ 19
    4.4.1 Snap and its left collocates ................................................................... 20
    4.4.2 Crack and its left collocates .................................................................. 21
    4.4.3 Pop and its left collocates ..................................................................... 23

5 Conclusion .............................................................................................................. 24

References ............................................................................................................... 26
1 Introduction

Linguistic studies of onomatopoeia, words that imitate natural sound like bang, are often focused on the connection between sound and meaning and the similarities between different languages (Jespersen, 1922:896 ff). Since this category of words imitate sounds usually found naturally, they are often examined when studying what is universal about language (Hunter-Smith, 2007:7). In the English language onomatopoeia make up a rather small word category but in other languages such as Japanese and Korean they are used frequently. In Japanese these types of words are used not only to represent sound but also visual phenomena, actions and sometimes an emotional change or state. Baba (2001) repeatedly speaks of their expressive nature and Bredin (1996:560) claims that to some degree “we want language to be onomatopoeic”.

Within English linguistics, studies on the use of onomatopoeia for purposes other than to imitate a sound or describe an action that produces a certain sound are rather rare. However words such as snap, crack(le) and pop, used in that order in the slogan for the breakfast cereal Rice Crispies to convey the sounds they make when you add milk to the cereal, seem to convey a variety of different meanings depending on the situation. Some of these meanings do refer to emotional change, see for example the discussion of example (24) in section 4.1.3 of this paper, yet very few studies on how onomatopoeia are used in the English language have been carried out. In fact this usage of onomatopoeia is often pointed out as being unique to Japanese and Korean and does not exist in English (Inose, 2008:1). This contrast is what inspired this study. Learning a foreign language often provides insights into your own and thus this study looks at a Japanese model of categorizing onomatopoeia. This model combined with studies of onomatopoeia and sound symbolism is used to gain more insights into the meanings of English onomatopoeia.

1.1 Aim, scope and research questions

The aim of this paper is to examine the different meanings of snap, crack and pop, particularly to see if they are used to describe phenomena not related to sounds. To fulfil this goal the following research questions are proposed:

1. What are the different meanings of snap, crack and pop?
2. In what context, informal or formal, are these onomatopoeia used most frequently?
3. What patterns of meaning, if any, can be found in these onomatopoeia?

The scope of this study is limited to the COCA [www] and BYU-BNC[www] corpus.
2 Theoretical background

This section illustrates some of the problems of defining onomatopoeia as the grammatical and linguistic uses of the word seem to differ. It looks into the nature of sound symbolism and some models for categorizing onomatopoeia used in Japanese and African languages. In section 2.3 the characteristics of onomatopoeia are examined.

2.1 Defining onomatopoeia

The On-line Etymology Dictionary [www] explains that the word onomatopoeia is Greek in origin and a combination of the word onoma, meaning name or word, and poiein, to create or compose, giving it the basic meaning "the making of a name or word". Webster's Dictionary [www] defines onomatopoeia as "words that imitate the sound they denote", which is the generally accepted meaning in today's English. When asking people to give examples of onomatopoeia words such as boom or splat are popular choices and to many people onomatopoeia is the language of comic books. English grammarians seem to pay onomatopoeia little heed and when these words are categorized they are often thrown in as a subcategory of interjections, a word class that is often ignored. In Quirk et al. (1985), a 1700-page monster of a book on grammar, only about one page is spent on the two word classes interjections and numerals, numbers, and the only mention of onomatopoeia is on a side note on this category:

"Note: It can be argued that interjections form a relatively open class because they can be rather freely created by onomatopoeia. For example, comic-strip cartoons often contain such nonce interjections as yueck, gr-r-r and blaat. These reflect a similar unstructured freedom to make use of expressive vocalizing in ordinary conversation."

Quirk et al. (1985:74)

It should be noted that words can belong to more than one word class and often do but this is the word class that onomatopoeic words are commonly associated with. While grammarians may not spend much time on onomatopoeia they are sometimes of interest to researchers in the field of sound symbolism.

2.1.1 Sound symbolism

Onomatopoeia are often considered to be a form of sound symbolism, which simply put is about sounds having a special meaning associated with them. Hunter-Smith (2007:7) gives clustering or conventional sound symbolism as an example of words that are sound symbolic but not onomatopoeia. This would be words that have a sound in common and also share related meanings, for example glow, glimmer and glisten which all start with [gl] and all carry a meaning somehow associated with light or sight. This area of research often looks at similarities between languages
and whether there are meanings associated with vowels and so on. Very few unquestionable results
have been found but there are some indications of patterns. Perhaps the most well known example
of this is Jespersen's (1922:896 ff) work that found that there were correlations between high tones
like [i] and brightness, cheerfulness, small size, etc. on the one hand while low tones like [u]
correlated with darkness, gloominess, large size, etc. Even though these studies show a connection
between sound and meaning they take a general view and focus on individual vowel and consonant
sounds more than whole words.

2.2 Categorizing onomatopoeia

Looking back at section 2.1 there seems to be an agreement that onomatopoeia are words that
imitate sounds, however the meaning of onomatopoeic words is not as obvious. If Webster’s
definition that they simply represent the sound they imitate prevails they can be happily tucked
away in the interjections category. However, just looking up the words selected for this study shows
that this is not the case. Bredin (1996:558) suggest three different types of onomatopoeia:

Direct onomatopoeia: The word represents the sound, for example Bang!
Associated onomatopoeia: The word indicates and action or thing associated with the sound, i.e.
the noun bubble.
Exemplary onomatopoeia: The way in which the word is spoken suggests a quality which then
becomes the meaning. Sluggish and sloth take time to say while words like nimble and dart are said
more quickly and abruptly.

It should be noted that Bredin (1996:557ff) seems to consider some words that have sound symbolic
meanings to be onomatopoeic, which again illustrates the complication of defining the term. Setting
this aside the idea of a word taking its meanings from a quality related to the way it is said, or
possibly the sound of it, is a very interesting observation of the meanings onomatopoeia can take
on. While Bredin's categorizations are interesting, he does not separate onomatopoeia and other
forms of sound symbolism. Therefore another possible model for categorizing onomatopoeia are
examined in the next section.

2.2.1 Japanese onomatopoeia/mimesis

It is necessary to point out at this stage that Japanese onomatopoeia are far more numerous and
structured than English onomatopoeia. They mostly follow a highly regular pattern when
determining meaning and Fukuda (2003) has many illustrative examples of this throughout his
book. The vowel [i] represents something small, quick or high pitch while [a], [o] and [u] represent
something larger, slower or low pitch, which fits well with Jespersen's (1922) observations on sound symbolism. A repetition of a sound indicates something that is ongoing or repetitive. For example *kin* would be a high pitch, sharp sound of metal hitting metal, *kan* would be similar but not as high in pitch, *gan* would more dull and *gangan* would be metal hitting metal repeatedly (Fukuda, 2003:17). There are many small nuances in this system and it is important to note that these nuances also apply similarly when describing things other than sound, as in *hatto* which is the outward expression given off when something unexpected happens and *patto* being the outward expression to something expected happening (Fukuda, 2003:19). Just as the first consonant in *kan* and *gan* determine if a sound is dull or not; the first consonant in *hatto* and *patto* determine if something that took place was expected or unexpected. The connection between these onomatopoeia and sound symbolism, meaning connected to sound, is fairly obvious in these examples.

There are a few different ways of dividing these words. The Japanese themselves often use the terms *giongo*, words that imitate real sounds what we call onomatopoeia, and *gitaigo*, words that express soundless things, such as emotions, with sound. *Gitaigo* are sometimes called *mimetic* words and are also often divided by for example Baba (2001:1ff) into *phenomimes*, which describe actions, visuals and such, and *psychomimes*, describing emotional states and reactions. Using this system *giongo* are also called *phonomimes*, mimes that describe sound. The problem with this division is that while some words are strictly phonomimes, phenomimes or psychomimes, others may fall into more than one category, i.e. one meaning of the word imitates a sound and the other expresses an emotional state or something else not directly related to sound. One example of this is the word *zuruzuru* that can come to mean a slurping sound made for instance when eating noodles, to slip or to let a bad situation continue (Fukuda, 2003:67). For this reason the term onomatopoeia is still widely used to represent mimetic words as well. While Japanese onomatopoeia differ from English in many ways the categorization used provides a practical alternative that can also be used when looking at English onomatopoeia.

### 2.2.2 Ideophones

Yet another term dealing with non sound related meanings can be found when some African languages are discussed. Dingemanse [www] claims that an ideophone is a sound symbolic word capable of “vividly evoking a sensory event” and further concludes that while onomatopoeia are limited to describing sounds, ideophones cover all sensory input such as smell, vision, taste and so on. The author provides information on the common use of such ideophones in various African languages. However he considers the English words *glimmer, twiddle* and *tinkle* to be ideophones. He considers ideophony to be a universal phenomenon the difference simply being that it is not
used or systematized to the same extent in European languages compared to some African and
Asian languages.

2.2.3 Working definition
There is a reason as to why many of the terms mentioned above are used to describe other
languages and not English and that reason is quantity. Inose (2008:5) approximates that Japanese
has more than 1200 onomatopoeic and mimetic expressions and Dingemanse [www] puts the
number of ideophones found in the Niger-Kordofanian language Gbeya to be somewhere around
5000. With a group of words of this size it is natural that more specialized categories are needed.
The problem remains however that while onomatopoeic words are sound imitating, they are also
sound symbolic and can take on meanings not directly related to sound. Therefore this paper has
adopted the following working definition: Snap, crack and pop are onomatopoeic words that apart
from representing a natural sound can take on other mimetic meanings.

2.3 Characteristics of onomatopoeia
With the above working definition we have established two important characteristics of
onomatopoeia, that they imitate sound and can have sound symbolic meaning. Another very
important characteristic is that onomatopoeia and sound symbolic words are not arbitrary.

2.3.1 Non-arbitrariness
In linguistics a word is considered arbitrary if there is no specific reason as to why it is chosen to
represent something (Cruse, 2004:7). The reasons why for instance the word chair is selected to
represent an object we sit on is considered arbitrary, a statement confirmed by the fact that in other
languages it is represented by very different words, like stol (Swedish) and isu (Japanese). However
stating that the cat is meowing to describe the sound the cat makes cannot be considered to be an
arbitrary choice because meow is similar to the sound a cat makes. It is also important to note that
the mimetic meanings of onomatopoeic words are related to their onomatopoeic meanings. If they
were not we would simply have a homonym, two words with the same spelling and pronunciation
but unrelated meanings (file can be a tool or a collection of information), which is a coincidence,
not a pattern. In the example of zuruzuru mentioned above we can see how the relation between the
sound of something slippery being sucked into your mouth and slipping is not really a coincidence.
Less obvious is the step of going from there to letting a bad situation continue; however in English
expressions such as to let something slip by you is used to describe a similar situations, so it does
not look as though this is an association that is unique to the Japanese language.
2.3.2 Style and register

Style is a very broad term that is used to describe how people speak or write. Usually style is concerned with formality/informality, however how aggressive, humorous or so on an utterance is can also be considered to be related to style (Cruse, 2004:59). Linguists often prefer the term register, which is a type of language or words used in a particular situation (Cambridge on-line dictionary [www]). Register can include things like style, field, for example language specific to doctors or hospital personnel, and mode, the channel of communication, written, spoken, telegraphic etc. (Cruse, 2004:59). In this study the main focus will be on usage in formal or informal situations so the term style seems more appropriate. In a corpus genres (such as spoken, newspapers, etc.) are often sorted after the level of formality of the language they contain. This is determined by factors such as the use of personal pronoun, length of sentences and words used (Biber et al in Schiffrin et al (2003)).

The use of Japanese onomatopoeia/mimesis in discourse was examined in a study conducted by Baba (2001). The study was based on interviews where the test subjects were shown a series of pictures making up a story or a cartoon. The pictures showed a boy almost being hit by a car driven by a rude driver; after he recovers and continues the boy happily discovers that the driver has crashed his car. The people volunteering for the experiment were first asked to narrate a story using the picture and then to role-play it as the boy in the pictures re-telling the events to a friend. The study showed that onomatopoeia or mimetic expressions were more common in role-play than in the narration and that this pattern was even more clear with the mimetic expressions that did not express a sound. From this it can reasonably be deduced that onomatopoeia are more commonly used in informal speech or more specifically, as Baba (2001) repeatedly put it, in emotive language. Baba's subjects expressed feelings of onomatopoeia and mimetics as more descriptive, powerful and expressive.

Bredin (1996:566) argues that people are driven to make sounds “fit” the words. He illustrates this by stating how wrong it would have been if Conan Doyle had named his detective Sheridan Holmes instead of Sherlock Holmes, which apparently he considered doing at one time, since Sherlock somehow sounds better. Bredin believes that this desire to make things fit drives us to use onomatopoeia even when the connection to the sound is vague, because of the more satisfying experience that comes when the sound fits the word.

These two studies seem to indicate that onomatopoeia have an added impact on those who hear or read them that invokes an effect or feeling. The term register is often used to indicate a social
situation which fits well into the focus of the corpus study on the formality of snap, crack and pop. However the above mention effect or feeling these words seem to evoke is, while mayhap more elusive, also of interest, the broader term style is selected for this study.

3 Material and method

As stated previously, in Section 1.1, this study is limited to examining three onomatopoeia, snap crack and pop. Dictionaries such as The Cambridge Learner's On-line dictionary [www], Merriam-Webster's on-line dictionary [www] and the On-line Etymology dictionary [www] are used as basis for the meanings of these words. A extensive corpus study of these onomatopoeia was carried out using the COCA and the BYU-BNC. Consisting of more than 400 million words and divided into the categories spoken, magazine, newspaper and academic, the COCA was the corpus primarily used since it provided more hits and was therefore more helpful in locating patterns. The BNC includes about 100 million words with texts divided into the categories spoken, newspaper, academic and misc (miscellaneous) and it was used to determine if any of the meanings only occurred in American or British English.

The first part of this study is a bottom-up type of study, from which follows that the material was examined without expectations rather than having a clear hypothesis and testing it. The most recent 500 concordance lines, starting from the lines found from texts added in 2009 and going backwards, in the COCA [www] and the first 500 lines in the BYU-BNC for each of the three words were selected as the sample. The different meanings of snap, crack and pop found in these concordance lines were then sorted into categories of sound related and non-sound related meanings inspired by the Japanese model by Baba (2001) and Fukuda (2003). The categories are phonomimetic meanings (sound related), phenomimetic meanings (related to actions, visuals etc.) and psychomimetic meanings (related to emotional reactions or states). In the case of pop there was a lot of interference from the homonym pop as in 'popular music' and therefore the most recent 200 concordance lines for popped in the COCA [www] were also examined. More specific searches for meanings found in the dictionaries but not in the sample were also carried out, for example a search for oh snap was used to isolate that particular meaning.

In the second part of the study the style of snap, crack and pop was examined in two ways. First the frequency in which each word appeared in the different sample text categories spoken, fiction, magazine, newspaper and academic in the COCA [www] was examined using the chart function the corpus provides. To prevent interference the form popped was used instead of pop. Secondly the collocates most often used to describe the three words in this study were examined by searching for
collocating adjectives and adverbs to the left of *snap*, *crack* and *pop*. The 10 most frequently collocating left adjectives and the 10 most frequently collocating left adverbs were selected as representatives. In the case of *pop* the adjectives that were clearly related to the popular music homonym were ignored and when searching for adverbs that collocate with *pop* the form *popped* was used instead.

### 3.1 Problems and limitations

This study is carried out using the COCA [www] and the BYU-BNC [www] corpora. Due to the informal nature of the three words examined the addition of a corpus focused more on spoken language might have provided additional meanings. An attempt was initially made to include the NPC chat corpus (2009), however the corpus was significantly smaller and yielded only a couple of hits for each word. The interference of *pop* as in 'popular music' may have hindered the discovery of noun and adjective meanings of *pop*. This is a case study and three words may not be enough to conclude a pattern, an extended study including more words would be needed to be more certain. Furthermore the background information on how and when these words occurred is limited to the information provided in dictionaries, there may be information on how they were created that would throw of the findings in this study. For the purpose of discovering possible general patterns for onomatopoeia the sample studied in this essay should be sufficient. Finally the subjectivity of the observer can never be ignored, a large part of this study is interpreting meanings and while every effort was made to be objective this factor should not be ignored.

### 4 Results

In this section the results of the corpus study are presented. First the different meanings of *snap*, *crack* and *pop* are discussed and categorized using the mimetic model constructed for this study. This is followed by an analysis of the style associated with the three words which includes the frequency with which they appear in different categories in COCA, the adjectives and adverbs they frequently collocate with and the context in which they appear in the concordance lines.

#### 4.1 Snap

A logical starting point when attempting to discover the meaning of a word is to consult a dictionary. Searching the Cambridge On-line Dictionary [www] yielded the following results:

- *snap* verb BREAK
- *snap* verb MOVE QUICKLY
- *snap* verb ANIMAL
- *snap* verb SPEAK
• *snap* verb PHOTOGRAPH
• *snap* noun BREAKING NOISE
• *snap* noun PHOTOGRAPH
• *snap* noun GAME
• *snap* noun SOMETHING EASY
• *snap* adjective
• *snap* exclamation
• *brandy snap* noun
• *cold snap* noun
• *snap bean* noun
• *snap fastener* noun
• *sugar (snap)* pea noun
• *ginger snap* noun, at ginger nut/biscuit (noun)
• *snap* noun, at press stud (noun)
• *snap bean* noun, at sugar (snap) pea (noun)
• *snap shut*
• *snap your fingers*
• *snap sb's head off*
• *snap at sb's heels*
• *snap to it*
• *snap it up, at snap to it*  

This wide variety of meanings indicates the word's popularity and usefulness, which is even more emphasized by the fact that some of these entries contain more than one meaning. It is however not as easy to find an obvious pattern or connection between these different meanings when looking at an entry and that indicates that an attempt to categorize them may be very useful.

4.1.1 Phonomimetic meanings

We start off with examining meanings that can be categorized into phonomimetic meanings, meanings that represent sounds. In the dictionary entries found above *snap* is described as a “breaking noise” or the sound an animal makes when biting something. Looking at the concordance lines below we find, as in the dictionary, that a sound does not always function as an interjection as in (1). In sentence (2) *snap* takes the function of a noun and in (3) and (4) that of a verb.

1. In *Marked for Death* he broke the lead villain's body -- *snap*! -- over his knee.
2. pulled the metal tab on the top of his beer can. There was a *snap*, followed by a spritzy hiss and a small discharge of foam.
3. in southwestern Uganda, is a few sheets of corrugated tin that twist and *snap* in the wind. More than a week after leaders of an obscure indigenous Christian
4. to sing and do little pretend-magic tricks and even teach a *dog* how not to *snap* at a pork chop for a count of three while his mother laughed and said

The fact that the meaning of *snap* in (1) and (2) clearly refers to the sound is not difficult to realize and in (2) we can substitute *snap* for *with a snapping sound* without changing the general meaning of the sentence. (3) and (4) are more problematic as they refer to *an action that produces a snapping*
sound and not actually the sound itself. The connection between the sound and the verb seems obvious which should allow it to be placed in this category and in a context as in the sentences above it probably can be. However as the next section shows, the verb snap has other connotations that are sometimes not easily distinguished or separated from an action that produces a snapping sound.

4.1.2 Phenomimetic meanings

In this section we move on to phenomimetic meanings, or meanings that represent actions, visuals and such. As mentioned above snap can be described as a “breaking sound”. Thus it is not a far stretch to assume that the verb would mean to break something or something that breaks with a snapping sound. This is what Bredin (1996) calls associative onomatopoeia. However a study of the concordance lines shows that it is not that simple. This can be observed in sentences such as the examples below.

(5) until quite recently was that the juncture where the two plates are locked together can snap violently like a giant spring, unleashing a tsunami as large and terrifying as the
(6) Cosmic strings that snap like rubber bands! Parallel universes that sprout like bubbles! Wormholes! Gravity waves
(7) In many U.S. vehicles, the front seats can collapse and snap back when a car is rear-ended, causing injury and even death to kids sitting
(8) Exposed to a barrage of sensations from the outside world, we snap together brain cells to form new patterns of electrical connections that stand for images,
(9) be as free to keep out women as it is to require every cadet to snap a morning salute in front of a bronze statue of Confederate General Stonewall Jackson,
(10) where hundreds of Sunnis have gathered for the first night of Ramadan. Korans snap shut, and heads turn toward the corner, where a quiet discussion among a

The observation of (5) and (6) shows that an urgency can be noted in the style of the text hinting at things not only being broken but broken suddenly or violently as in (5). This association to something quick, sudden or even violent seems to be at the heart of things as can be noticed when we study sentences (7) to (10). If the object is merely to describe the type of action carried out in the contexts snap can be translated as the seat moving back in sentence (7), putting together braincells in (8), simply as saluting in (9) and closing the Korans in (10). If however snap is defined as an action that happens quickly, suddenly or violently the substitution of other verbs above tends to make far more sense. The construction Snapping a picture instead of taking a photograph is a substitution that occurred frequently in the concordance lines studied, although as can be seen above, there are many variations. Similar patterns can also be found when looking at snap as the sound of an animal biting something.
(11) # Stone calls U Turn a scorpions-in-a-bucket movie; deadly critters snap at one another until only the strongest (or the top billed) survives.

(12) They give Spacey some funny curmudgeonly lines to snap in his American Beauty way. They let him hide his worst scars under his

(13) first, " you'll suggest. " I know it! " she'll snap back. She's under great stress, so don't let this get to

Scorpions are far more likely to sting than bite, so from the context of (11) it seems more likely to assume that snap has the more general meaning of attacking. While it is possible that Mr Spacey was given the opportunity to bite on some lines in the literal sense in (12) it seems that his talent would be better used for delivering quick and aggressive comebacks at his fellow actors. In (13) it is possible to substitute snap for a word like say but that would clearly cause the utterance to seem less sudden and aggressive. When functioning as an adjective or noun the different meanings of snap are more limited, although there are some specialized uses of the noun, as seen in (18) and (19).

(14) but also frequently without it, the King has plunged into his domain on snap inspection missions. What he discovers -- civil servants drinking tea, gossiping and knocking

(15) first step in helping this 15-year-old recover, say psychiatrists, is to recognize that snap diagnoses of brainwashing and programming aren't much help. "

(16) # Implementing the service should be a snap. Server space just gets cheaper. And the number of broadband homes in the

(17) volume up to 15%, Duraflame couldn't afford to miss out on a cold snap. But unseasonably mild weather in one part of the country could mean inventory would

(18) pointing, craning his neck, pretending to throw a pass or take a snap from the center. With women, he holds each face like a ripe melon

(19) Mm, we could play pairs if you like. Snap? Yeah, can play snap. I put the same cards oh and we

Cambridge On-line Dictionary[www] defines the adjective snap as ‘done suddenly without allowing time for careful thought or preparation’ which is a very good fit for sentences (14) and (15) as well as the pattern of snap being associated with something quick and/or sudden. The noun forms of snap in (16) to (19) show more specialized meanings but a common connection can still be made. In (16) snap takes on the meaning of something that can be done with ease, which implies that it can be done quickly. Hence the connection in (16) to the idea of suddenness and quickness is more indirect. (17) illustrates the use of snap to refer to a sudden change, in this case a sudden drop in temperature, which is a meaning that also appears in section 4.1.3 then regarding a sudden change of mental state. (18) is a football term for a specific kind of pass (Merriam-Webster's on-line
dictionary [www]) and (19) is a British card game where the players have to call out *snap* if they see two cards of equal value (Cambridge on-line dictionary [www]). Again the connection with the underlying pattern of something quick or sudden is a bit vague but the pass is done quickly and in the card game the word *snap* has to be called out as quickly as possible in order to win. Bredin's (1996) observation that we are driven to use onomatopoeia even when there is little connection to the sound could explain how these uses of *snap* came into use. Before moving on to the psychomimetic meanings of *snap* there is one more noun meaning that is a bit more problematic to pinpoint exactly as the examples below illustrate.

(20) which, in rare moments, has some of the you-are-there, walk-with-me charm and *snap* of the TV show.
(21) The shoulders hunched, against the blow of Chick's own words. *No snap*, no crackle, no pop, no sparks at all.
(22) one step further, meshing Fagen's urbanely elliptic lyrics with the sonic sass and *snap* of Steely Dan.

In all cases *snap* describes a quality, in (20) a quality of a TV show, in (21) a person's attitude, this is only possible to realize when looking at the whole text the sentence is taken from, and in (22) the quality of a set of lyrics. These meanings seem to be something similar to action (as in an action movie), excitement or possibly tempo. The meaning of *snap* appears almost intentionally fuzzy as if it is more of an effect, something that cannot easily be put into words. In (21) a comparison is made between the sound effects made when Rice Crispies hit milk and the effect a person has on their surroundings. While the connection between this meaning and the pattern found is quite weak it does point to *snap* having emotive qualities as Baba (2001) concluded in her study.

4.1.3 Psychomimetic meanings

Psychomimetic meanings are related to emotional states and reactions. At this point it seems prudent to stress again that categorizing meanings is hardly an exact science and there are many grey areas (Cruse, 2004:128). Sentences like (11) and (12) are a good example of such a grey area. In those two sentences *snap* was categorized as making a quick and aggressive utterance in Section 4.1.2. However it is also possible that it represents an emotional reaction expressing anger or irritation verbally. An argument can therefore be made for (11) and (12) to fit in either category. Whether the examples in question are actions loaded with emotion, or an emotional reaction, the meanings are clearly related. As the focus of this study is to find a pattern in meaning we shall simply state that examples such as (11) and (12) exist on the border between phenomimetic and psychomimetic meanings. In (23) below it seems abundantly clear that emotions are involved.

(23) but Bill's face darkened. He seemed about to *snap at* her, but then he drew a deep breath and said, " No
(24) What seems to have made Dontee Stokes snap was the news reports. Stokes, 26, was a doting father and an

(25) Has police work become so dangerous that even well-meaning officers can snap under the pressure? #

Those questions became more urgent last week as evidence grew

(26) " D-Lone, " " Lonely D, " " Dill-icious. " Ho, snap! Halfway through the book, you could draw the block from memory. #

(27) " Oh snap, where'd you get those? Did you go to Chinatown? " #

In examples (24) and (25) snap could be representing a sudden and aggressive emotional reactions or a sudden change of mental state. It is not obvious that the change will lead to violence or aggression, it does however seem that it is a negative and abrupt change. An argument could be made that this is simply a metaphorical use of the verb snap that means break. However a person that snaps is not necessarily broken, this meaning seems more closely related to the one in (11) , (12) and (23). In examples (26) and (27) snap appears to be taking on the function of an emotive, i.e. a word expressing feeling rather than meaning. A closer study of the texts the examples were taken from, and other concordance lines where snap was used in the same way, indicates that the most likely emotion projected in the two examples given is surprise. This could possibly be related to the meaning of snap in (20)-(22) in that surprise is sometimes an appreciated quality.

Although the sound snap has associated meanings like breaking or biting as Bredin (1996) suggested, however this also comes with implications that this is something sudden and often with undertones of violence or aggression. Thus the separation that Bredin makes between associated and exemplary onomatopoeia does not appear to be very practical, as the exemplary meaning is present in most meanings. The idea of suddenness seems to be the main focus in the more figurative meanings. This pattern is very strong with the verb uses and indirectly in the adjective use of snap. When used as a noun snap seems to have developed more specialized meanings that can however be related to the notion of suddenness.

4.2 Crack

As with snap, a search for crack produced a flurry of different meanings both in the Cambridge on-line dictionary [www] and Merriam-Webser's [www], so to save space, the definition of the sound was chosen as the starting point as it was with snap.

4.2.1 Phonomimetic meanings

Merriam-Webster's[www] defines the sound crack as “a sudden sharp noise” and the Cambridge on-line dictionary[www] as “a sudden loud sound”. Both definitions are quite non-specific and studying the sentences we see it used to describe sounds that are not necessarily closely related.
(28) the reader be surprised by the sudden flash of illumination and then instantly anticipate the crack of thunder, the scent of ozone.

(29) if you can find a single line of baseball coverage. Spring once meant the crack of the bat, the smell of the grass. Today it means college hoops.

(30) I wear kneepads, " says Donnie Deleto, 16. " We don't crack light bulbs on each other. We don't use cheese graters.

(31) In response, others wave it with defensive pride, crack skulls in its name, and fly it from their garbage trucks, police cars.

Looking at the examples above and others in the concordance lines the character of the sound crack is hard to define more precisely than it is done in the dictionaries. As it is used for a variety of sounds, loud and sharp is probably as close as we get and even that can be questioned. As we can see in (28) and (29) describing impacts or explosions are accepted usages. The use of crack as a verb in (30) and (31) can describe an action causing a cracking sound but both also seem to have a destructive meaning. It is not a complete destruction or clean break as in snap however, more like causing a tear or opening or other damage that leaves parts intact.

4.2.2 Phenomimetic meanings

As with snap it is time to turn our attention to actions represented by the verb crack and if possible patterns of meaning of the same type found in snap can be observed.

(32) the first one that's completely shatterproof. Its Teflon coating means the glass may crack, but the pieces stay together.

(33) If the FBI doesn't crack the case soon, skittish consumers, who had just started growing comfortable with the

(34) That makes sense; lots of people would probably like to crack AOL Time Warner's computer system. But at home, I have no protection

(35) But they were also one of the few acts in recent years to crack the charts with an unfiltered political message.

(36) pictures on your computer screen before you print them. # If you were to crack open your digital camera, one thing you would find is the image sensor,

(37) of the world's most mysterious country had been transformed into a fellow who could crack jokes at his own expense, banter about kimchi recipes and show proper Confucian deference.

Sentence (32) is a strong example of crack meaning something starting to fall apart but not doing so, the meaning being something like getting damaged. In (33) crack means to solve, in (34) to break into, in (35) to get into and in (36) to open possibly forcefully. Looking at the more figurative meanings of crack in (33)-(36), they denote actions that are likely to produce a cracking sound and
thus figurative. The common theme seems to be related to overcoming an obstacle, or forcing something open to reveal what is there. It can be seen to cause a barrier to fall apart to reveal what is behind it. There are also indications that this is something done forcefully, almost like an attack. Example (37) can be translated as making a joke and the connection is less obvious. However, when *crack jokes* is used in (37) it is at ‘his own expense’ indicating that it is revealing, exposing weakness in a person. So perhaps a more accurate description of the pattern would be a forceful action designed to access or reveal something.

Furthermore, the study of similar examples in other concordance lines leads to the interpretation that *crack jokes* points to a certain kind of jokes designed to be antagonistic and revealing. It also follows that *crack* can be used as a noun to represent such a joke, as seen in (38) below.

(38) I especially love his sneering *crack* about soup: "Yeah, that'll do the trick."
(39) Supreme Court to hold back and let a presumably more pro-Microsoft appeals court get a *crack* at it first.
(40) The door was left by the Syrians slightly open, maybe a small *crack*. We will not close it. But I'm not very optimistic listening to
(41) adulthood stop her from shrieking over the contents of her fluffy red stocking at the *crack* of dawn. And then imagine, if you will, a holiday sans liquor
(42) Supporting Muniz is a *crack* cast, especially Jane Kaczmarek as Lois and Erik Per Sullivan as littlest brother Dewey
(43) teens who have used amphetamines # 83% Increased likelihood that a rural teen has used *crack* cocaine as compared with an urban teen
(44) Case points out, "It takes a big bang to get housing prices to *crack* nationwide," and the market's fundamentals remain sound.

In example (39) *crack* is a noun in the verb phrase *get a crack at* that has the meaning of *trying* or *attempting*. As there is an implication of attacking a problem in order to solve it, a link can be made to the uses of *crack* as a verb. As with *snap* the noun forms of *crack* also tend to have more specialized meanings, as in (40) alluding to a small opening, the connection being that of creating an opening as one of the meanings the verb can have. Being more poetic and figurative, (41) could be seen to represent a narrow time frame or an effect, as in dawn came with a *crack*, using a sound to illustrate something that is not a sound. Functioning as an adjective, as in (42), *crack* takes on the meaning of superior or highly skilled, which is quite far from the other meanings. According to the On-line etymology dictionary [www] this meaning is a slang expression from 1793. However no explanation is given as to how it came to be used in this capacity. It is possible to speculate that it is similar to the way *snap* is used in (20)-(22) to create an emotive effect. It is also possible that this meaning is carried on to the noun *crack cocaine*, in (43), or simply *crack* which has become a very popular term for the drug. However the On-line Etymology [www] offers no insight on this.
In example (44) *crack* once again functions as a verb, although in this case illustrating a change of state rather than an action, with a meaning of *to fall apart or open up*, which is a familiar pattern by now.

### 4.2.3 Psychomimetic meanings

When illustrating a mental state the meaning pattern of opening up, or revealing continues, as seen in examples (45) and (46) below.

(45) him in the turns or stuck to him like glue to see if he'd crack. " Thorpe has had an answer for every challenge.

(46) and that maybe Samuel Alito is a little bookish, a little nervous, might crack under pressure. But, instead, he's showing himself to be a tough

Further observation also shows that a person that *cracks* seems to do so after being subjected to attacks or as in (46) pressure and that they are forced to open up. So once again the pattern in meaning proves strong when *crack* is used as a verb and more specialized as a noun. *Crack* does seem to have a more complex meaning than observed in *snap* earlier and sometimes only parts of this meaning are used or highlighted. Interestingly this also seems to include the different sounds it can represent.

### 4.3 Pop

The turn has come for the last of the three words selected to be examined in this study. Merriam-Webster's [www] defines the sound *pop* as “A sharp explosive sound as from a gunshot or drawing a cork”.

#### 4.3.1 Phonomimetic meanings

As observed above in Sections 4.1.1 and 4.2.1, a sound is usually described by a noun or an interjection as in sentences (47) and (48). However when a verb is used, the meaning tends to be broader than that of an action that produces the sound *pop*.

(47) he starts this album growling and barking) and his lyrics, (" Pop! Pop! Pop! Pop! Nigga! ") lack wit.

(48) There was a flash like a camera, and a loud pop, and a curl of smoke, but even though Michael blew on the

(49) " Can you hurry, please? " # She popped gum and frowned. " Easy, sugar. Here we go. " #

(50) # Glam and grim: that is the Cannes cocktail. Though flashbulbs still pop and traffic stops for stars like Elizabeth Taylor and Calista Flockhart, the festival no COCA[www]
Studying examples (49) to (50) shows that apart from the meaning of *an action producing a pop* most examples above also imply that something exploded or was made to explode.

### 4.3.2 Phenomimetic meanings

As with *snap* and *crack* we again find that *pop* can be used to describe several different actions, as seen below.

(51) "He put me in a scissors lock once and accidentally popped my rib."
(52) 'Make me.' At that point I just stood up and *popped* him. "Somehow, the man's girlfriend also sustained a blow.
(53) Confetti fell outside as fireworks reflected off the glass walls of nearby buildings. We *popped* champagne and sprinkled some of our own confetti to mark the passing of the old
(54) 's best recurring joke is that Harvey changes the subject whenever the author asks to *pop* off the Tupperware lid so that he can see the floating brainy bits for himself
(55) Bundchen, God bless her, even had the remnants of a zit she had *popped* that morning. "I love squeezing them.
(56) from a kind and generous man called a donor. Nine months later, out *popped* a beautiful baby boy named Sam.
(57) YOU REMIND ME OF SOMEONE Monica Lewinsky *popped* back on our radar last week with the news that she is selling her own COCA[www]

Looking through the concordance lines above we find that *pop* can be made to mean to *break* a rib, *shoot* someone, *open* a bottle or Tupperware container, *squeeze* a zit until it explodes, a baby *coming out of* a mother and for Monica Lewinsky to *make an appearance*. Interestingly, the theme of suddenness and quickness can be found as in *snap*, particularly in (53) and (54). Themes of explosiveness are found in (51), (52) and (55). The theme of something appearing, as in (56) and (57), is another pattern that stands out. So the general pattern could be described as a sudden action possibly of an explosive character or of something appearing. As usual, some examples are more figurative and harder to connect to a pattern which is illustrated in the concordance lines below.

(58) gold-medal dreams before 70,000 track-crazed Belgians. Jones, not known for her starts, *popped* the second fastest reaction time in a nine-woman field and plowed through a headwind to
(59) found 1,500 heart attacks, arrhythmias and strokes -- some fatal -- in men who *popped* the impotence pill.
(60) elecom-equipment maker with troubled Lucent suddenly collapsed last Tuesday. Later that day, Alcatel *popped* another surprise: it warned that it expects a $2.57 billion loss for the quarter
(61) As a writer on the legendary Caesar's Hour, Gelbart "*popped* jokes like popcorn," recalls colleague Carl Reiner.
(62) For one brief moment, he thought that Al Gore had called to *pop* the question about the vice-presidential slot. Why else phone after midnight? COCA[www]
The use of *pop* in examples (58) and (60) seems to lean more towards something surprising then sudden or explosive, even if surprises tend to be sudden. *Popping* jokes or questions about the vice-presidency, as in (61) and (62), could of course also be surprising or sudden. However, few would describe taking medicine, example (59), as something sudden, surprising or explosive. It seems more likely that the substitution of *pop* for other verbs in these cases is done to add more effect, make the actions stand out more. For example to *‘pop the question’* usually refers to someone proposing marriage, definitely an action that tends to stand out. *Pop* is used to add emotion to the action making it harder to identify the meaning. This is even clearer in example (63).

(63) manic-nerd dad in Back to the Future, the thin, plain Glover has always *popped* on-screen. But he is perhaps most famous for a 1987 appearance on David Letterman.

As in the case of *snap* and *crack*, the uses of *pop* as a noun results in some meanings closely related to a theme, in the case of *pop* suddenness and often explosiveness or appearance of something/someone, and in others meanings that are more specialized.

(64) Now he is trying to do it again. After flubbing a reporter's foreign-policy *pop* quiz in the fall and seeming to be in over his head at those early

(65) is no pedestrian plucker; she often reshapes 50 brows a day at $50 a *pop*, and her clients include Courteney Cox and Susan Sarandon.

(66) well made, unpretentious and refreshing -- like a cool and fizzy bottle of soda *pop* on a hot summer's day.

(67) But in a book he's written he's had a real big *pop* at me in a sour way. And it's just not on. Concerned

The word *pop quiz* used to describe a sudden test for which one cannot prepare fits well into the themes found in the verb uses. The origin of the use of *soda pop* is connected to the sound and is explained in the on-line etymology dictionary [www] as "A new manufactory of a nectar, between soda-water and ginger-beer, and called pop, because ‘pop goes the cork’ when it is drawn. [Southey, letter, 1812]”.

Using *pop* as a single non-specific unit as in example (65) could simply be connected to the wish Bredin (1996) speaks of, to use onomatopoeia even though there is not much connection to the sound because it feels right. *Pop* also occurs in British slang as seen in (67) where to *have a pop at someone* is to criticize them Cambridge on-line dictionary [www]. Again apart from wishing to add emotion or effect to an action, a connection cannot really be made.
4.3.3 Psychomimetic meanings

In spite of being used to add effect or emotion pop does not really have any meanings related to emotional status or reactions. A case could be made for pop in the sense of appearing as shown in (68) and (69) below, since it can be synonymous with an epiphany, i.e. an insight or revelation suddenly occurring to someone, which can contain emotions.

(68) Then the notion of writing a story about a young woman in the Ice Age popped into her head. Auel wrote like a woman possessed, working all night and

(69) Frank McCormick was flying home from a meeting on cancer genetics when a wild idea popped into his head. What if you could make a virus that would infect --

The analysis of pop reveals a meaning pattern of suddenness, explosiveness and appearance that is stronger in verb meanings. However, more so than snap and crack, pop seems to be used with a vaguer connection to such a pattern and is more often used to simply add effect or emotion to an action.

The categorization of snap, crack and pop have yielded some interesting findings and insights into what meanings they can adopt. The phonomimetic meanings are restricted and close to the sound as should be while the more figurative meanings tend to be related to qualities associated with this sound. Clear patterns are most easily found among the verbs as nouns take on more specialized meanings. No clear difference in the pattern of meaning between the phonomimetic and psychomimetic meanings was discovered which may make this division provided by Baba (2001) and Fukuda (2003) less useful. However, since what Bredin (1996) calls exemplary onomatopoeia and associative onomatopoeia are seemingly even harder to separate it is not necessarily a better alternative.

4.4 Style

This sub-section focuses on the context in which snap, crack and pop are used and the style associated with them. The aspect of style studied here focuses mostly on whether the words are used in formal or informal language. For this purpose the frequency of snap, crack and pop in informal and formal texts in the corpus is examined. In the interest of further studying qualities associated with the words featured in this study the adjectives and adverbs that most frequently collocate with snap, crack and pop were also observed in the sections below.
4.4.1 *Snap and its left collocates*

The sub-corpora that texts are divided into in the COCA [www] are spoken, fiction, magazine, newspaper and academic texts. As was discussed in section 2.3.2 these sub-corpora or registers can be graded by formality (Biber et al in Schiffrin et al, 2003). Spoken language would therefore be the sub-corpus where informal language is most common, followed by fiction and so on. Therefore the best indicator that *snap*, *crack* and *pop* are informal would be that they occur most frequently in the spoken sub-corpus, however the results below indicate that they are most frequent in the fiction sup-corpus.

The spoken sub-corpus in the COCA [www] was created from transcribed unscripted dialogues from TV and radio shows, therefore it may not be a good representative of casual speech. In Levin’s (forthcoming) study of progressives the words researched often had lower frequency in spoken than in fiction in the COCA [www], however the same words were more frequent in the Longman corpus of spoken language. A quick search of the Longman spoken corpus for *snap*, *crack* and *popped* does suggest a higher frequency in spoken language than the COCA [www], *snap* and *popped* were almost twice as frequent, they were still more frequent in the fiction sub-corpus of the COCA [www]. Since informal or formal are two ends of a gradable scale rather than two distinctly separated categories this study elected to consider a word informal if it is more frequent in the two most informal sub-corpora, spoken and fiction, than in the two most formal, newspapers and academic. A search for *snap* in COCA [www] resulted in a total of 5030 hits.

<table>
<thead>
<tr>
<th>PER MIL</th>
<th>4.54</th>
<th>23.15</th>
<th>21.33</th>
<th>10.79</th>
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<tr>
<td>SIZE (MW)</td>
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<td>79.4</td>
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<tr>
<td>FREQ</td>
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<td>1823</td>
<td>1776</td>
<td>856</td>
<td>204</td>
</tr>
</tbody>
</table>

Fig. 1 Frequency of *snap* in COCA
Figure 1 confirms quite clearly that snap is informal in nature, fulfilling the criteria given above. Its use in spoken language is considerably more frequent, 7.4% of the matches were found in spoken and only 4.1% in academic text. The use of snap in fiction and magazines compared to newspapers show the same tendencies with 36.2% of matches found in fiction, 35.3% in magazines and only 17% in newspapers. A search for adjectives and adverbs that usually precede snap offers further confirmation on what was discussed in Section 4.1 as to what qualities the word possesses.

Table 1 Common collocates preceding snap in COCA

<table>
<thead>
<tr>
<th>Top 10 collocates</th>
<th>Adjectives</th>
<th>Number of collocations</th>
<th>Adverbs</th>
<th>Number of collocations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>cold</td>
<td>51</td>
<td>just</td>
<td>52</td>
</tr>
<tr>
<td>2</td>
<td>bad</td>
<td>13</td>
<td>loud</td>
<td>25</td>
</tr>
<tr>
<td>3</td>
<td>sharp</td>
<td>12</td>
<td>then</td>
<td>24</td>
</tr>
<tr>
<td>4</td>
<td>single</td>
<td>11</td>
<td>even</td>
<td>9</td>
</tr>
<tr>
<td>5</td>
<td>quick</td>
<td>9</td>
<td>suddenly</td>
<td>9</td>
</tr>
<tr>
<td>6</td>
<td>high</td>
<td>7</td>
<td>of</td>
<td>8</td>
</tr>
<tr>
<td>7</td>
<td>direct</td>
<td>6</td>
<td>little</td>
<td>8</td>
</tr>
<tr>
<td>8</td>
<td>sudden</td>
<td>6</td>
<td>more</td>
<td>7</td>
</tr>
<tr>
<td>9</td>
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<td>5</td>
<td>simply</td>
<td>6</td>
</tr>
<tr>
<td>10</td>
<td>dull</td>
<td>5</td>
<td>easily</td>
<td>4</td>
</tr>
</tbody>
</table>

Examining the concordance lines where cold snap is found reveals it to be more or less a set expression. It always describes a sudden drop of temperature and there are no instances of a warm snap or heat snap. Similar observation of high snap shows that it is used exclusively when snap refers to a football pass, low snap on the other hand sometimes describes the sound. Apart from common adjectives such as bad, direct and single we find that low and dull are connected to the sound. Among the adverbs loud describe the sound while more is used solely together with the more emotive use of snap as in 'the show needs more snap'. The adjectives quick, sudden and the adverb suddenly are used for sound as well as figurative meanings, which is hardly surprising as the studies of the meaning revealed this to be a common trait of snap. The adverbs just, even, simply and easily are used mainly to highlight snap, making the effect or action bigger.

4.4.2 Crack and its left collocates
Searching COCA [www] for the word crack yielded a total of 10,748 matches. Figure 2 illustrates the frequency of the word in the subcorpora.
The use of *crack* as to mean *crack cocaine* is most likely the reason for *crack* being used as much in newspapers as in magazines, 19.18\% compared to 19.17\%. A search for the verb *cracked* shows a pattern more similar to that of *snap*, it is more frequent in magazines than in newspapers. This is also confirmed by the verb *smoking* being mistaken for the adjective in most, but not all examples, during a search of the corpus, included in Table 2 to illustrate this point.

<table>
<thead>
<tr>
<th>Top 10 collocates</th>
<th>Adjectives</th>
<th>Number of collocations</th>
<th>Adverbs</th>
<th>Number of collocations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>smoking</td>
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<td>just</td>
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</tr>
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<td>often</td>
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</tr>
<tr>
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<td>big</td>
<td>15</td>
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<tr>
<td>10</td>
<td>huge</td>
<td>12</td>
<td>when</td>
<td>7</td>
</tr>
</tbody>
</table>

In the case of *crack* the meaning was more complex and vague and we also find less specific adjectives and adverbs. One difference is the collocation with time and frequency adverbs such as...
**never, often, ever, finally and when**, which indicate that there is a process that leads up to something cracking. This is in contrast to *snap* and *pop* which are seen as more sudden or instant. *Just* is once more the most common collocating adverb, which is interesting to note as *just* is a very informal word that occurs primarily in spoken language. Out of 699,505 instances in the corpus 264,399 of them appear in the spoken language category.

### 4.4.3 *Pop* and its left collocates

Since the onomatopoeic word *pop* is a homonym (a word with the same pronunciation and spelling, but non-related meaning) of *pop* that is short for 'popular music' the verb form *popped* was used instead. The search for *popped* gave 3566 hits.

![Graph showing frequency of *popped* in COCA](image)

<table>
<thead>
<tr>
<th>PER MIL</th>
<th>4.04</th>
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<th>7.75</th>
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<td>78.8</td>
<td>83.3</td>
<td>79.4</td>
<td>79.3</td>
</tr>
<tr>
<td>FREQ</td>
<td>330</td>
<td>2005</td>
<td>645</td>
<td>520</td>
<td>66</td>
</tr>
</tbody>
</table>

*Popped* is clearly also of an informal nature. Its less frequent use in newspapers and magazines than seen in *snap* and *crack* could be a reflection of the use of *pop* as an effect. In search for collocating adjectives the form *pop* was used, although collocates clearly related to the 'popular music' meaning were excluded. Adjectives that could describe both were included. When searching for adverb collocates the form *popped* was used.
Table 3 Common collocates preceding *pop* and *popped* in COCA

<table>
<thead>
<tr>
<th>Top 10 collocates</th>
<th>Adjectives excluding adjectives related to pop music</th>
<th>Number of collocations</th>
<th>Adverbs preceding <em>popped</em></th>
<th>Number of collocations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>loud</td>
<td>38</td>
<td>just</td>
<td>91</td>
</tr>
<tr>
<td>2</td>
<td>new</td>
<td>28</td>
<td>then</td>
<td>39</td>
</tr>
<tr>
<td>3</td>
<td>great</td>
<td>24</td>
<td>out</td>
<td>20</td>
</tr>
<tr>
<td>4</td>
<td>little</td>
<td>22</td>
<td>suddenly</td>
<td>13</td>
</tr>
<tr>
<td>5</td>
<td>big</td>
<td>14</td>
<td>of</td>
<td>12</td>
</tr>
<tr>
<td>6</td>
<td>biggest</td>
<td>13</td>
<td>finally</td>
<td>12</td>
</tr>
<tr>
<td>7</td>
<td>soft</td>
<td>10</td>
<td>also</td>
<td>10</td>
</tr>
<tr>
<td>8</td>
<td>muffled</td>
<td>7</td>
<td>up</td>
<td>10</td>
</tr>
<tr>
<td>9</td>
<td>small</td>
<td>7</td>
<td>nearly</td>
<td>9</td>
</tr>
<tr>
<td>10</td>
<td>audible</td>
<td>6</td>
<td>even</td>
<td>8</td>
</tr>
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</table>

It is interesting to note that instead of the adjective *sharp* which collocated frequently with both *snap* and *crack* is replaced with adjectives such as *soft* and *muffled* in this case. That a sound is *sharp* indicate that would be noticed while a *soft* or *muffled* sound is something that may not be noticed unless we pay attention. This could be an indication that as a sound *pop* has less of a 'violent' or strong effect as *snap* and *crack*. As was the case with the to other onomatopoeia examined *just* is the most frequently collocating adverb here as well, almost three times as frequent as the runner up *then*.

The results confirm Baba's (2001) conclusion that onomatopoeia are more frequently used in informal contexts. Many of the collocates confirmed previously observed patterns regarding the qualities associated with the words and nothing was found that was contradictory to findings in previous sections. One important discovery was the very frequent collocation of all three words examined with the adverb *just*, indicating not only the informal nature of *snap, crack* and *pop*, but also the use of these words to create more of an effect.

5 Conclusion

This study has shown that the sounds imitated in the onomatopoeia *snap, crack* and *pop* are not limited to describing the sounds and the action that produces them. It seems natural that if a sound like *snap* is associated with something being broken or torn off it will have meanings related to something being broken or torn when used figuratively. However the research shows that it often takes on figurative meanings related to qualities associated with the nature of the sound. *Snap* is
used to describe something being done suddenly or a sudden change of state, *crack* signals something being forced open to reveal or access what is protected and *pop* carries a sense of suddenness, explosiveness and something appearing. There is a practice of substituting other verbs with these onomatopoeic verbs to add this effect to the action. Sometimes *snap*, *crack* and *pop* are used only for effect, such as example (20) where the TV show had *snap*, which could very well still carry the figurative meaning. However the lack of context in these uses makes it hard to be certain. The contexts in the concordance lines and the adjectives and adverbs that frequently correlate with the three words examined in this study support this pattern. The nouns of these onomatopoeia carry the meaning of the sound or a more specialized meaning that can usually be traced to the natural qualities of the sound. The frequency in which *snap*, *crack* and *pop* appear in formal and informal texts and the frequent collocations with the adverb *just* clearly indicate that they are used in informal contexts predominantly.

This study argues that categorizing the meanings of onomatopoeia after sound related and non-sound related meanings offers a more helpful insight into the nature of these words and how they are used. The findings of this study could be quite useful in dictionary creation and for those studying English as a foreign language. As it is now, dictionaries tend to simply list different meanings, paying little or no heed to the pattern. The informal nature of these words and the practice of using them to add more effect to an action or statement is not taken into account. This ability to be able to describe many different actions makes it all but impossible to list all the meanings separately, or at the very least very impractical.

As this paper is a case study focusing only on three onomatopoeia a more comprehensive study of more onomatopoeia and possibly other words highly sound symbolic may yield other important insights. Many of the figurative meanings discussed in this paper are based on associations and emotions these words evoke. Associations and emotions can differ from one person to another, thus a more psycholinguistic approach focused on this could shed some light on why these words have so much *snap*, *crack* and *pop* to us.
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