

# Review of: "Mathematical and Linguistic Characterization of Orhan Pamuk's Nobel Works"

Leonardo C. Araujo<sup>1</sup>

<sup>1</sup> Federal University of São João del-Rei

Potential competing interests: No potential competing interests to declare.

**"It is well established that fractals have been interested in music, linguistics, art, and science due to artistic and scientific investigations since the early eighties."**

This construction seems wrong. Maybe the authors wanted to say: "It is well established that fractals have been applied in music, linguistics, art, and science due to artistic and scientific investigations since the early eighties." The original sentence suggests that fractals themselves have an interest in various fields. A reference to this sentence is also appropriate.

**"The appearance of factuality processes has been connected ..."**

The term "factuality processes" is not a common term in English. It seems like there might be a typographical error or confusion in the original text. It's possible that the intended term could be "fractal processes" or "factual processes"

**"Hsu and Hsu (1990) reported a method ..."**

Start a new paragraph here.

**"They interestingly end up with an inverse slog–log relationship between the frequency and intensity of natural events in Hsu and Hsu (1990), Hsu and Hsu (1991), and Crilly et al. (1993)."**

"Slog" appears to be a typographical error. If not, the authors must specify what they meant by "slog".

Hsu and Hsu (1990), Hsu and Hsu (1991) --> Hsu and Hsu (1990,1991)

**Based on the studied melody in terms of the interval between successive pitches, they introduced the following mathematical relation:**

The sentence could be improved for clarity and correctness. Here's a revised version: "After analyzing the melody, in terms of the intervals between successive pitches, they introduced the following mathematical relation:"

The authors are encouraged to conduct a thorough proofreading and make necessary adjustments to the **Introduction** section. Many other corrections in this section may be identified and addressed by the authors themselves. This process will help ensure clarity, coherence, and accuracy in the text, ultimately enhancing the overall quality of the research or document.

**"Zipf's law, successfully used for letters instead of words."**

This statement is incorrect. Zipf's law typically applies to elements within a corpus with a broad distribution, such as words in a text, rather than individual letters. The principle suggests that the frequency of occurrence of any given element is inversely proportional to its rank in the frequency table. Therefore, applying it directly to individual letters might not yield meaningful results, since it might not be applied the concept of large number of rare events (LNRE).

**"We calculated the slopes of the graphs to combine textual meaning with mathematical reasoning."**

It is not clear what is the relation of textual meaning with mathematical reasoning.

**"We decided that the method we would follow in the text analysis would be the fractal method"**

What is the fractal method?

**"we created a tool to collect all the data in one area."**

area?

**"We began our design using JavaFX in NetBeans IDE 8.2."**

Why is it relevant?

**"We used alphabetical and Zipf, ordering Pechenick et al. (2017) to make sense of the letter analysis."**

This sentence makes no sense.

**"We used the Zipf method alone to make sense of the words."**

Make sense? Maybe they intended "analyze".

**"After sorting the words, we created a word-filtering tool to search for any word in the text and see the number of times it is used. We created graphs to make the data mathematically meaningful. The software developed was found to be successful from the text analytics point of view."**

If the focus of the paper is the development of a tool, it would be appropriate to attach a screenshot of the interface showing this filtering and graphs in action. If not, it is irrelevant. There is no need to develop a sort and counting tool (reinvent the wheel), the authors could just apply useful tools like `sort` and `uniq` commands, part of the GNU project and available for Linux, Mac and Windows.

**"i the interval between two letters in alphabetical series"**

Remember that, the definition of *i* was given as "*i* the interval between two successive pitches", what has a physical meaning and relation. The interval between letters in the alphabetical series is rather arbitrary, then *i* would have no meaning. The historical evolution of alphabets, from ancient scripts like Proto-Sinaitic to the Phoenician alphabet and its

subsequent influences (particularly the Greek), has shaped the modern Latin alphabet we use today, with the order of letters being a product of this historical development rather than any inherent physical significance.

### Figure 1

The axis labels are not given. The authors could use a single graph or, at least, use a normalized measure (count/text length) in order to facilitate the reader comparison among them. The x ticks should be the letters instead of numbers. Do they deviate from the distribution the letters in the language? What is the point then?

### Figure 2. log–log plots of versus

What?

It is noticeable, just looking at the plots, that the line fit makes no sense.

Plots a), b), and c) could be joined in a single plot or using subplots.

There are numerous corrections needed in the text, which could result in substantial changes. Therefore, it may be more beneficial for the authors to conduct a thorough proofreading, rewrite sections as necessary, correct any failures, and consider updating plots. Once these revisions are complete, I would be happy to review the article again.