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FROM GAMBLERS TO VIDEO GAMERS

A Diachronic Investigation of *gamer* and *gaming*

TIIVISTELMÄ

Jussi Tolja: From Gamblers to Video Gamers: A Diachronic Investigation of *gamer* and *gaming*

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Kuten elokuvista aikanaan, videopeleistä on kehittynyt yksi suosituimmista viihteen muodoista. Videopelien ja niiden suosion kehitys 1900-luvun lopulta alkaen on aihealue, johon liittyy väistämättä myös kielellisiä vaikutuksia. Tästä huolimatta videopeleihin liittyvästä kielen muutoksesta ei vielä ole helposti löydettävissä suurta määrää tutkimusta. Tässä tutkielmassa tarkastellaan kahden englanninkielisen substantiivin (*gamer* ja *gaming*) esiintymistä ja merkityksen kehitystä soveltuvassa korpusaineistossa. Hypoteesina tutkimuksessa on, että kyseisten sanojen käyttö kytkeytyy nykypäivää lähestyttäessä yhä tiiviimmin juuri videopelaamisen konteksteihin, ja että tätä kautta sanojen merkitys on etenevissä määrin kehittynyt videopelaamista ja -pelaajia tarkoittavaan suuntaan.

Tutkielmassa käytetty korpusaineisto on peräisin *Corpus of Contemporary American English (COCA)* ja *Corpus of Historical American English (COHA)* -korpuksista. Käsiteltävä englannin variantti on täten amerikanenglanti. Tutkimus on luonteeltaan diakroninen, sillä *COHA* kattaa aineistoa 1800-luvulta nykyenglantiin ja *COCA* vuosilta 1990–2019. Tutkimuksessa oletuksena oli, että suurinta muutosta sanojen merkityksellä olisi odotettavissa 1900-luvun lopulta alkaen, jolloin videopeleistä on alkanut tulla suosittua ja laajalle levinnyttä viihdettä. Korpuksista tarkasteltiin lekseemien *GAMER* ja *GAMING* esiintymiä eri aikakausilla, ja sanan tarkempi merkitys kussakin tapauksessa pääteltiin tarkastelemalla sen esiintymisympäristöä. Näin kerätyn datan avulla pystyttiin hahmottelemaan, millaisissa merkityksissä minäkin ajankohtana kyseiset sanat esiintyvät korpuksiin sisältyvissä aineistoissa, ja millaisia kehityssuuntia merkityksistä on tunnistettavissa.

Tarkastelluissa korpuksissa substantiivien *gamer* ja *gaming* havaittiin esiintyvän pääasiassa joko uhkapelejä tai videopelejä koskevassa merkityksessä – tosin sanalla *gamer* ei juurikaan ollut 'uhkapelaajan' merkitystä ilmentäviä esiintymiä, vaan sana yleistyi aineistossa ylipäättänsä vasta 'videopelaajaa' tarkoittavan merkityksen ilmestyessä. Myös sanan *gaming* esiintyminen korpuksissa yleistyi 'videopelaamiseen' viittaavan käytön myötä, ja nykyaikaa lähestyttäessä kyseinen merkitys myös ohitti yleisyydessään 'uhkapelaamista' tarkoittavan merkityksen. Tulokset myötäilivät siis intuition pohjalta muodostettua hypoteesia siitä, että tarkasteltuja sanoja käytetään nykyaikana pääasiassa nimenomaan videopelaamiseen viittaavassa merkityksessä.

Avainsanat: semantics, semantic change, corpus linguistics, gamer, gaming

Tämän julkaisun alkuperäisyys on tarkastettu Turnitin OriginalityCheck –ohjelmalla.

Table of contents

1. Introduction	1
2. Background	2
2.1 <i>Gamer</i> and <i>gaming</i> : connections and history	3
2.2 Corpus linguistics	6
2.3 Semantic change	7
3. Research questions, methods, and materials	9
3.1 Research questions	9
3.2 Methodology and utilized corpora	10
4. Results	13
4.1 <i>Gamer</i> in COCA	13
4.2 <i>Gamer</i> in COHA	15
4.3 <i>Gaming</i> in COCA	17
4.4 <i>Gaming</i> in COHA	19
5. Discussion and conclusion	22
References	26

1. Introduction

Since the introduction of video games as a popular medium during the the 1970s and 80s, the video game industry has gradually expanded into a multi-billion-dollar business, matching the film industry in revenue in 2018 (Minotti 2019). The rise of gaming in popularity has unavoidably led to the rise of communities centered around this new cultural phenomenon, formed by like-minded people, who have a desire and need to express their shared enthusiasm in the language they use. One noticeable aspect of language centered around video games is the way how the nouns *gamer* and *gaming* are used to refer to video game players or enthusiasts, and to the hobby or the act of playing video games, respectively. Based on my own experience, in discourse related to video games, it is an entirely common practice to use the two lone words, without the other half (*video*) of the compound, to refer precisely to video games and video games alone; other types of games would require more complex constructions than the simple *gamer* or *gaming* in such a context.

With video games being such a widespread and an increasingly popular and more accessible medium in today's world, it would perhaps be logical to assume that the gaming enthusiast-specific meanings of the words *gamer* and *gaming* could then have influenced at least the nuances of meaning the words carry in the wider spectrum of the English language. As such, it should probably also not be unreasonable to assume that the influence that video games have had on the meaning of the two words has grown with the popularity of the medium itself. Utilizing my own intuition and experiences again, I would even go as far as to assume, that when the words *gamer* or *gaming* are used in today's language, the topic at hand will often be related to video games, since more often than not the words seem to come up in such contexts.

If one wishes to test a hypothesis related to the usage of a word, a study conducted using a corpus is one salient option, especially if the subject is approached from the angle of historical developments. The aim of this study is to look into the developments of meaning and usage of the

words *gamer* and *gaming*. “Usage” here should perhaps be seen more as the context in which the words are found in the corpus data, as the major conduit through which the meaning of the word is analyzed. With the intuitive assumption that video game-related contexts are the ones where the nouns *gamer* and *gaming* are used the most in recent times, this study also looks into the distribution of the words in the utilized corpora across the historical spectrum of the 19th, 20th, and 21st centuries, with the hypothesis being that the usage of the words has increased as video games have grown more popular and become an established medium.

The nouns *gamer* and *gaming* have not been researched in any studies that could be cited as previous research. This is interesting, as the semantic phenomenon of these words carrying meaning related to specifically video games is something that has taken place during the last few decades, for obvious reasons related to advancement of technology. Especially for those familiar with the video gaming landscape, the lack of previous study could even be seen as surprising, since the two words (by common sense alone) have gained a new type of specific meaning only recently.

The thesis has four sections in addition to this introduction. The second section outlines the background for the present study. The third section provides a description of the corpus material used for gathering the data and how it was inspected for results. The fourth section is a look at the data itself and the results. The fifth and final section acts as a discussion of the findings and concludes the thesis.

2. Background

The section at hand includes background for the study. The first subsection is an inspection of dictionary entries on the nouns *gamer* and *gaming*, the second briefly discusses corpus linguistics as a means of studying language, and the third subsection outlines some background for the study of semantic change.

2.1 *Gamer* and *gaming*: connections and history

This section examines the history and definitions of *gamer* and *gaming*. When there is little study to be found to the history of the words, the *Oxford English Dictionary* is relied upon. To contrast its recording of historical usage, the *Merriam-Webster Dictionary* is examined for a modern, North American description of use.

The Oxford English Dictionary is widely considered to be the most prestigious dictionary of the English language, with extensive information on its entries and their meanings across the history of English. *OED* gives the following meanings for the noun *gamer*, which is listed appearing for the first time around the year 1450:

1. A person who takes part in a game, pastime, or sport; (frequently) *spec.* a person who plays games for stakes, a gambler.
2. A person who hunts game. *rare.*
3.
 - a. A participant in a war-game or role-playing game; a player or creator of such games. In the context of computer-based role-playing games, often not distinguishable from sense 3b.
 - b. A person who plays video, computer, etc., games, esp. habitually.
4. *North American Sport (colloquial).* (a) A person, esp. an athlete, known for consistently making a strong effort; (b) a player who performs better in actual games than in practices.

Apart from commenting that sense 1 “frequently” involves gambling, and branding sense 2 “rare”, *OED* gives no information on the frequency of the different senses when compared to one another. It is this frequency on which this study aims to establish something concrete. Intuition would say that sense 3b is the one that would be the most prevalent in modern day usage, but it is obviously also a relatively new one, with *OED* giving its first example of the sense from 1977:

Analog Sci. Fiction/Sci. Fact Sept. 15 This group included more than 150 men and women war gamers, role players, computer gamers, general game players and even non game players.

An important thing to note here is that the sense of *gamer* meaning specifically a player of video games is only the second subsense of sense 3, coming after sense 3a, which pertains to

tabletop war-games and role-playing games, phenomena that predate video games by some time. It seems then, that the modern usage of *gamer* in reference to a habitual video game player has its roots in the word being used in the contexts of tabletop games. Jon Peterson (2014) writes of how *gamer* came to be associated with table-top war gaming:

The term [*gamer*] was effectively absent from twentieth century American vernacular until it was rescued by a new community of “war gamers.” Initially, “gamer” was just a contraction of that label, but it evolved into a general name for fans of the many genres of games that drew on the innovations of wargaming: role-playing games, board games, collectible card games, and computer games.

Information on the development of *gamer* as a word is quite scarce, and no other writings beside Peterson’s article could even be found on the matter. The article does, however, correlate with the *OED*’s assessment of senses, where ‘war-game/role-playing game player’ and ‘video game player’ were classed as subsenses *a* and *b*, respectively, under the same sense.

The Merriam-Webster Dictionary, which describes modern-day usage, defines *gamer* as follows:

1. A player who is game
especially : an athlete who relishes competition
2. A person who plays games
especially : a person who regularly plays computer or video games

The sense given here as 1 was (essentially) described in the *OED* (sense 4) as North American; *Merriam-Webster* being a North American dictionary, having this sense as the primary one is not terribly surprising. The second sense gives the broad description of a person who plays any kind of games, but with a particular emphasis on video gaming. For many who are familiar with video gaming culture, the intuition would probably be that sense 2 would be the more regular one – here, it is, for whatever reason, given as the secondary sense. The lack of a gambling-related sense is noticeable; going by the definition here, one would not expect ‘gambler’ to appear as the sense for *gamer* in North American corpus data to a large extent.

Based on the senses given for *gamer*, it would perhaps be expected to find similar meanings for the noun *gaming* in the *OED*, only this time describing the act, whereas the individual taking

part in the act was described in *gamer*. Interestingly, the noun *gaming* is recorded in the *OED* as appearing as early as the Old English period, which means that it appeared before 1100, well before the first recorded occurrence of *gamer* around 1450. The meanings of *gaming* given in *OED* are the following:

1.
 - a. *gen.* The action of engaging in games or entertainments; merrymaking; sport. Now *rare*.
In Old English: †jesting (*obsolete*).
 - b. The action or practice of playing games, as cards, dice, etc., for stakes. Cf. *gambling n.*
In early use almost always with pejorative connotations of extravagance, immorality, etc. Now typically used more neutrally with the implication that games played involve skill and a player's rewards and losses can be largely managed strategically (sometimes with implicit contrast with *gambling*).
 - c. The playing of war-games or role-playing games.
In the context of computer-based role-playing games, often not distinguishable from sense 1d.
 - d. The playing of computer (video, etc.) games
2. As a count noun.
 - a. Frequently in *plural*. An instance of engaging in games or entertainments; *spec.* a session of playing games, as cards, dice, etc., for stakes. Now chiefly *hist.*
In Old English: †a jest, a joke (*obsolete*).
 - b. *Classical History.* In *plural* = game *n.* 9a, 9b. (ancient Greek and Roman festivals).
Also in *singular* in the same sense. *Obsolete.*

In addition to these senses of the word, some compounds are listed under the same entry. They need not be specified here, as they all are clearly connected to the senses given above. As predicted, the senses here seem to match with the senses from the entry for *gamer*: gambling, war-games, role-playing games, and video games are all represented in the entry. It is noticeable, however, that senses 2 and 4 of *gamer* are not really represented by any of the senses given for *gaming*; likewise, sense 2b in *gaming* does not have an equivalent sense in the entry for *gamer*. Sense 1 of *gaming*, on the other hand, seems to have at least some kind of specific equivalency with *gamer* in all of its subsenses.

In *Merriam-Webster*, the following senses are given for *gaming*:

1. The practice or activity of playing games for stakes : GAMBLING
—often used before another noun: the *gaming* industry
2. The practice or activity of playing computer or video games

It is unsurprising not to see the meanings that *OED* listed as historical and obsolete under sense 2, and that ‘gambling’ and ‘video gaming’ are the senses that are included. Just as it was with the *OED*, the sense of ‘a player who is game’ for *gamer* also has no equivalent in *gaming*.

Based on the entries in *OED*, it seems that when the word refers to the uncountable act, *gaming* has a counterpart in the word *gamer*, with a suitable flavor of meaning. This follows the pattern that can be detected in modern-day usage of the words, when video games are being discussed; *gaming* is used to refer to the hobby or the act of playing video games, and *gamer* is used to refer to an individual either partaking in the hobby in general or playing a game in the moment. Going by the senses listed in *OED* and *Merriam-Webster*, if one were to look into the two words with corpus data from the last few centuries, the assumed findings would be meanings pertaining mostly to gambling, tabletop games and video games, perhaps some meanings that have to do with sports, and few or none that would involve hunting.

2.2 Corpus linguistics

Corpus linguistics is the studying of linguistic phenomena through corpora. A corpus is defined by Atkins et al. (1991, 1) as a collection of electronic texts that is “built according to explicit design criteria for a specific purpose, eg the Corpus R’evolutionnaire (Bibliothèque Beaubourg, Paris), the Cobuild Corpus, the Longman/Lancaster corpus, the Oxford Pilot corpus.” Corpora used for research vary in size from the aforementioned vast corpora to smaller, more specific corpora; the former are usually suited for a large number of different types of research topics, while the latter type of corpus might even be collected with a specific research topic in mind. When the aim is to study broad phenomena in the language on a wide spectrum, a large and established corpus is often a good fit, whereas a study involving a very specific subset of language usage might be best researched with a corpus focused on the specific subset, e.g. the language used on a certain magazine; even a small database of the magazine’s text can be regarded as a corpus. For the purposes of this study, corpora of the former kind are the most suitable.

Corpus linguistics studies can be used to study linguistic phenomena with different types of temporal focus, codified in the divide of synchronic and diachronic linguistics: synchronic linguistics is the study of language at a particular moment in time, while diachronic linguistics focuses in studying linguistic phenomena and their change over time (Lindquist 2009, 167). Large corpora that contain texts from different time periods are well suited for studying language change over time. Still, it is important to remember that no corpus can be considered definitive; even the largest and most utilized corpora will cover only certain, predefined areas of language, be it originally written text or textualized speech. The present study is diachronic in nature, as it seeks to map change in the meaning of the nouns *gamer* and *gaming* across time.

Another distinction in corpus linguistics has been identified between **corpus-based** and **corpus-driven** approaches (Lindquist 2009, 10). A corpus-based approach is described by Tognini-Bonelli (2001, 84) as the utilization of a corpus to select “examples to support linguistic argument or to validate a theoretical statement”. A corpus-driven approach, on the other hand, means that “the commitment of the linguist is to the integrity of the data as a whole, and descriptions aim to be comprehensive with respect to corpus evidence” (ibid., 84); the approach is more inductive, with the corpus data itself and the insights derived from it as points of focus. This study would fall more on the side of a corpus-driven approach, as it is interested in finding out how the matter at hand is reflected in corpus data – however, the presence of somewhat strong hypotheses about the semantic development of the investigated lexical items (cf. Section 3.2) could be seen as minor elements of a corpus-based approach.

2.3 Semantic change

One of the basic principles of language recognized by the modern linguistic tradition is the inevitability of linguistic change. Languages exhibit change in many levels, including changes in pronunciation, grammar, and the type examined here, change in the meaning of individual words. This kind of change of word meaning is known as semantic change.

The meaning of a word can change in different ways. Traugott (2017) lists six different types of semantic change:

1. **Metaphorization:** conceptualizing one thing in terms of another, as in terms of similarity, for example, the use of Latin *ad* ‘to’ + *mit* ‘send’ for locution (admit), or of tissue ‘woven cloth’ for ‘aggregation of cells in animals or plants.’
2. **Metonymization:** association, usually in terms of contiguity, for instance, board ‘table’ > ‘people sitting around a table, governing body.’ Many traditional examples of metonymic shift involve part for whole (often called “synecdoche”), as in keel for ship.
3. **Pejoration:** association of a term with negative meaning, such as, Old English *stincan*, ‘smell (sweet or bad)’ > stink, *cnafa* ‘boy’ > knave, conceit ‘idea, opinion’ > ‘overestimation of one’s qualities.’
4. **Amelioration:** association of a term with positive meaning, such as Middle English *nice*, ‘foolish, innocent’ > ‘pleasant,’ and examples of preemption of meaning as a symbol of pride (e.g. queer).
5. **Narrowing:** restriction of meaning, as in Old English *deor* ‘animal’ > deer (a specific kind of animal).
6. **Generalization:** extension of meaning, as in Latin *armare* ‘cover one’s shoulders’ > arm.

Traugott (ibid.) points out that the same word can be subjected to different types of change, using the word *toilet* and its undergoing of different stages of narrowing and metonymization. In the case of the present study, since it is assumed that *gamer* and *gaming* have increasingly come to be used in contexts of video games specifically, the type of change in meaning in question would be a sort of narrowing from a more general sense of games to video games alone.

As distinguished by Traugott (2017), two distinct perspectives to studying the change of word meanings exist: semasiological and onomasiological. According to Traugott (ibid.), the semasiological perspective concerns the change of a word’s meaning, while the form of the word remains “relatively constant”. An onomasiological perspective is, as Traugott (ibid.) puts it, “a function to form perspective: attention is paid to sense relations that hold between the items in an inventory, and to which forms come to express a certain concept—for example, what terms are used

at a particular period for ‘crafty,’ what terms for ‘attractive,’ or for ‘somewhat.’” The study at hand therefore has a semasiological approach, as it has to do with the evolving senses of the lexical items *gamer* and *gaming*.

Another matter of interest with semantic change is the reason for it: Why does a particular word undergo changes in meaning? A common approach to the question is one of cognition (cf. Blank & Koch 1999). Categorizations have been made of the different perceived motivations, with Blank (1999) as one example. A commonly attested motivation is the need for a new expression due to new developments in the world outside language (ibid., 67–71); if we assume that the senses of *gamer* and *gaming* have seen change due to the fairly recent existence of video games, then this would surely be seen as the explanation.

3. Research questions, methods, and materials

3.1 Research questions

This study was motivated by a perceived change in the meanings of the nouns *gamer* and *gaming*. If we accept the idea that the words can be used to refer specifically to video gamers and video gaming, then some kind of change in the (at least nuanced) meaning of the two words must have happened during the last few decades, when video games have come into existence. As already touched upon earlier in Section 1, the above musings quite naturally lead one to establish the hypotheses that **(1.)** the development of video games as a medium has led to semantic change in the nouns *gamer* and *gaming*, and **(2.)** that the two words are now used more frequently than they were before the association with video games.

With the above in mind, this study seeks to uncover information on the developments that the nouns *gamer* and *gaming* have undergone during the last couple centuries, by inspecting corpus data related to the two words. The following research questions are established for the study:

1. What kind of semantic change can be detected in the nouns *gamer* and *gaming* in AmE during the 19th, 20th, and 21st centuries?
2. How has the frequency of the usage of the nouns *gamer* and *gaming* changed in AmE during the 19th, 20th, and 21st centuries?
3. How does the inspected corpus data comply with the intuitively perceived shift of the nouns *gamer* and *gaming* increasingly towards a video game-related meaning?

The research questions above facilitate an approach that is both quantitative and qualitative. A quantitative outlook is necessary to establishing not only the frequencies of the two nouns themselves across the chosen period of time, but also the frequencies in relation to one another of the different types of meanings that the words can carry. The study is also qualitative in nature on a fundamental level, as the different meanings a word can carry are detected through qualitative means, like the broader context of usage and the surrounding elements. Since video games were initially introduced in the 1960s and more widely in the 70s and 80s, the years before that can be compared to the later years as “free” of the influence of video games.

3.2 Methodology and utilized corpora

To find answers for the set research questions, data from two corpora is sought and analyzed; these corpora are *The Corpus of Contemporary American English* (Davies 2008-) (referred from now on as COCA) and *The Corpus of Historical American English* (COHA) (Davies 2010-). The corpora were selected due to their reputations as some of the best representatives of their respective categories as large and broad corpora of contemporary and historical American English. The study

is limited to American English, since such a scope was deemed sufficient for its purposes; another pragmatic reason was the prior familiarity with and the easy accessibility of the chosen corpora.

The COCA is a large corpus containing around 1 billion words. The corpus covers the time period between the year 1990, and at the time of this study, the year 2019. COCA includes texts that are divided into eight broad genres based on their origin: (1) transcribed, unscripted speech from television and radio programs, (2) written fiction, (3) magazine texts, (4) newspaper texts, (5) academic texts, (6) online “blogs”, (7) other web pages, and (8) subtitles from movies and TV. The genres are represented in the corpus equally, so the results of a query should not be skewed to certain genres due to any fault in the corpus itself.¹

The COHA contains around 475 million words, with texts ranging from 1820 to 2019. The texts in this corpus are divided into four genres: fiction, magazine texts, newspaper texts, and texts from non-fictional book. The balance between genres is not as equal as it is in COCA, but the corpus has been purposely tailored to give a consistent representation of the language on any given decade.²

The primary method utilized in this study for analyzing the meanings of the words *gamer* and *gaming* is the close inspection of corpus tokens through concordance lines, which include individual tokens of a corpus enquiry with the surrounding material. This means that it is possible to explore the context in which the particular token of the searched item was used. With the words *gamer* and *gaming*, it is thus possible to make inferences of which meaning the words are being used in in each individual case. Usually, not too much of the surrounding material is needed to understand whether the writer/speaker is using the word in a meaning related to video games, or gambling, or sports, etc. To demonstrate, example 1 clearly refers to video gaming, as the video game franchise *Halo* is mentioned by name, while example 2 makes references to mechanics found in video games:

¹ From “See texts and registers” on <https://www.english-corpora.org/coca/>

² From “See texts and registers” on <https://www.english-corpora.org/coha/>

- (1) As a **gamer** who has always been really good at both games like Halo and those police-trainer type... (COCA: 2012: BLOG)
- (2) More importantly, it got even harder as technology improved and **gamers** started to expect FPS-style full 3D movement. (COCA: 2012: BLOG)

Conversely, example 3 can easily be inferred to refer to gambling, as there are clear references to gambling appliances:

- (3) Allow me to introduce to you the greatest advance in **gaming**. Get beyond boring cards and tired dice. It's electrifying! (COCA: 2007:MOV)

References to such appliances, along with ones to gaming tables, commissions, regulators etc. are clear identifiers for a gambling-associated meaning, whereas the likes of example 4 can be identified to refer to an athlete with similar ease:

- (4) he is still the lean, hard-eyed **gamer** who was there when Aaron rose up in rightfield to become a national treasure. (COCA: 1998: MAG)

When analyzing the meaning of *gamer* and *gaming*, the names of people are of course irrelevant, as in example 5. However, tokens containing names of magazines, websites, e-sports teams etc. are classified in this study as having a video game-related meaning – this is because such names have a clear connection to the meanings of the common nouns, which is transparent to language users. Examples 6 (of an e-sports team) and 7 (of a piece of video game hardware) exemplify such tokens, which have been counted as ‘video game playing’ in data analysis.

- (5) Obviously, Mr. **Gamer** is not a serious candidate himself, and is merely asserting his claim to lead... (COHA: 1940: MAG)
- (6) Unfortunately for Invictus **Gaming**, it failed that test as FunPlus continued its climb to the top of the power rankings with a 2-1 victory. (COHA:2019: MAG)
- (7) Two readers will each receive a Plex Lifetime Pass and NVIDIA Shield TV **Gaming** Edition. (COHA: 2019: MAG)

As a final mention about identifying the meaning of tokens, the metadata also provided helpful in some cases: for example, if a token comes from a video game publication like *Ars Technica* or *PC Gamer*, it is reasonably safe to assume that the token can be classified as video

game-related even if the immediate context is not crystal clear (although the surrounding material often corroborates assumptions on basis of the source).

The search terms used to find tokens were [gamer] and [gaming] – the square brackets marking the search term as a lemma. This way, all of the inflectional forms of the noun lemmas would (ideally) be included in the search, with any orthographically identical forms belonging to other word classes excluded. The search terms indeed successfully provided inflected forms of the lemmas (mainly the plural and genitive of *gamer*), and almost no verbs came up with *gaming*, either. Some tokens of *gamer* as an adjective did appear (see Section 4.2), but overall, the search terms functioned as intended.

4. Results

4.1 *Gamer* in COCA

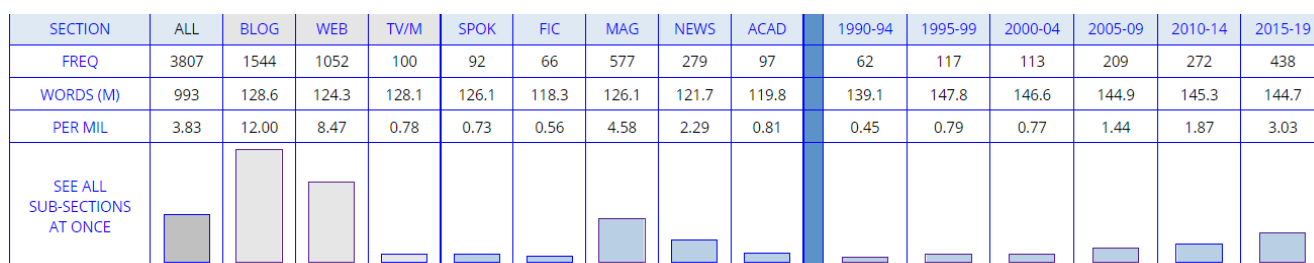


Figure 1: Frequencies for *GAMER* in COCA

The COCA includes 3807 tokens of *gamer*, which makes the frequency per million words 3.83. On the right-hand side of Figure 1, it can be seen that the frequency of *gamer* rises steadily throughout the years since 1990 (an important point to note is that the five-year periods in COCA do NOT include the data from the categories “BLOG” and “WEB” – the other six categories are included in the temporal groups). The frequency of *gamer* is higher on the more informal categories like BLOG, WEB, and MAG; especially the first two ones have very high frequencies (12.00 and 8.47 pmw) in comparison to the total frequency.

The COCA interface offers users the chance to form randomized samples from a large number of results. For the purpose of investigating the contexts in which *gamer* has been used, a sample of one hundred tokens was formed from the search results for the search term [gamer]. The context makes it possible to infer what the speaker/writer has meant when using the word *gamer*.

Table 1: Meanings of GAMER from a random sample in COCA

meaning	# of tokens
unclear	7
proper name	4
sports-related	1
“X Gamers”	1
‘gambler’	2
‘video game player’	85
total	100

As shown in Table 1, out of the 100 tokens in the random sample, the overwhelming majority (85) clearly exhibited the meaning of ‘a person who plays video games’. The 15 remaining tokens included ones that were unclear (e.g., example 8) or proper names (example 9); singular tokens of a sports-related and X Games-related meanings³ (examples 4 and 10); and two that related to gambling (example 11).

- (8) Targeted attacks can go after anyone: from job seekers, **gamers** and gamblers to military contractors, pro-Tibet activists and people who just happen to live... (2010:NEWS)
- (9) As they pass 39, she snaps her compact shut, giving **Gamer** quite the start. (2006: FIC)
- (10) ...-- jibbers, big-mountain honchos, X **Gamers**, expeditioners, freeheel geeks, ski-resort ... (2005: MAG)
- (11) The bill would also require the websites to include information on how compulsive **gamers** can get help, prohibit them from extending credit to players and mandate that a... (2016: NEWS)

³ The X Games are a popular event of extreme sports, hence *X Gamer* = ‘X Games participant’.

4.2 *Gamer* in COHA

SECTION	ALL	1820	1830	1840	1850	1860	1870	1880	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980	1990	2000	2010
FREQ	268	0	0	0	1	0	0	0	0	1	4	3	3	2	3	5	0	6	53	63	124
WORDS (M)	405	7.0	13.7	15.8	16.5	16.9	18.8	20.1	20.4	22.0	23.1	25.7	27.7	27.4	28.7	29.1	28.8	29.9	33.1	34.8	35.5
PER MIL	0.66	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.05	0.17	0.12	0.11	0.07	0.10	0.17	0.00	0.20	1.60	1.81	3.50
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Figure 2: Frequencies for *GAMER* in COHA

Figure 2 contains the chart from COHA for *gamer*. The total amount of tokens found was 268, which amounts to 0.66 per million words. As one can see from the chart, the overwhelming majority of the hits are from the last decades – this coincides heavily with the rise of video games as a medium, which in itself suggests causation. This data would suggest that *gamer* was virtually non-existent as a word in (at least) written American English in the 1800s. The single example (12) from this period was even found too difficult for its meaning to be deduced.

- (12) Let a man arrogantly teach rain how to fall, or clouds how to shape themselves, and with what paces to march their airy rounds, or the season how to plant, and tend and **gamer**; ... (1859:NF/ACAD)

Entering the 1900s, *gamer* begins to appear, but still only very sporadically. And the four tokens from the 1910s actually are all cases of the comparative form of the adjective *game*, as seen in Examples 13 and 14. In fact, most tokens up to the 1980s are either adjectives or proper names; notably, there are no instances of a video game-related meaning before the 1990s, and only a single clear use of the word in the sense ‘gambler’ (example 15). Two misspellings of *garner* as *gamer* are also recorded (e.g. example 16). The years 1900 to 1989 are covered in Table 2.

- (13) The major was weak but game. He was **gamer** than any of us. (1912: FIC)
- (14) Well, you're a **gamer** bird than I thought, then. (1919: FIC)
- (15) ...attitude on this question is that gambling is licit if: 1) the **gamer** owns and can afford to lose what he wagers;... (1938: MAG)

- (16) Some rescue operations **gamer** more respect than others. (1983: NF/ACAD)

Table 2: GAMER in COHA 1900-89

meaning	# of tokens
adjective	13 (48.1%)
proper name	7 (25.9%)
unclear	2 (7.4%)
<i>garner</i> misspelled	2 (7.4%)
'gambler'	1 (3.7%)
sports-related	2 (7.4%)
total	27 (100%)

Table 3: GAMER in COHA 1990s

meaning	# of tokens
unclear	2 (3.8%)
<i>garner</i> misspelled	3 (5.7%)
sports-related	1 (1.9%)
'video game player'	47 (88.7%)
total	53 (100%)

The last three decades of the COHA results each deserve special attention, owing to the considerably large number of tokens compared to the previous years. Tables 3 to 5 list the identified meanings from each decade of results, respectively. These lists for each three decades are dominated by meanings associated with video games, i.e. 'a person who plays video games'. The first instances of the meaning are recorded in the year 1995 (with example 17 being the first in the COHA interface), and they appear with a steadily increasing volume from that point onwards. Misspellings of *garner* are found here, too, showing that quite a few such instances have slipped into the corpus when it was compiled. A couple more instances of a sports-related meaning are present, as are three tokens related to gambling, along with sporadic proper names. Singular tokens are also found for the senses of 'a person who engages in war gaming' (example 18), and 'a person who games the system' (example 19). In summary, most tokens since the 1990s have to do with video games, while only three (in the 2010s) are clearly related to gambling.

Table 4: GAMER in COHA 2000s (a duplicate removed)

meaning	# of tokens
unclear	2 (3.2%)
<i>garner</i> misspelled	1 (1.6%)
“X Gamers”	1 (1.6%)
proper name	2 (3.2%)
“war gamers”	1 (1.6%)
‘video game player’	55 (88.7%)
total	62 (100%)

Table 5: GAMER in COHA 2010s

meaning	# of tokens
unclear	5 (4.0%)
<i>garner</i> misspelled	4 (3.2%)
sports-related	1 (0.8%)
“gaming the system”	1 (0.8%)
‘gambler’	3 (2.4%)
proper name	5 (4.0%)
‘video game player’	105 (84.7%)
total	124 (100%)

- (17) Sega may have upset those who bought the 32X add-on for the Genesis system, because few games were released. **Gamers** " will view Sega suspiciously, wondering how soon it will be before they drop the Saturn in favor of another new machine.” (1995: NEWS)
- (18) ...in actuality was the Goose Bay, a 180-foot Canadian coastal-defense vessel that the war **gamers** had decided would be a rogue " American " merchant ship. (2007: MAG)
- (19) They always find people trying to game the system. You're no **gamer**. (2015: FIC)

4.3 Gaming in COCA

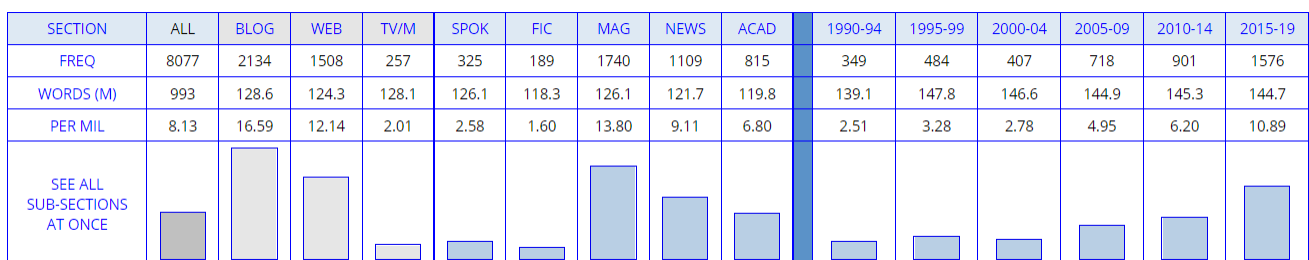


Figure 3: Frequencies for GAMING in COCA

As was in the case of *gamer*, Figure 3 indicates that the frequency of *gaming* notably rises in COCA over the years; in the first five years, the frequency is 2.51 pmw, which has risen all the way to 10.89 by the 2015-19 period. Once again, the BLOG and WEB categories are excluded from the

five-year periods – but just as they did with *gamer*, they, together with MAG, have comparatively high frequencies of *gaming*. In total, there are 8077 (8.13 pmw) tokens of *gaming*; as such, it is a more common word when compared to *gamer* (3.83 pmw from Figure 1).

As with *gamer*, a random sample of 100 tokens has been formed to closely assess the kinds of meanings the word has been used in. Table 6 shows that while the majority of the tokens have to do with video games (e.g. examples 20 & 21), a gambling-related meaning (e.g. examples 22 & 23) was far more prevalent than it was with *gamer*, with 21 tokens out of a 100 (compared to the 2 for *gamer* in Table 1). According to the samples analyzed here, *gaming* still carries a gambling-related meaning in a significant way, whereas the same cannot be said for *gamer*, which is used mostly for players of video games.

Table 6: Meanings of GAMING from a random sample in COCA

meaning	# of tokens
unclear	9
“war gaming”	1
‘gambling’	21
‘video game playing’	69
total	100

- (20) The unique thing about the Level 10 M **gaming** mouse is the fact that it... (2012: BLOG)
- (21) It would be great to buy a new console from any of the big **gaming** companies in a few years and know the library you built up won't get... (2016: MAG)
- (22) Toxicology was clean. Did the computer show anything like an illegal **gaming** charge? (1998: TV)
- (23) Furthermore, among tribes that do have **gaming** operations few have enjoyed the overwhelming success of, for example, the Masshantucket Pequots... (1999: ACAD)

4.4 Gaming in COHA


SECTION	ALL	1820	1830	1840	1850	1860	1870	1880	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980	1990	2000	2010
FREQ	912	13	32	30	26	15	15	28	26	15	16	19	27	16	34	23	25	40	73	125	314
WORDS (M)	405	7.0	13.7	15.8	16.5	16.9	18.8	20.1	20.4	22.0	23.1	25.7	27.7	27.4	28.7	29.1	28.8	29.9	33.1	34.8	35.5
PER MIL	2.25	1.86	2.33	1.90	1.57	0.89	0.80	1.40	1.27	0.68	0.69	0.74	0.97	0.58	1.19	0.79	0.87	1.34	2.20	3.59	8.86
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Figure 4: Frequencies for GAMING in COCA

Gaming is found in COHA much more than *gamer* was. As Figure 4 shows, the frequency for *gaming* was 912 (2.25 pmw), compared to 268 (0.66 pw) for *gamer* (seen in Figure 2). A similar gap between the words can be seen as in COCA. *Gamer* was practically absent in the 19th century, and very rare in the 20th, but *gaming* has somewhat steady hits for both of them. But just as it was in the case of *gamer*, there is a significant increase in tokens for *gaming* across the last three decades; the especially large jump between the 2000s and the 2010s also mirrors that of *gamer*.

For a closer examination of the meanings, we will start at the 1880s, which has the highest number of tokens of it and the surrounding few decades. Table 7 displays the numbers of tokens with their meanings (with a single verb token discarded) – in this decade, the only meaning that could be discerned was one of gambling, with two tokens (examples 24 & 25) being too difficult to interpret. Examples 26 and 27 are of meanings involving gambling; many of the ‘gambling’ tokens are parts of compounds as the examples here – in addition to *dens* and *tables*, one will regularly see tokens of the likes of *gaming houses* or *gaming rooms*.

- (24) For the like reason they ask the aid of wild passions, as in the **gaming** and war, ape in some manner these flames and generousities of the heart. (1883: FIC)
- (25) His callow passion for her has turned his attention from over-much racing and **gaming**, and therein was a benefit,... (1883: FIC)
- (26) Why is he so particular about doing justice to the brothel and the **gaming** den, while he uses his ludicrous eloquence to the highest degree to falsify the... (1887: MAG)

(27) The losses of Fox at the **gaming** table were notorious. Gambling was the fashion among gentlemen and ladies in that generation...(1883: MAG)

Table 7: GAMING in COHA 1880s (verb token removed)

meaning	# of tokens
unclear	2 (7.4%)
'gambling'	25 (92.6%)
total	27 (100%)

The 1880s included no other meanings for the word apart from 'gambling', and cursory glances to the tokens of nearby decades did not indicate a change to this. As such, the next decade to be looked closely will be the 1980s. As Table 8 shows, despite the hundred-year gap, there does not seem to have been much change; 'gambling' remains as the clear primary meaning of the word. The eight tokens listed as "innovative, academic use" all come from the same work, where the authors seem to attempt to coin a new sociological term (e.g. example 28); the meaning would be difficult to explain based on what can be seen from the corpus, but it definitely seems innovative, and not a previously established meaning of *gaming*.

Table 8: GAMING in COHA 1980s

meaning	# of tokens
unclear	2 (5%)
'gambling'	30 (75%)
innovative, academic use	8 (20%)
total	40 (100%)

Table 9: GAMING in COHA 1990s

meaning	# of tokens
unclear	3 (4.1%)
sports-related	1 (1.4%)
'gambling'	37 (50.7%)
'video game playing'	32 (43.8%)
total	73 (100%)

(28) The five cited indicators reveal whether a particular matter is decided in a **gaming** or gamelike fashion. First, are the partners cooperative (**gaming**) or inflexible (game)? (1989: NF/ACAD)

The next decade to be examined are the 1990s. One point of interest with this decade is seeing how the first instances of a video game -related meaning correspond to the 1995 date, which marked the first appearance for such a meaning for *gamer* (see section 4.2). Interestingly, there is a single token with the meaning of 'video game playing' prior to this year from 1992, seen as example 29; however, all subsequent tokens are then dated 1995 or later. This could indicate that

the two meanings may well have spread very much hand-in-hand. All in all, a video game-related meaning is still edged out by a gambling-related one in this decade, the latter having five more tokens than the former. Example 30 is of ‘gambling’ and is notable because it was the only token in the study’s data where the word was used in a metalinguistic fashion. Another interesting token from this decade is the single token where *gaming* has a sports-related meaning, seen in example 31.

- (29) Reviewers at Game Players PC Entertainment, Computer **Gaming** World and Computer Game Review and CD-ROM Entertainment helped winnow down the hundreds of fine games on the market to the list of 10 below... (1992: MAG)
- (30) By dropping two letters, gambling becomes **gaming**, a word with a far more respectable aura. The Indian theme is another...(1996:NEWS)
- (31) One way the Bengals dealt with the Bears' **gaming** was by throwing screen passes. They threw eight, more than the Bears have seen in any game this year. (1995: NEWS)

By the 2000s, a video game -related meaning has edged past that of a gambling-related, but the division is still quite close to half-half, as shown in Table 10. That situation changes, however, during the following decade, as seen in Table 11: in a random sample of 100 tokens out of 314 from the 2010s, 70 tokens represent a meaning related to video games, compared to 21 that represent gambling. It seems that the closer we get to present day, the more *gaming* involves the playing of video games, rather than gambling.

Table 10: GAMING in COHA 2000s

meaning	# of tokens
unclear	6 (4.8%)
‘gambling’	51 (40.8%)
‘video game playing’	68 (54.4%)
total	125 (100%)

Table 11: GAMING in COHA 2010s

meaning	# of tokens
unclear	9
‘gambling’	21
‘video game playing’	70
total	100

5. Discussion and conclusion

This study has looked into the distributions of meaning found with *gamer* and *gaming* in American English in about the last 200 years. In both *gamer* and *gaming*, an increase of use could be detected in the frequencies of the nouns, both in the long-term inspection of the COHA and the more short-term examination of the last few decades with the COCA. The rise in usage of the nouns seems to coincide with the introduction and increasing prevalence of using them in a specifically video game-related meaning.

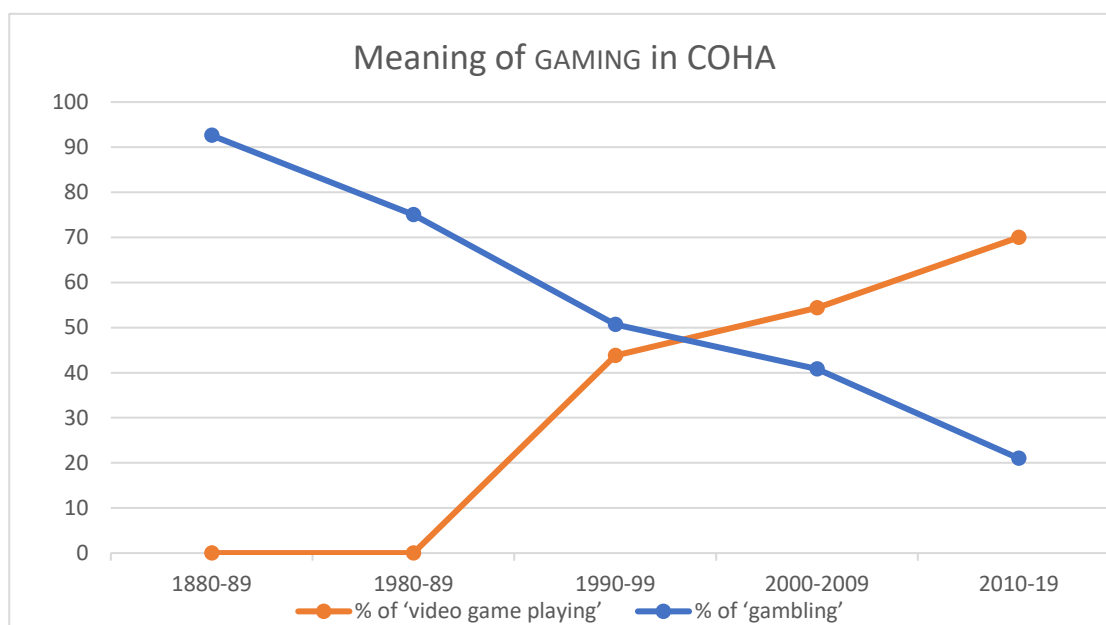


Figure 5: Percentages of senses recorded in COHA for *gaming*.

The data that has been examined here point to a pattern of evolving meaning in the use of *gaming*. In the past, the primary meaning for the word has had to do with gambling, but as Figure 5 shows, the word has gradually shifted in the direction of a meaning oriented specifically towards video gaming. That said, the word certainly still appears to have a place in gambling-related discourse, even if it has been overtaken by the video game-related sense.

When it comes to *gamer*, the trend is similar to *gaming* in the sense that both have acquired a meaning strongly associated with video games, as can be attested to in Figure 6. But there is also a

noticeable difference in the developments of the words, since *gamer* seems to be related to that conceptual field much more strongly; the word does not really appear too much before acquiring its video gaming sense (cf. Figure 2), and the overwhelming majority of tokens have that meaning. Unlike *gaming*, the word *gamer* does not appear to have had too much of an association with the concept of gambling at all, with few tokens found in the data. Likewise, only a few tokens of a sports-related sense were found. Based on the data explored here, it would seem that *gamer* associates with video games very strongly for AmE speakers.

Based on the timeframes in which the words and their senses have been recorded in COHA, there is a correlation to be found with *gamer* and *gaming* in regard to a meaning oriented towards video games. The 1990s are the first decade where *gamer* starts to have any significant presence, with around 90% of tokens representing ‘video game player’ – this is the same decade where *gaming* first appears with a meaning related to video games, with over 40% of tokens representing it. As these video game senses gain a foothold, the total numbers of tokens for both words increase the closer we get to present day, both in the decades of COHA (Figures 2, 4), and the five-year periods of COCA (Figures 1, 3). This rise correlates with the rise of popularity for video games, which likely is not a coincidence. The results here would indicate that especially for *gamer*, a meaning of ‘video game player’ is the easily the most relevant one, as the word does not have much recorded usage with other types of meaning.

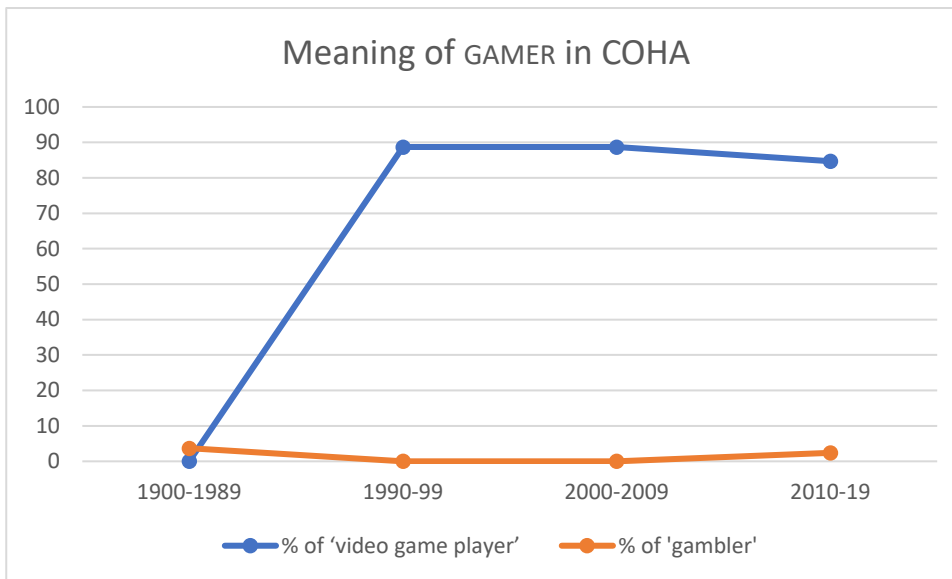


Figure 6: Percentages of senses recorded in COHA for *gamer*.

This study has also showcased some of the shortcomings that come as natural for large text-corpora. Especially with the tokens for *gamer* in COHA, there were quite a few hits that were actually misspellings of the verb *garner*. Also, almost half the tokens for the period of 1900-89 (cf. table 2) were actually the comparative form of the adjective *game*. These kinds of mistakes display the faults brought upon by imperfect software and human error – both are naturally to be expected, since no software is perfect and such a large volume of text will inevitably contain errors on the part of the compilers and transcribers of the corpus.

In conclusion, the study that has been conducted here seems to confirm the hypotheses established in section 3.1: both *gamer* and *gaming* become more frequent in the inspected corpora data during the last few decades (when video games proliferated), and they are also increasingly used in senses related specifically to video games and their players. This is the case for American English – it could be interesting to expand on the findings here by contrasting them with other varieties of English, to see whether they follow the same pattern of evolving senses in the two words. This study also did not delve into the potential differences between registers and text types in the evolution of meaning between the two words; one would expect to perhaps see some different

trends between more formal contexts, such as newspaper texts and bureaucratic documents, and informal contexts such as hobbyist publications and online discourse. The findings of this study point towards a sense of ‘gambling’ in *gaming* still having relevance; another future line of enquiry could focus on whether there are differences in the use of *gaming* with this sense and the use of *gambling* itself.

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