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Text Generation and Oulipian Language Modelling

The x value in the P+x technique directly controls the model's prediction strategy for each word replacement. Rather than selecting the most probable next word (P+1), the model instead selects the x-th most likely token from GPT-2's probability distribution. In practical terms, a smaller x value produces word choices that are more contextually appropriate, while a larger x value draws from progressively less common, more distant alternatives. This creates a direct correlation between the magnitude of x and the degree of semantic distortion in the resulting text.

When I increased the prediction level to x=23, the transformations became increasingly chaotic. The model selected words are unexpected, and the produced phrases feel almost incomplete. Moreover, the semantic connection between the original line and its transformed version nearly disappeared at this prediction level. This outcome is again because as x increases, the model draws from tokens that have lower conditional probability given the context.

To implement a P+7 technique that would give more funny results, we should draw from the original N+7 method, and target only nouns. It would first need to identify all nouns in the text using part-of-speech (POS) tagging. This approach would preserve the grammatical skeleton of the poem while allowing the conceptual content to shift through noun replacement. By replacing only nouns with their x-th probability alternatives, the sentence structure and descriptive qualities remain intact, creating a more coherent output while still achieving the Oulipian goal.

Moreover, it is important to note that the tiny difference in precision between hardware (CPU-GPU) stack up and change which word is selected, depending on the runtime used.