Filling Gaps, Building Bridges:
Qualitative and Quantitative Approaches to the Study of Literature

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(Not so) Elementary, my dear Watson!
A different perspective on medical terminology

FULL-LENGTH ABSTRACT:

This contribution proposes to analyze in an innovative way some terminological linguistic aspects in the literary works of Conan Doyle. The object of study is the analysis of the medical terms in the stories of Sherlock Holmes through the model of terminological record set out in a multilingual terminological database implemented for the linguistic analysis of technical medical terms.

Numerous studies reveal the amount of "medical subject" in Conan Doyle's works [2,3,5]: the author was, in fact, an esteemed and highly experienced physician and much of his knowledge spreads into his stories. From a terminological point of view, Key JD. et Rodin AE. are the first authors to explicitly mention the number of medical terms in Conan Doyle's works: "[…] *68 diseases, 32 medical terms, 38 doctors*" [4]. Nevertheless, very little has been written regarding the medical terminology in this literary corpus. The most recent and complete contribution is the study of Ernesto Damiani (an expert physician interested in history) who wrote "*Elementare Watson!*" in 2016 [1]: a dictionary of Italian medical terms used in the translated version of the stories of Sherlock Holmes. Damiani offers an overview of the use of the terms and their explanations from an historical and medical point of view.

In our work, we aim to provide a linguistic analysis of the English medical terms using the methodology implemented in the terminological records of TriMED [6], a multilingual terminological database, conceived for the analysis of scientific terms extracted from a specialized corpus. The terminological records are a structured set of data referring to a specific concept. Each record embodies a mixed method of investigation combining quantitative and qualitative analysis in order to provide an overview of the syntactic and semantic behavior of medical technical terms.

Our case study is the entire collection of works on Sherlock Holmes, starting from "A Study in Scarlet" (1887) to "The Casebook of Sherlock Holmes" (1927), freely available on the Project Gutenberg website.[1] We initially proceeded with the semi-automatic extraction of 98 English technical terms corresponding to those identified by Damiani in the Italian version, as well as their collocations by means of the *tidytext* R package for text analysis.[2]
Currently, we are creating the terminological records focusing on the
      a) Formal features of the term;
      b) Definition;
      c) Semic analysis;
      d) Context of use.

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[1] https://www.gutenberg.org
[2] https://cran.r-project.org/web/packages/tidytext/

Following this methodology, we have already been able to evaluate different aspects such as:

1) the <u>level of technicality</u> of a term, dividing popular terms from technical ones such as "St. Vitus's dance" for *Còrea minor*, "Heart Disease" for *Cardiopathy* or "Nosebleed" for *Epistaxis*. In this way, we can analyze changes in the linguistic register by focusing on the diastratic variation resulting from the specialized-popular dualism in order to bridge the gaps between various registers;

2) the <u>semantic behavior</u> of a term in a diachronic sense, evaluating how a specialized term can change its meaning over time and by comparing the use of the term in the past and its current use, such as "Consumption" used to indicate the process of general decay of the organism in place of the current *cachexia* or *wasting syndrome*. Likewise, we can evaluate the disuse of a term as "brain fever" used until the first half of the nineteenth century to indicate the association between an irregular set of neurological symptoms;

3) the <u>syntactic behavior</u> of technical terms in the literary corpus through the analysis of collocations, as a sequence of terms that frequently co-occur, as for example *asphyxia by confinement* (1.530 Google occurrences) and *asphyxia in a confined space* (250 Google Occurrences).

The result of this preliminary analysis showed how the methodology for the realization of TriMED's terminological records have already constituted a valid digital and systematic support, in different contexts and corpora, both specialized and literary.
As future work, we intend to deepen the abovementioned features as well as to focus on the translation aspect because the structure of the terminological records allows to conduct a comparative study between English medical terms and their Italian equivalents. Moreover, we will analyze the syntactic and semantic behavior of terms in a bilingual comparative perspective.

SHORT ABSTRACT:

This contribution proposes to provide an overview of the syntactic and semantic behavior of medical terms in the literary works of Conan Doyle. The object of study is the analysis of the scientific terms in the stories of Sherlock Holmes through the model of terminological record set out in a multilingual terminological database (TriMED) implemented for the linguistic analysis of technical medical terms. After the semi-automatic extraction of English technical terms and the realization of the terminological records for each of them, we have analyzed different aspects such as: the semantic variation due to temporal and historical factors, the difference of the context of use, the change of meaning based on the reference corpus, the variation of use depending on speakers/writers register and, finally, the relationship between terms and their collocations from the syntactic viewpoint. After presenting our methodology and discussing the results of this analysis, we will provide some preliminary insights related to a comparative study between the linguistic aspects of the English medical term and its equivalent in the Italian version.

Keywords: Sherlock Holmes, Medical Humanities, Terminology, Linguistic analysis.

RELEVANT TOPIC/DOMAIN: explaining which specific research methods may better serve which research goals.

Type of intended contribution: work-in-progress report

References

[1] Damiani E. Elementare Watson! Dizionario medico ad uso dei lettori di Sherlock Holmes. Scienze mediche, CLEUP. 2016

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[5] Reed J, A medical perspective on the adventures of Sherlock Holmes Medical Humanities 2001; 27:76-81

[6] Vezzani F., Di Nunzio G.M., Henrot G., TriMED: A Multilingual Terminological Database. In the 11th Edition of the Language Resources and Evaluation Conference (LREC) Miyazaky, Japan 2018. In press.