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The Physical Variability of a *Birthmark*: The Intangible Lexical Boundaries of Nathaniel Hawthorne's Short Story from a Translational Perspective

La variabilidad física de La marca de nacimiento: los límites imponderables del léxico en el relato corto de Nathaniel Hawthorne desde una perspectiva traductológica

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ABSTRACT: Nathaniel Hawthorne's work has been praised for his depiction of scientific obsession, and an example is *The Birthmark*, the perfect in-between, between Shelley's *Frankenstein* and Stevenson's *Strange Case of Dr. Jekyll and Mr. Hyde*. While there is no denying that this story illustrates the abundantly fruitful trope of mad scientists from the nineteenth century, our interest lies in its lexical representation. In this paper, we will focus on its scientific jargon, how Hawthorne made use of this language, and how it has been translated into Spanish. For us to study this last aspect, we will resort to the latest Spanish translation by Cristina M. Caladia, in 2022 for Crítica Editorial. Our utmost aim is to provide a translational study through the lexical semantic analysis of the texts. We will provide numerical results on the presence of lexical terms and collocations related to the mad scientist trope.

KEYWORDS: translation studies; Nathaniel Hawthorne; lexical semantics; comparative analysis; dark romanticism.

RESUMEN: La obra de Nathaniel Hawthorne ha sido elogiada por escenificar la obsesión científica, siendo un ejemplo *La marca de nacimiento*. Este relato es el punto intermedio perfecto entre *Frankenstein* de Mary Shelley y *El extraño caso del doctor Jekyll y el señor Hyde* de Stevenson. Aunque es innegable que esta historia ilustra el abundante y fructífero tópico del científico loco del siglo XIX, nuestro interés radica en su representación léxica. En este trabajo nos centramos en la jerga científica, en cómo Hawthorne emplea este lenguaje y cómo se ha traducido en español. Para analizar este último aspecto, recurriremos a la traducción más reciente en español, de Cristina M. Caladía para Crítica Editorial en 2022. El objetivo más acuciante es ofrecer un estudio traductológico a través del análisis léxico-semántico de los textos, del cual presentaremos resultados numéricos de los términos y las colocaciones léxicas relacionadas con la figura del científico loco.

PALABRAS CLAVE: estudios de traducción; Nathaniel Hawthorne; semántica léxica; análisis comparativo; romanticismo oscuro.

1. INTRODUCTION

The nineteenth century was a time for births and renewals, for explorations and discoveries, for exploitation and curiosity. The nineteenth century provided an endless number of new stories and literary tropes, one case being the mad scientist trope.

In this paper, we will be examining the trope of the «mad scientist», core to the short story *The Birthmark* by American author Nathaniel Hawthorne, and published in 1843. This examination will be carried out through the critical lenses provided by Translation Studies, lexical semantics, and corpus analysis. The ultimate goal of this translational research work is to study the most representative linguistic terms of the figure of the Romantic scientist, thus contemplating the original text in English and the translated text in Castilian Spanish.

2. THE MAD SCIENTIST TROPE IN ANGLO-SAXON LITERATURE AND CASTILIAN SPANISH LITERATURE

The figure of the scientist — in some cases, «mad» about repairing the faults in humanity that only they can see — has long had its presence in literature. In the case of Anglo-Saxon literature, it is impossible not to mention the pioneer writers of the modern-day scientist figure: Mary Shelley, Robert Louis Stevenson, and H. G. Wells. Separated by decades, their incredibly famous characters — Dr. Frankenstein, Dr. Jekyll, and Dr. Moreau—may be nineteenth century's most representative scientists. However, these are not the only envois: we find a recurrent use of this literary character in the works of Nathaniel Hawthorne. *Rappaccini's Daughter*, *The Haunted Quack*, *Dr. Heidegger's Experiment*, and *The Birthmark* are some of the works that include the literary device of the scientist — mad or not.

Hawthorne's figure of the scientist stands out, in our belief, due to the ambivalence of its traits. In the case of *The Birthmark*, which is the short story that pertains to this study, the scientist, Aylmer, shares a connection with both the wonders of the scientific world and everyday life. While obsessed with the scientific task at hand, the protagonist's manic interest is intrinsically connected to earthly and human existence: the subject of his

experiment is the dearest and nearest to his heart, that is, his wife. Throughout the short story's narration, Aylmer's humanity intertwines with his devoid of feeling and scientific endeavours. The differentiation we make between these two realms, which we believe adds to the characterization of Aylmer as a scientist leaning on the «madness» but not succumbing fully to it, due to his little humanity left, can be explained with additional help from works by Schelde (1993) and Haynes (1994).

Schelde describes in his work the world that surrounds the scientist, and the science fiction genre, which is the epitome of the early works of Shelley, Wells, and some would say, even Hawthorne (Franklin 1966, 114; Weinstock 2018). Schelde provides a thorough and broad study of this trope: the scientist is preoccupied with bettering human life, and their goal is «to improve» on the human race» (Schelde 1993, 166). Aside from this, the scientist aims to reach higher levels of knowledge and consciousness and is obsessed with wanting «to know too much» (Schelde 1993, 15; Haynes 1994, 90). Hawthorne's Aylmer is proof of these two ideas: he has the urge to erase the mark on his beloved's face and to understand the nature of that mark. He is compelled to do and to learn.

Haynes, on the other hand, provides several caricatures of the scientist: stereotypes that we can link the object of our study to. In the case of Aylmer, Hawthorne's scientist is a mixture between an «alchemist» and a «heroic adventurer»: «[t]he alchemist, who reappears at critical times as the obsessed or maniacal scientist», on the one hand; and then: «[t]he heroic adventurer in the physical or the intellectual world [...] exploring new territories, or engaging with new concepts», on the other hand (Haynes 1994, 3). Aylmer's scientific hunt is the cleansing of his wife's defect, careless of the possible negative outcome, as his obsession will not let him see further than the completion of his experiment, which he hopes will elevate him among his colleagues.

Though the studies that these two researchers carry out are in-depth enough, their works received negative reviews, claiming that, illuminating as they may be, they were pretty amateur in their efforts and lacked a serious relation to the proper art of science or science fiction (Rousseau 1996; Telotte 1995). As far as our study is concerned, we seek these works of investigation only to gain more insight into the characterization of the figure of the scientist.

Moving forward, we need to take a look at the Spanish research on the character of the mad scientist, with the hopes of finding some terminology related to this figure. Only one work stands out: Santamaría Blasco (2020) presents some basic ideas on the mad scientist. The researcher poses that this character inhabits laboratories, formulating «abominable» (Santamaría Blasco 2020, 159) experiments, irrespective of ethos (ibid. 168-76). The author continues by pointing out that these scientists share little regard for the legality of their actions; a disregard that ultimately brings about ill-fated consequences for them (ibid. 179).

From these perspectives, we claim a looking glass to examine *The Birthmark*: Hawthorne is concerned with the role and metamorphosis of the scientist in the Romantic period; the scientist who is engrossed in fixing the unimaginable physical human flaws while thoughtlessly destroying human virtues. Hawthorne is intent on squeezing this character's morality, on proving some bounds must exist for scientific interest so as to

preserve humanity. But, in his effort to do so, he provides a different reading: «the excessive cultivation of the intellect is seen as destructive not only of the one so obsessed but often of others whose lives are entangled with his» (Schelde 1993, 88). Hawthorne's scientist is consumed with his status, thus disregarding the dangers of partaking in experiments that trespass human life. Aylmer's destruction as a scientist (hinted at during the story, finalized with the experiment) and as a human (rather than bettering human life, he rids of it), comes *after* the destruction he sought for the birthmark, but also *after* the destruction of the only human tether he held in the world.

3. ANALYSIS OF THE TEXTS

Once past the analytical research on the character of the scientist, we will now inspect Hawthorne's short story closely, extracting the terms (both in English and Spanish) that best resonate with the literary figure we study here and with the critical lens we have assumed from previous studies on the trope.

We need first to specify our methodology. The two texts that serve as objects of our study are *The Birthmark* in its original language—English—recovered from Project Gutenberg; and its translation into Castilian Spanish, by Cristina M. Caladia in 2022 for Crítica Editorial. These texts were inserted into Sketch Engine, an online extraction tool that gathered all the terms from the texts listed by their recurrence. We then filtered out the most recurrent terms concerning their connection to the scientific world and the scientist trope, which from now on we will refer to as Scientific Related Language or SRL.

Once the terms were filtered out, we counted the total number of occurrences by lemmatization, so as to ensure clearer results. This is a particularly important step for two reasons: reason number one, we took great care not only in looking at the wordlists provided by Sketch Engine, but we also enforced a lemmatization process that guaranteed that the context of certain terms was considered. This was done in hopes of finding less-recurrent terms from the same word family that would not appear at the height of the wordlists. Reason number two, and in the case of Castilian Spanish, we performed this lemmatization process to unify the terms with and without accentuation. Sketch Engine, though valuable in our study, presents some issues with computing terms from the same word family if these are accentuated. When searching for the total outcome of a word family, some terms were missing in this tally as they were accentuated. Therefore, we not only had to search by the lemma of that word family, but we also had to search by the accentuated lemma. Finally, once we achieved the final computation of scientific-related terms, we could, at last, inspect how the trope of the mad scientist was linguistically present in the texts.

Now we will present some of the results, following the Johannes Gutenberg Universität Mainz (n.d.)'s helpful guide. First, we present the terms sorted by their popularity according to the total number of occurrences in the first column. Then, we present the term's number of occurrences per hundred words in the second column. For this, we have (1) divided the terms by the total number of words in the different corpora

(this being made up of the SRLs of the original text and the translated text) and (2) multiplied the resulting numbers per hundred words in the second column of the table, seeing as the corpora hold merely 335 words in total in English and 327 in Spanish. The first table presents the results of the terms of English corpus and the second of the terms of the Spanish corpus.

Here are the results:

English terms	Total no. of occurrences	No. of occurrences phw
(1) Hand(s)	29	8,65 occurrences
(2) Cheek	23	6,86 occurrences
(3) Mark	22	6,56 occurrences
(4) Science	16	4,77 occurrences
(5) Remove	10	2,98 occurrences
(6) Fail	8	2,38 occurrences

Table 1. Total no. of occurrences of each term in the English corpus and no. of occurrences per hundred words (phw)

Spanish terms	Total no. of occurrences	No. of occurrences phw
(7) Mano(s)	25	7,64 occurrences
(8) Marca	25	7,64 occurrences
(9) Mejilla(s)	23	7,06 occurrences
(10) Ciencia	17	5,19 occurrences
(11) Quitar	11	3,36 occurrences
(12) Fallar	4	1,22 occurrences
(13) Fracasar	3	0,91 occurrences

Table 2. Total no. of occurrences of each term in the Spanish corpus and no. of occurrences per hundred words (phw)

4. FIRST READING

The next step, after presenting the results, is to provide a commentary and explain why we have included these terms and lemmas in the SRL.

Firstly, the total number of occurrences details all the instances in which the term, or the lemma, was present in the story. These numbers offer an image of the language that Hawthorne preferred in the story, and how he regarded the scientific undertones and plot. Secondly, the number of occurrences per hundred words of each term and lemma allows us to discern the relevance each term holds inside their respective SRLs. As we can observe, the ex. (1) occupies almost one-tenth of the English SRL, which is a rather big proportion.

Though, arguably, the lemmas and terms related to body parts are part of science, one would not usually take them into such consideration in this language as we have. Why we decided to include them in this type of language has to do with the story: the main subjects undertake and undergo a scientific experiment on body parts (a birthmark,

on a cheek, in the shape of a hand). These body parts are the objects of the experiment and so, in our belief, they must be part of the SRL.

Regarding the destructive scientific language we referred to earlier, we surmise that it is inherently connected to Aylmer's goal in the story (the destruction of the object of the experiment and then of the human part of Aylmer himself). Lemmas related to Hawthorne's Romantic scientist and the destructiveness we referred to are ex. (5) and ex. (6) in English; while their Spanish counterparts are ex. (11), ex. (12) and ex. (13). These last two Spanish lemmas (examples 12 and 13) are translations to the English ex. (6). What one can imagine from this particular situation is that the Spanish translators opted for synonyms depending on the context and the connotation of the English lemma. This, in turn, also explains the disparity and variance of the number of occurrences per hundred words between the results of the English corpus and the Spanish corpus.

Lastly, the word family of *science* is very present as well in both texts. This cannot come as a surprise, but we are rather glad to see it among the top representative lemmas of the SRL.

5. CONNECTION TO THE TERMINOLOGY OF THE THEME

Although the main results of the SRL (both in English and Spanish) are more closely related to the story than the scientific language itself, we wanted to mention some other lemmas and terms that are present in the SRL and that could be remarked as more «scientific». Some of these word families and terms, regardless of their total number of occurrences, are *laboratory*, *experiment*, *investigate*, and *volume*, be it in English or Spanish.

In comparison to the only Spanish study that we could find on the mad scientist and that provided some characteristic terms of the trope (mentioned earlier, and authored by Santamaría Blasco), only two terms from the study's description of the scientist appear in the SRL of this story: *laboratory* and *experiment*.

6. CONCLUSIONS

Out of our purposes, the secondary of this paper was to understand the literary character of the mad scientist, present in Hawthorne's *The Birthmark*, while the main was to recognise such characterization in the terminology in English and Spanish. To achieve this, we consulted research on the character and its context in both languages, to afterward analyse how this character and its surroundings are represented linguistically in the original story and its Castilian Spanish translation. Regrettably, we could not find much Spanish research on the language related to this literary character and so our research lacks in that area. Moreover, the characterization of the scientist has not been taken care of in Translation Studies, which, therefore, leads our translational study of Hawthorne's *The Birthmark* to be one of the first to offer so.

In regard to the results of our study, we want to comment on four findings: the first one is that Hawthorne's scientist story involves a vast use of anatomical language, which

does not necessarily ascribe to the mad scientist trope. The second one is that we have observed a tendency of Hawthorne's scientist to destruction and to erudition, which would be interesting to compare to the author's other scientist-related stories. The third is that, though the translation of the scientific language from English to Spanish points to the usage of ranging synonyms in Spanish, English offers more terms in the SRL than Spanish. The last finding is that there is minimal Spanish research of this mad scientist character both in Spanish and in Anglo-Saxon literature, therefore, prompting a lack of comparative and linguistic study of this character quite interesting to Translation Studies.

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