## TRIMMING THE FAT – SOLUTION

CRUMS 2016 — SEPTEMBER 24, 2016 WRITTEN BY: SARA SCHULZ & ALEX WALKER

The four authors in this puzzle are each inhibited in their writing by a different lipogrammatic constraint – Mack will not use the letter i, Lou will not use the letter n, Victoria will not use the letter e, and Upton will not use the letter a. Since i, n, e, and a are the 5th, 6th, 1st, and 3rd most common letters in the English alphabet, this should be cause for concern.

Note as well that the writers' and editors' names pair in puns: Mack Donald, Lou Tennent, Victoria Secret, and Upton O'Goode, which suggests that the four authors are editing each others work in round robin. In the first paragraph, for example, Mack Donald writes to Upton O'Goode, who then edits the text of Mack's excerpt. And how should Upton edit this text? By removing all the a's, of course!

Each of these writing excerpts contains exactly six instances of the letter that offends the editor (in addition to their other lipogrammatic constraints), and these letters can be swapped out to create new words that continue to work in context. For example, the first paragraph changes AROUND to GROUND, HEADSMAN to HERDSMEN, FATE to FETE, CRACKPOT to CROCKPOT, and REPEAT to REPENT. Collecting these new letters across all four letters and reading them in the order of the author-editor chain, we obtain

## VALEDICTION ALL CAN AGREE ON

A valediction is a formal way to close a letter, and we're looking for one that avoids the letters a, e, i, and n. One commonly-used possibility is **YOURS TRULY**, which is the answer.

## CONSTRUCTION NOTES

Once we fixed the final answer YOURS TRULY, we were intrigued by the idea of a letter-writing puzzle, especially one that played up the two meanings of the word letter, as correspondence and as the building blocks of words. It took a while before the idea of lipogrammatic writing edited by other lipogrammatic editors to take shape, but it was a flavorful way to key the exact changes we wanted in the writing.

Early on in construction, we played with the idea of five or six editors, but found four to be sufficient to encode the extraction phrase (at 24 letters). Adding more writers further constrains the final answer (in a good way), but makes it harder to recognize individual lipogrammatic constraints. The letters a, e, i, and n are the four commonest English letters not in the phrase YOURS TRULY, and adding in less common letters (h, d, l, etc.) makes the discovery of the lipogram much more challenging.

The order of the editors is forced – note, for example, that the editor who will not use a cannot produce the extracts VALEDI, CTIONA, or LLCANA (and so forth with some other constraints). The downside of this is that there ends up being some serious imbalance in the amount to which certain paragraphs are constrained; omitting e and i is particularly painful.