

# No Word is an Island: Distinguishing “Nerd” and “Geek”

Erin Powers<sup>2</sup>, Laura Cabrera<sup>1,2</sup>, Derek Cabrera<sup>1,2,\*</sup>

<sup>1</sup> Cornell University, College of Human Ecology, Cornell Institute for Policy Affairs, Ithaca, NY.

<sup>2</sup> Cabrera Research Lab, Ithaca, NY.

\* Correspondence: dac66@cornell.edu

Citing this Case: Powers, E., Cabrera, L., & Cabrera, D. (2016) No Word is an Island:

Distinguishing “Nerd” and “Geek”. *Cognitive Case Study Series*. Cornell University, Ithaca, NY.

## Abstract

Part of the *Cognitive Case Study Series* from Cabrera Research Lab, this case explores the distinction between the terms “nerd” and “geek” in qualitative and quantitative terms. In the same way that all terminology (text) is conceptually distinguished from other similar terminology (context), an exploration of the nerd-geek distinction explicates the structure of distinction making.

A “cognitive case study”—inspired by the cases used in business and policy schools that involve students in real-world problem solving—is designed to engage students in metacognition (thinking about thinking). Cognitive cases introduce the cognitive patterns underlying our mental models, and then encourage us to explore how our and others’ mental models affect our emotions, behavior, action, and even our reality. These cases explore a broad range of topics, from politics to social issues to the physical sciences to everyday phenomena, with the purpose of enabling readers to see the cognitive structures at play across a variety of realms.

.....

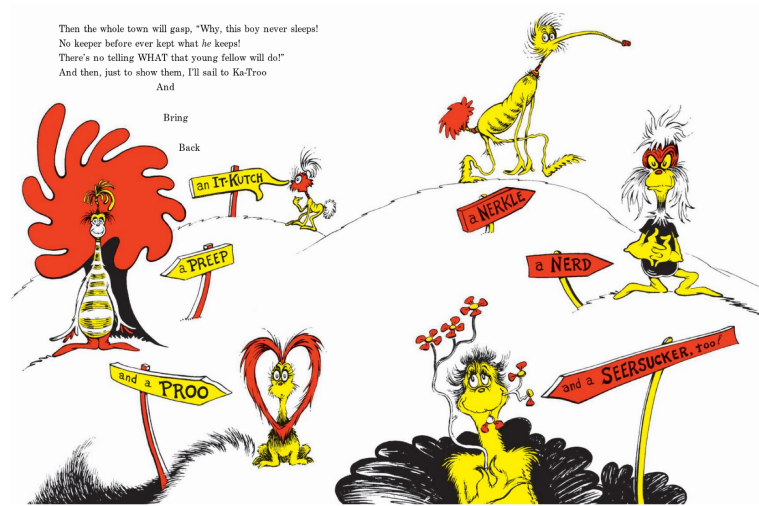
## Introduction

*”And then, just to show them, I’ll sail to Ka-Troo and bring back an It-Kutch, a Preep, and a Proo; a Nerkle, a Nerd, and a Seersucker too!” - Dr. Seuss (1950)*

Jim Burrows’ blog “The Origin of the Nerd” (2005) reports this as the first documented use of the word “nerd.” It was written by Dr. Seuss in his 1950 story *If I Ran The Zoo* when the main character described the various extravagant creatures he would show at his zoo. The Nerd of Ka-Troo is illustrated as a Grinch-like yellow creature with a red forehead and three tufts of white hair, wearing a black t-shirt.

The *American Heritage Dictionary* explains that within a year, youth were using the word to describe anybody they perceived as “comically unpleasant.” Soon it became synonymous with “square,” evolving to its dictionary definition today.

**n.** *Slang.* 1. A foolish, inept, or unattractive person. 2. A person who is single-minded or accomplished in scientific or technical pursuits but is felt to be socially inept. [2]



**Figure 1.** First use of Nerd. Dr. Seuss in *If I Ran The Zoo*. [1]

Then there is the term “geek,” derived from the 16<sup>th</sup> century German word *geck*, which described a fool or simpleton. By the 20<sup>th</sup> century, geeks were sideshow carnival performers who, rather than display a special talent or capability, would perform grotesque acts such as biting off the heads of chickens. In the 1970 book “Carnival,” Arthur H. Lewis writes “An ordinary geek doesn’t actually eat snakes, just bites off chunks of ‘em, chicken heads and rats.” [3]

It was not until the dawn of the computer age in the 1990s that the word “geek” became associated with a pronounced interest in technology. World Wide Words [4] quotes from the *Oxford Dictionary of English* “significant word trends” to explain this shift:

In the 1990s everything changed. The computer industry helped many geeks to achieve great success, and the wider perception of geeks began to shift. Being a geek was suddenly a positive thing, suggesting an admirable level of knowledge, expertise, and passion: geeks could do “cool stuff.” It’s now common for people to be self-proclaimed or self-confessed geeks, with geekiness no longer confined to the world of science and technology (a music geek with an awesome vinyl collection; the kind of film that every true movie geek would give five stars).

Managing editor of Wired.com’s GeekDad page Matt Blum speculates that the term “nerd” did not experience a similar transformation due to the 1980s film series *Revenge of the Nerds*. [5] Despite this recognition that the words have different meanings, it is not uncommon for individuals to use the words “geek” and “nerd” synonymously. How should these terms be understood? Settles hints at the answer by quoting J.R. Firth (1957): “You shall know a word by the company it keeps.”

## Text in Context

This idea that words derive meaning from their context is found in *Systems Thinking Made Simple*. There, Drs. Derek and Laura Cabrera introduce the distinctions rule: “Any idea or thing can be distinguished from the other ideas

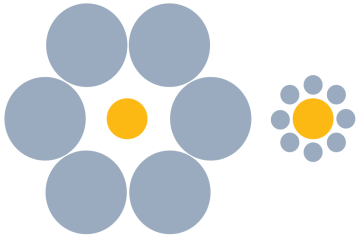


Figure 2: We Define Things Based on Their Surroundings/Context. [6]

or things it is with.” [6] The distinctions rule is comprised of two elements: an “identity” (any thing or idea) and an “other” (that which is *not* the thing or idea). They explain that “the things we see and think about derive meaning from other proximate things and ideas.” [6]<sup>p56</sup> This is illustrated in Figure 2, which shows two orange circles of the same size, but which appear to be of different sizes based on the differently sized circles that surround them (i.e., the context). It is context that lends meaning to text. For example, words are defined by not only their dictionary definition, but also by their synonyms (what they are like) and their antonyms (what they are opposite). This context phenomenon (that words derive their meaning from surrounding words) is what drove research scientist and statistical machine learning systems expert Burr Settles to conduct an experiment. To understand the meaning of the words “nerd” and “geek,” he needed to know the meaning of words that surrounded them.

Settles sought to discover the empirical difference between the similar words “geek” and “nerd.” His own understandings of the terms were:

**geek** An enthusiast of a particular topic or field. Geeks are “collection” oriented, gathering facts and mementos related to their subject of interest. They are obsessed with the newest, coolest, trendiest things that their subject has to offer.

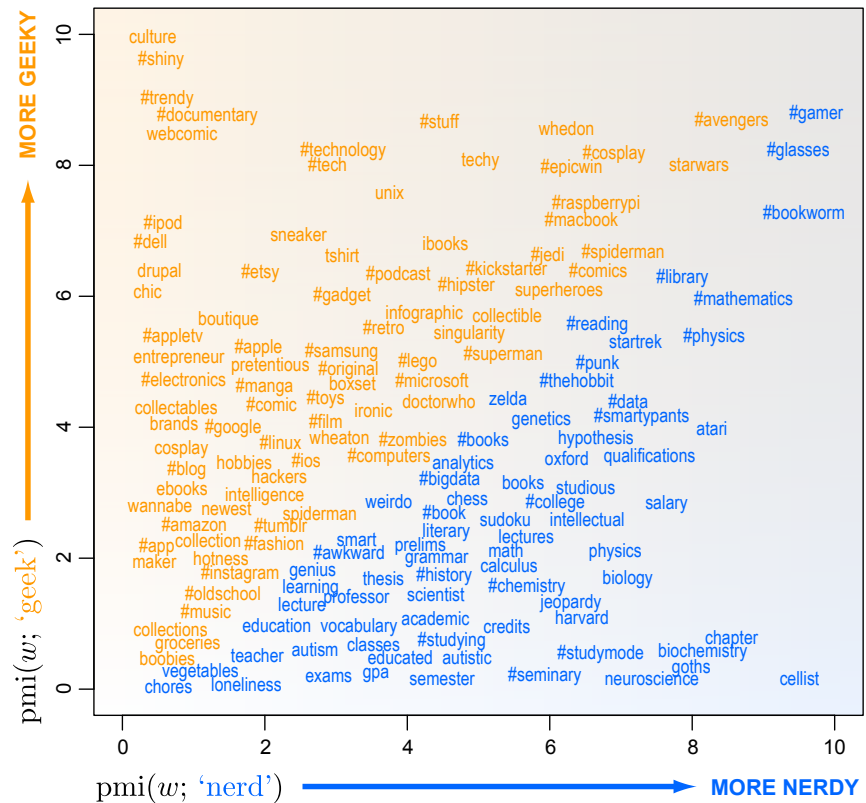
**nerd** A studious intellectual, although again of a particular topic or field. Nerds are “achievement” oriented, and focus their efforts on acquiring knowledge and skill over trivia and memorabilia. [7]

## Statistical Evidence Distinguishing Geek vs. Nerd

Described on his machine learning blog “Slackpropagation,” Settles’ experiment measured the pointwise mutual information (PMI) of the two words. Settles describes PMI as a statistic measuring “how much company two words tend to keep.” [7] PMI is frequently used in the information retrieval literature to measure the degree to which words and phrases co-occur in text. Settles points out that the statistic is also a good predictor of how we evaluate word similarity. To obtain the PMI of nerd and geek, Settles looked at over 2.6 million tweets sent between December 6, 2012, and January 12, 2013. Settles describes his procedure: “I computed PMI for all words appearing in the search tweets with ‘geek’ and ‘nerd’ (millions) and then manually scanned roughly 7,500 words with positive PMI scores for both. The scatterplot contains about 300 words that I hand-picked because they made sense.” [7]

Settles then plotted the results onto a simple scatterplot (see Figure 3), with words considered more “nerdy” moving towards the right, and more “geeky” words moving up the vertical axis. A high score means the two words “keep great company” and a negative score means they are pretty much unrelated. A score close to zero means the words “bump into each other more or less at random.” This graph excludes any negative-scoring words and treats hashtags as distinct words.

On Settles’ scatterplot, there is a diagonal boundary between orange words and blue words-geeky words and nerdy words. A boundary denotes a distinction-you create a boundary every time you make a distinction. The geeky words are defined by both what is inside the orange area, but also what is *not* inside the orange. Similarly, a car driving down the highway at 95 miles



Source: Settles, B. On "Geek" Versus "Nerd." June 13, 2013  
<http://slackprop.wordpress.com/2013/06/03/on-geek-versus-nerd/>

**Figure 3.** Settles' Nerd-Geek Scatterplot

per hour is only "fast" in comparison to other cars moving at or below the speed limit.

We quote verbatim [7] the distinctions Settles made after examining the scatterplot:

**Collections are geeky.** All derivatives of the word "collect" ("collection," "collectables," etc.) are orange. As are "boxset" and "#original," which imply a taste for completeness and authenticity.

**Academic fields are nerdy** "math," "#history," "physics," "biology," "neuroscience," "biochemistry," etc. Other academic words ("thesis," "#studymode") and institutions ("Harvard," "Oxford") are also blue.

**The science and technology words differ** General terms ("#computers," "#bigdata") are on the diagonal — similarly geeky and nerdy. As you splay up toward more geeky, though, you see products, startups, brands, and more cultish technologies ("#apple", "#linux"). As you splay down toward more nerdy you see more methodologies ("calculus").

**Hobbies** compare the more geeky pastimes ("#toys," "#manga") with the more nerdy ones ("chess," "sudoku").

<sup>1</sup> Settles later updated his blog to explain: “Olivia Culpo—a self-described ‘cellist nerd’—was crowned Miss Universe on December 20, 2012. The event was heavily tweeted smack in the middle of my data collection, so that probably explains the correlation between ‘cellist’ and ‘nerd’ here. It also underscores the limitations of time-sensitive data.”

<b>Brains</b> the word “intelligence” may be geeky, but “education,” “intellectual,” and “#smartypants” are nerdy.	116
<b>Reading</b> “#books” are nerdy, but “ebooks” and “ibooks” are geeky.	117
<b>Pop culture vs. high culture</b> “#shiny” and “#trendy” are super-geeky, but (curiously) “cellist” is the nerdiest...” <sup>1</sup>	118
	119
Based on these analyses, Settles’ understanding is affirmed. As he puts it, “Geeky words are more about stuff (e.g., “#stuff”), while nerdy words are more about ideas (e.g., “hypothesis”). Geeks are fans, and fans collect stuff; nerds are practitioners, and practitioners play with ideas.”	120
	121
.....	122
	123
	124
	125
	126

## Questions

- |  |     |
|--|-----|
| • Why is an understanding of the meaning of the word nerd facilitated by an understanding of the word geek, and vice versa?                              | 127 |
|  | 128 |
| • Why is an understanding of the meaning of the words geek and nerd related to understanding so many other words (e.g., bookworm, gamer, glasses, etc.)? | 129 |
|  | 130 |
| • Through this short study of the terms geek/nerd what can we conclude about all distinctions in general?  | 131 |
|  | 132 |
| • When are we making distinctions? When are we not making distinctions?  | 133 |
|  | 134 |
| • Why is a distinction synonymous with a boundary? What is a distinction a boundary between?   | 135 |
|  | 136 |
| • Can you think of any negative consequences associated with distinction making (i.e., boundary construction)?   | 137 |
|  | 138 |
|  | 139 |

## Task

- |  |     |
|--|-----|
| • Identify and write a cognitive structures case to deconstruct a distinction (or distinctions) that are made in an area of interest to you. | 140 |
|  | 141 |
| .....  | 142 |

## References

1. Seuss D. If I ran the zoo. New York, NY: Random house; 1950.
2. Dictionary AH. Nerd [Def. 1 and 2].; n.d. Available from: <https://ahdictionary.com/word/search.html?q=nerd&submit.x=18&submit.y=13>.
3. Clark J. Just So Everyone Remembers: Et-ymology of Geek.; 2011. Available from: <http://www.stuffyoushouldknow.com/blog/just-so-everyone-remembers-etymology-of-geek/>.

4. Quinion M. "Oxford Dictionary of English." World Wide Words; n.d. Available from:  
<http://www.worldwidewords.org/reviews/re-oed1.htm>.
5. Blum M. Great Geek Debates: "Geek" vs."Nerd"; 2009. Available from:  
<http://www.wired.com/2009/07/great-geek-debates-geek-vs-nerd/>.
6. Cabrera D, Cabrera L. Systems Thinking Made Simple: New Hope for Solving Wicked Problems. Odyssean; 2015.
7. Settles B. On "geek" versus "nerd"; 2013. Available from: <https://slackprop.wordpress.com/2013/06/03/on-geek-versus-nerd/>.