# **HEADBUTTS**

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#### Introduction:

This article presents examples of words that result from removing the first letter of a word and appending it to the end. For example:

 $\begin{array}{rrrr} H \ EART & \rightarrow & EART \ H \\ \hline e \ MANATE & \rightarrow & MANATE \ e \\ \hline H \ EIGHT & \rightarrow & EIGHT \ H \\ \hline F \ LEA & \rightarrow & LEA \ F \\ \hline P \ LEA & \rightarrow & LEA \ P \\ \hline e \ VIL & \rightarrow & VIL \ e \\ \hline N \ EAR & \rightarrow & EAR \ N \\ \hline W \ HO & \rightarrow & HO \ W \\ \hline L \ EASE & \rightarrow & EASE \ L \end{array}$ 

I call these **Headbutts**, borrowing from Ralph Beaman's anatomical naming conventions for Beheadments (words formed by removing the first letter, as in EMOTION  $\rightarrow$  MOTION) [1] and Curtailments (removing the last letter, as in PASTE  $\rightarrow$  PAST) [2]. This article presents a few short studies on the Headbutts transformation and concludes with some Headbutts puzzles---Please enjoy.

### Studies:

There seem to be many possible variations with Headbutts---Headbutts are a type of anagram, and this allows certain other anagram phenomena to be explored within the context of headbutts. For example, consider these *Semordnilap Headbutts*:

| <b>L</b> EE   | $\rightarrow$ | EE <b>L</b>   |
|---------------|---------------|---------------|
| <b>N</b> ELLE | $\rightarrow$ | ELLE <b>N</b> |

A **Semordnilap** is a word that is another word backward (as in, SNOOPS  $\leftrightarrow$  SPOONS or LEE  $\leftrightarrow$  EEL). In the examples above, the word resulting from the Headbutts transformation is the original word spelled backwards (i.e., it's Semordnilap). The reader will have to forgive me for using names above (so early in the article). I know *Lee* as a direction from a sailing camp I attended as a middle schooler. *Nelle* might also be redeemed after recognizing **Nelle** Harper **Lee** as the famed author of "To Kill a Mockingbird."

Another variation involves attempting to repeat the procedure more than once, forming Headbutts along the way. *Route*, for example, can be headbutted twice,

 $ROUTE \rightarrow OUTER \rightarrow UTERO$ 

provided you accept Utero as valid (perhaps from the phrase "in utero"). The reader will no-doubt recognize that I am using a crossword-constructor's wordlist to generate these, and that Headbutts were harder to come by than initially assumed at the start of this writing. Nonetheless, there is more to do.

For example, if one were to remove the constraint that the words along the way are also Headbutts, then you can do some interesting things just moving the head of a word (now an undetermined number of letters) to its tail. See the following which use a head of length 2:

**EN** LIST  $\rightarrow \rightarrow$  LIST **EN DE** MO  $\rightarrow \rightarrow$  MO **DE** IDK  $\rightarrow \rightarrow$  KID

What's surprising here is that you can generate real-world multi-word phrases just using Headbutts: **DEMO MODE** is actually a feature flag behind the software my company produces, and **IDK KID** might be something you'd reasonably say to a nagging or overly-inquisitive child. More examples of this kind of phrase generation with Headbutts appear later in the Puzzle section :)

Dealing with short starting words and multi-letter heads, however, will lead one naturally to crises of categorization. For example, is *IDK* not more naturally described as the one-letter-headed Headbutt of *KID* (*KID*  $\rightarrow$  *IDK*)? Is it not the case also that *MODE* can be headbutted twice to form *DEMO* (*MODE*  $\rightarrow \rightarrow$  *DEMO*)? I'll leave these thought experiments as exercises for the reader; however my inkling is that the phrase *HEADBUTT* should be used when the head is longer than, or of equal length to, the tail, and the phrase *BUTTHEAD* should be used when the tail is longer than the head. Using this naming, you can Headbutt *KID* to form *IDK*, or you can Butthead *IDK* to form *KID*: in both cases, a 1-letter head (tail) is used. Of course, it would be impossible for me to leave this paragraph without mentioning the obvious:

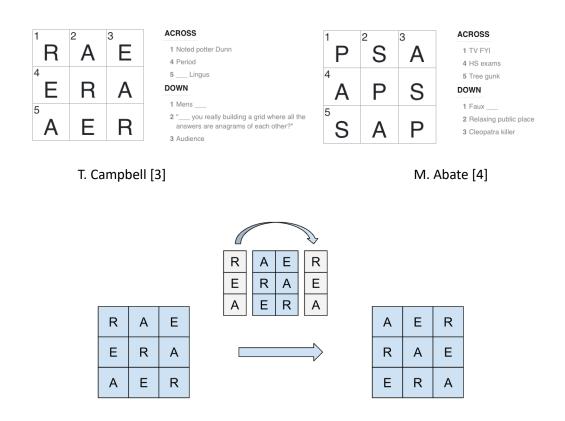
#### $\textbf{HEADBUTT} \hspace{0.1in} \rightarrow \rightarrow \rightarrow \rightarrow \hspace{0.1in} \textbf{BUTTHEAD} \hspace{0.1in} \rightarrow \rightarrow \rightarrow \rightarrow \hspace{0.1in} \textbf{HEADBUTT}$

Oh boy, what will we do.

Cycling in this way (starting with a word, headbutting it to form some intermediate words, and then headbutting it again to form the original word) is perhaps of interest, for a particular application: Crossword Constructing. Before touching on crossword constructing and headbutts, let me share a few Headbutt cycles I found:

> TEA  $\rightarrow$ EAT  $\rightarrow$ ATE  $\rightarrow$ TEA  $\rightarrow \dots$ ONE NEO EON ONE  $\rightarrow$  $\rightarrow$  $\rightarrow \dots$ ТОР  $\rightarrow$ OPT  $\rightarrow$ PTO  $\rightarrow$ ΤΟΡ  $\rightarrow \dots$

Below, I'm highlighting two Micross puzzles, where, in both, all of answers (across and down) admit Headbutt cycles. This allows for Headbutting the entire crossword: moving the first column after the last, to form a new puzzle (with the same words), or moving the first row after the last.



### Headbutting the Puzzle

Personally, I'd be interested to learn how the parody of the puzzle effects the perceived difficulty or solve time. Each of the puzzles above admits 2 additional parody puzzles and I wonder whether one variation (perhaps with the hardest clues as 1-across and down) would lead to slower solves amongst the populus.

Anyway, that's all for now---the puzzle begin on the next page.

### **References:**

[1] Beaman, Ralph G. (1973) "Beheadments," Word Ways: Vol. 6: Iss. 4, Article 3. Retrieved from: <u>https://digitalcommons.butler.edu/wordways/vol6/iss4/3</u>.

[2] Beaman, Ralph G. (1973) "Curtailed Curtailments," Word Ways: Vol. 9: Iss. 1, Article 3. Retrieved from: <u>https://digitalcommons.butler.edu/wordways/vol9/iss1/23</u>.

[3] Campbell, T. "Micross #42" Substack, 23 Oct. 2024, https://substack.com/home/post/p-150606116.

[4] Campbell, T. "Birthday Micross #43!" *Substack*, 30 Oct. 2024, https://tcampbell.substack.com/p/birthday-micross-43.

### **Puzzles:**

All puzzles below have the same rules, and I've provided answers to the first two as examples.

Use each clue to devise a two-word phrase, where the words are related by Headbutt (the second word is formed by moving the first letter of the first word to the end of the first word). The symbol (X-X) next to a clue means that the answer is two words of length X, and I've included a few helper letters in instances where tense or pluralization may be an issue.

| Recently acquired (3-3)                        | NOW OWN   |
|--|-----------|
| No charge for a coral structure (4-4)          | FREE REEF |
| Possible response to "Are they closed?" (4-4)  |           |
| Paving professional's creative output (3-3)    |           |
| Every pain (4-4)                               |           |
| Worked sales at a bygone car dealership? (4-4) | S S       |
| Result of a single mother remarrying (3-3)     |           |
| Displeasure at a bad drive (5-5)               |           |
| Irritación y Malestar (5-5)                    | ss        |
| Hang at a slant (6-6)                          | D         |

D

See page YYYY for the solutions.

## Solutions:

| Recently acquired (3-3)                        | NOW OWN       |
|--|---------------|
| No charge for a coral structure (4-4)          | FREE REEF     |
| Possible response to "Are they closed?" (4-4)  | NOPE OPEN     |
| Paving professional's creative output (3-3)    | TAR ART       |
| Every pain (4-4)                               | EACH ACHE     |
| Worked sales at a bygone car dealership? (4-4) | SOLD OLDS     |
| Result of a single mother remarrying (3-3)     | DAD ADD       |
| Displeasure at a bad drive (5-5)               | RANGE ANGER   |
| Irritación y Malestar (5-5)                    | SPAIN PAINS   |
| Hang at a slant (6-6)                          | DANGLE ANGLED |

### Bio:

Matthew Abate, Ph.D., is an Applied Mathematician from Jersey City, NJ. He enjoys creating selfreferential art, puzzles, and wordplay. In his spare time, Matt records solution videos to Puzzmo puzzles through their Insider program: check out his videos here <u>https://www.youtube.com/@PuzzleswithMattlx8cu</u>. Matt is the author of "Autograms" (Issue #4 of TJoW), "Puzzle Poetry" (Issue #5 of TJoW), and "Goof-Offs" (Issue #7 of TJoW), as well as "Headbutts" which appears in this issue. Personal Site: <u>https://mattabate.com/</u>.