

Conceptual Basis for William Wordsworth's Rejection to Science. Computational Analysis of the Lexicon in *The Prelude*

Bases conceptuales del rechazo a la ciencia de William Wordsworth. Análisis computacional del léxico en The Prelude

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ABSTRACT

Much of the literary criticism devoted to interpreting the work of the poet William Wordsworth tries, on the one hand, to overcome and moderate, or, on the other hand, to directly accept the manifest opposition against science and scientific practices that the poet maintains, mainly throughout his work *The Prelude*. I will examine the conceptual bases of such hostile attitude by digitally analyzing the lexicon used in this work. The results obtained permit confirming Wordsworth's hostility towards science, and more precisely, the prejudice that modern science would not allow a humanized perception of nature. But I argue that this attitude is due to a latent enchanted worldview, in a Weberian sense, more suitable for the sentimental description than for the perception and description of the natural landscape based on the explanatory knowledge of nature.

KEYWORDS

Disenchantment, Wordsworth, *The Prelude*, Corpus-Analysis, Science and Art.

RESUMEN

Gran parte de la literatura crítica dedicada a interpretar el trabajo del poeta William Wordsworth intenta, por un lado, superar y moderar, o, por otro lado, aceptar directamente la manifiesta oposición contra la ciencia y las prácticas científicas que el poeta sostiene, principalmente a lo largo de su obra *The Prelude*. Examinaré la base conceptual de tal actitud hostil analizando digitalmente el léxico utilizado en esta obra. Los resultados obtenidos permiten confirmar la hostilidad de Wordsworth hacia la ciencia, y más precisamente, el prejuicio de que la ciencia moderna no permitiría una percepción humanizada de la naturaleza. Pero argumento que esta actitud se debe a una latente imagen encantada del mundo, en sentido *weberiano*, más adecuada para la descripción sentimental que para la percepción y descripción del paisaje natural basadas en el conocimiento explicativo de la naturaleza.

PALABRAS CLAVE

Desencantamiento, Wordsworth, *The Prelude*, Análisis de Corpus, Ciencia y Arte.

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1. INTRODUCTION¹

Max Weber's *Weltentzauberung* (disenchantment of the world), one of the most representative commonplaces of contemporary historiography about the cultural impact of modern scientific knowledge, manifests itself when we are no longer "ruled by mysterious, unpredictable forces", when "we can, in principle control everything by means of calculation" (Weber, 2004, pp. 12-13)². Weber's diagnosis has led to the widespread presupposition that modern science, on the one hand, is neither oriented nor able to give meaning to the world (Schroeder, 1992; Kontos, 1994; Gane, 2002; Koshul, 2005) and, on the other hand, does not empower a humanized perception of nature and would consequently produce an irreversible dehumanization of culture.

The idea of Weberian *disenchantment* reveals a certain humanistic discomfort when integrating the descriptive-explanatory knowledge of the world and its interpretation into an image of the world that also satisfies existential human needs or impulses, including aesthetic ones. This malaise has been channelled through a critique of the supposed pernicious effects of science on aesthetic sensitivity in regard to world events, a recurring issue in Romanticism. A significant anecdote precisely reflecting the humanistic misgivings about science is the well known encounter between the Romantic poets William Wordsworth and John Keats, the English essayist Charles Lamb, and the painter Benjamin Haydon, in the London studio of the latter. Talking about Newton's *Optics*³ (1704), Keats thinks that by reducing the rainbow to a prism, Newton had destroyed all its poetry (Dawkins, 1998; Hughes-Hallett, 2000; Holmes, 2009; Plumly, 2014). He was referring to the colourful effects arising out of Newton's experiments with prisms and light. The explanatory reduction of the rainbow to terms of wavelengths, would, according to Keats, have stripped the luminous phenomenon of all poetry and destroyed any mystery that could have been found in its contemplation. In fact, in *Lamia*, one of his best-known poems, Keats

¹ A modified, and in some parts more detailed, version of the content of this article can be found in my Ph.D. dissertation: Jiménez Pazos, Bárbara, 2016. *Imagen del Mundo, Percepción y Descripción de la Naturaleza. Un Estudio Comparado en torno a las Presuposiciones Onto-epistemológicas en la Poesía Romántica Inglesa y la Prosa Científica de Charles Darwin (Worldview, Perception and Description of Nature. A Comparative Study on the Onto-epistemological Presuppositions in English Romantic Poetry and the Scientific Prose of Charles Darwin)*.

² *The Science as a Vocation* text was first published in 1919. Emphasis in the original.

³ The discrepancy on the cultural influence that Newton's *Optics* might have had on the aesthetic perception of the world became an almost paradigmatic topos of the relationship between Romanticism and science. In a well-known print entitled *Newton*, by the poet and Romantic painter William Blake, Newton is represented with a compass in his hand, seated on an imposing rock and inclined on a parchment that contains the diagrams that he has created. The compass would symbolize the aspiration to explain all aspects of nature; this intention would mean a limitation to the creative capacity of the imagination. Blake's critique of Newton's constrictive science may also be extended to the annotation he makes outside his *Laocoon* engraving: "Art is the Tree of Life. Science is the Tree of Death". Blake is referring to the death of imagination, to the end of spiritual visions, displaced by the unique vision of nature that Newton's scientific materialism would entail.

rhetorically asks whether the charms of nature do not disappear when it is touched by cold philosophy. And he responds with a yes, that philosophy (and it is understood that science too, given the meaning that the term *philosophy* had in the first half of the nineteenth century) would *unweave* the rainbow, that is, it would strip away its charm⁴.

This anecdote of a rejection of Newtonian science allow us to formulate a question of a more general nature: if it is not based on the scientific way of knowing the world, how then does the Romantic poet want to understand, want to approach nature? Romantic poets tend to approach nature in order to understand more than just the mere occurrence of mundane events. They pursue an intimate and mystical communion with nature to understand its place in respect to the organic whole. Nothing makes sense to the Romantic if it does not consider a relational and organic whole. But the procedure that focuses on the particular in order to understand the kind of link it maintains with the greater whole is also, precisely, the kind of procedure that science has to follow. It could be said, therefore, that Romanticism shares with science its most fundamental basis for acquiring inspiration and wisdom. Why are, then, Romantic poets so afraid of unweaved rainbows and, ultimately, of disenchanted nature? What is, then, the true nature of the opposition between some Romantic poets and science?

2. A DIGITAL AND PHILOSOPHICAL ANALYSIS OF *THE PRELUDE*

In order to shed light on the questions raised above I will examine the foundation of such hostility by analyzing Wordsworth's lexicon used to describe nature in his work *The Prelude*⁵

⁴ These are Keats' verses: "Do not all charms fly / At the mere touch of cold philosophy? / There was an awful rainbow once in heaven: / We know her woof, her texture; she is given / In the dull catalogue of common things. / Philosophy will clip an Angel's wings, / Conquer all mysteries by rule and line, / Empty the haunted air, and gnomed mine— / Unweave a rainbow, as it erewhile made / The tender-person'd Lamia melt into a shade" (Keats, 1978, pp. 472-473, ll. 229-238). R. Dawkins' inspirational sources for the title *Unweaving the Rainbow* come, precisely, from the above cited ideas that John Keats holds and his aesthetic dissatisfaction with Newton's analysis of nature in his work *Optics*. As opposed to Keats, Dawkins advocates that "science is, or ought to be, the inspiration for great poetry" (1998, p. x), given that it offers a wider range of inspiring possibilities, all spectacular: scientific knowledge could be a great aid to enhance the aesthetic perception of the world, helping to expand the sensations to create greater awareness, which would then result in a deeper feeling of beauty.

⁵ There are multiple versions of TP, however, there are four to which we tend to refer: A first poem of 150 lines, composed in 1798 and titled *Was It for This*; more than a first version, it could be called a *first draft* or *approximation* to the final version of TP. The 1799 version, published in 1973, was commonly referred to as the two-part Prelude and contains the first two parts of the final poem. The versions of 1805 and 1850 are those that have usually been used. Wordsworth died on the 23rd of April of 1850, and three months later the 1850 version of TP was published in 14 books. The manuscript of 1805 was published in 13 books by Ernest de Sélincourt in 1926. The weight of the action of choosing which version is the most appropriate for a comment has obviously fallen on the commentators, who have generally been inclined to choose the version that personally more satisfies them. However, it should be borne in mind that TP was modified by Wordsworth throughout his life, which corrected and moulded it as years went by, thus being the set of the two versions an almost complete picture of the evolution of the Wordsworth's life. When citing, I will refer to the 1805 version, since it is the most extensive of the two. I have used parallel texts corresponding to the 1805 and 1850 versions, edited by E. de Sélincourt (1928).

(hereinafter, TP), which is, perhaps, the most complete and intellectually intense of Wordsworth's great poetic works and, also, one of the literary symbols of English Romanticism. Wordsworth's descriptions of nature in TP gain a special strength and stand out in comparison to allusions to scientific practice, to which he refers in a negatively critical way throughout the work. The contrast created by the science/nature opposition makes the less abundant adjectives of the elements of nature acquire a special force and stand out against subjects dedicated to science.

To this end, I will firstly make a study centred on the science/nature opposition that Wordsworth presents in TP. Secondly, I will proceed with a conceptual study of the representative lexical material obtained from a computational analysis of the lexicon in TP, putting especial emphasis on the adjectives used to describe nature in this work.

I am aware of the practical limitations that a quantitative study of the Wordsworthian lexicon can have. Recent studies (Gries, 2015; Da, 2019) have, in fact, presented and criticized the main technical and methodological problems, the conceptual errors in the analysis of lexical frequencies, or the logical and interpretative fallacies that could arise in the computational analysis of literary studies.

Assuming these restrictions that could arise in computational textual analyses, it should be noted, in addition, that the study of language I present in this article, in the first place, is not an exhaustive lexical analysis of Wordsworth's complete work, but only of TP. Secondly, emphasis will be placed only on fundamental lexical aspects of the Wordsworthian descriptions of nature that allow us to present tentative conclusions, under the conceptual framework of Weberian disenchantment, about Wordsworth's relationship with science. In short, the computational analysis of Wordsworth's lexicon that I present here does not intend to reach general conclusions about the relations Wordsworth-science and Wordsworth-nature, but rather to locate and interpret certain linguistic clues that allow us to better define the Wordsworth-disenchantment relation.

Accordingly, the vocabulary contained in TP has been processed using a main software package for computational linguists: WordSmith Tools⁶ (Scott, 2017), which has been particularly designed for work in the field of corpus linguistics⁷. Firstly, a *neat* .txt version of the text contained in TP has been created, that is, free from special characters that the software package does not properly process. Secondly, this file has been uploaded and processed using the *WordList* option in order to obtain a word frequency list. With this type of word list, words occurring in the texts are ordered by their frequency of occurrence, from the most commonly occurring words down to those words that appear less frequently. The key words from the word

⁶ See: <https://www.lexically.net/wordsmith/>.

⁷ The available literature on the topic of corpus linguistics and corpus stylistics is very vast. Here is a selection of the works I find most informative and outstanding: Semino & Short (2004); Hoey, Mahlberg, Stubbs & Teubert (2007); McEnery & Hardie (2012); McIntyre & Walker (2019).

frequency list that are relevant to this study, and which have been specially selected to meet the purposes of this article, have been computed through the *Concordance* option in order to locate them in the textual context.

The purpose of this methodology is to obtain an empirically reliable semantic mass to analyse. For this, the software WordSmith Tools has enabled an extraction of the raw semantic mass from TP. The comprehensive development of this methodology will definitely contribute to obtaining a complete picture of the use of Wordsworth's language in TP.

I assume that the perception and subsequent description of nature are never independent of the worldview held by their cognitive subjects. The lexical scrutiny of Wordsworth's TP, therefore, will make explicit a semantic mass with sufficient empirical basis for making non-arbitrary interpretations on Wordsworth's worldview through conceptual analysis. As changes in the knowledge of nature should modify its explanation as well as its perception and description, the results obtained from a lexical analysis of TP will make explicit Wordsworth's hostility towards scientific practice, and I claim that this attitude is due to a latent enchanted worldview.

Critical literature has tended to moderate Wordsworth's aversion to science and scientific practices (Garstang, 1926; Bonacina, 1944; Evans, 1954; Jeffrey, 1967; Durrant, 1970; Manier, 1978; Gaull, 1979, 2015; Turner, 1990; Wyatt, 1995; Nichols, 2005; O'Connor, 2007; Valenza, 2009; Bewell, 2017), and, exceptionally, to overtly accept it (Bush, 1950; Nichols, 2005; Whitehead, 2011). However, these critical authors have not paid close attention to the language Wordsworth uses when describing nature. There are certainly concordances of Wordsworth's works (Cooper, 1911). There are also studies available focusing on certain aspects of Wordsworth's use of language (Austin, 1989). Nevertheless, there has never been undertaken a comprehensive semantic analysis of Wordsworthian lexicon in TP which can confirm or reject the thesis of disenchantment in this work. The lexical analysis will, consequently, help clarify whether Wordsworth did or not acquire any scientific-explanatory knowledge about the functioning of nature and if that scientific-explanatory knowledge shaped the poet's perception and description of nature.

2.1. Science, a lie, a succedaneum?

The emphasis that Wordsworth makes to describe his absolute source of inspiration, nature, is reinforced even further when this is compared to its opposing element: the city. With a clear tone of rejection for the city throughout the entirety of the work, Wordsworth emphasizes the inspiring force of nature compared to the oppressive walls of cities: "Five years are vanish'd since I first pour'd out / Saluted by that animating breeze / Which met me issuing from the City's Walls" (Wordsworth, 1928, Book VII, ll. 1-3).

These verses show how the constraints imposed by cities prevent Wordsworth from having any direct contact with nature. However, it is perhaps the contrast between these two opposing

environments what allows him to write with such expressive and descriptive terms in favour of nature and against one of the main activities found in the city: science. Instead, Wordsworth is looking to devote adequate attention to certain aspects of organic matter that scientific abstractions cannot analyse. He accuses science of conducting a fractional study of the elements of nature, when nature should be understood as a whole. Likewise, he also assumes that the division or delimitation of the parts is something that cannot be perceived in nature, but is a human invention.

Wordsworth, however, does not try to describe a nature fractioned in parts, that is, on concrete elements of the natural landscape, but he proposes to study it as a whole. TP presents the organic unity of everything as a revelation of which Wordsworth is witness [“The unity of all has been reveal’d” (Wordsworth, 1928, Book II, l. 226)]. The poet asserts that nature, as it is a whole, doesn’t have a beginning [“Hath no beginning” (Wordsworth, 1928, Book II, l. 237)]. Science, therefore, is nothing more than *hollowness*, a *lie* [“Now this is hollow, ‘tis a life of lies” (Wordsworth, 1928, Book V, l. 350)], mere appearance, a *succedaneum*, or even a *false secondary power* that establishes boundaries in nature when they do not really exist:

Science appears but, what in truth she is,
Not as our glory and our absolute boast,
But as succedaneum, and a prop
To our infirmity. Thou art no slave
Of that false secondary power, by which,
In weakness, we create distinctions (Wordsworth, 1928, Book II, ll. 217-222).

As in the lines just cited, in the poem *The Tables Turned* (1798) Wordsworth criticises the intellect that stands between and deforms the forms of nature, and does not speak of dissection favourably, an act that consists of division. Dissection is incompatible with the quest for the whole: “Sweet is the lore which Nature brings; / Our meddling intellect / Mis-shapes the beauteous forms of things: – / We murder to dissect” (Wordsworth, 1975, p. 377, ll. 25-28).

Rejection of the borders, divisions and dissections proposed by science is not capricious and casual. Wordsworth’s purpose is to announce that it is not possible to perceive nature as a *great whole* (Wordsworth, 1928, Book III, l. 131) through scientific practice, a perception that allows free inspiration and subsequent poetic creation. Such ideas, however, do not necessarily imply the author’s personal contempt for any kind of new knowledge that might derive from science. In actuality, Wordsworth admits to deriving pleasure from a scientific branch that works with abstractions: geometry. In Wordsworth’s own words found in TP: “Yet I must not entirely overlook / The pleasure gather’d from the elements / Of geometric science” (Wordsworth, 1928, Book VI, ll. 135-137).

Wordsworth also works with abstractions. In TP he expresses that he creates an independent world in his mind from *images* (Wordsworth, 1928, Book VI, l. 180) or from stimuli he perceives of everything surrounding him. He thus creates a *Synthesis* (Wordsworth, 1928,

Book VI, l. 182) or particular interpretation of the world through poetry. The outside world, in this case nature, serves as inspiration and provides images of each concrete element. Consequently, the poet creates his own interpretation of what is observed. This is, however, a *natural* or intuitive interpretation of reality where there are no interferences of a scientific knowledge of any kind filtering into what has been observed and modifying its description. Wordsworth intends to carefully safeguard the origin of all his poetic enlightenments and does not seem to want to be corrupted by any external influences. Science, in this sense, would distort the perception of the world and would impose on the mind a particular vision of reality. Said in the words of A. N. Whitehead, “we forget how strained and paradoxical is the view of nature which modern science imposes on our thoughts. Wordsworth, to the height of genius, expresses the concrete facts of our apprehension, facts which are distorted in the scientific analysis” (2011, p. 104).

2.2. Between passion for and aversion to science

The reasons behind the defence of poetic expression, and the unscientific Wordsworthian attitude can be found in the *Preface to Lyrical Ballads* (1800). In this text, Wordsworth argues that poetic creation, an intimate activity in which the spirit works autonomously, independent of the outside world, is an essential part of every human being. Its practice, therefore, should be considered a necessary, universal and consubstantial action of human nature. Scientific practice, on the other hand, is a personal and individual action, though, according to Wordsworth, not intrinsic to mankind. Both the scientist and the poet pursue truth and pleasure, but scientific truth can only be obtained in individual parts and besides that, it does not encourage the creation of an affinity with the rest of mankind, given it is an activity that is carried out in solitude:

The knowledge both of the Poet and the Man of Science is pleasure; but the knowledge of the one cleaves to us as a necessary part of our existence, our natural and unalienable inheritance; the other is a personal and individual acquisition, slow to come to us, and by no habitual and direct sympathy connecting us with our fellow-beings. The Man of Science seeks truth as a remote and unknown benefactor; he cherishes and loves it in his solitude: the Poet, singing a song in which all human beings join with him, rejoices in the presence of truth as our visible friend and hourly companion (Wordsworth, 1975, p. 738).

The *Preface* does not offer an explicit attack on scientific activity. In fact, he sometimes speaks of it and of poetic activity as companions that have the capacity to benefit each other. Poetry, in this case, would be responsible for lending a touch of emotion and feeling to science, this being regarded perhaps, as a very arid activity. However, Wordsworth uses a form of conditional expression (*if*), in a possibly deliberate way, to highlight that only when science succeeds in changing the condition of mankind, can poetry then accompany it:

If the labours of Men of Science should ever create any material revolution, direct or indirect, in our condition, and in the impressions which we habitually receive, the Poet will

sleep then no more than at present, but he will be ready to follow the steps of the Man of Science (Wordsworth, 1975, p. 738).

Science is not rejected here, but a clear condition is imposed on it: only when it can demonstrate something that is able to substantially and fundamentally alter the condition of the human being, can poetry follow in its footsteps. This condition, however, completely disappears in the preface to the poem *This Lawn, a Carpet all Alive*, first published in 1835, where the poet makes an unwonted claim in favour of scientific habits such as analysis, decomposition and anatomization for a clearer and deeper perception of beauty:

Some are of opinion that the habit of analysing, decomposing, and anatomising is inevitably unfavourable to the perception of beauty. People are led into this mistake by overlooking the fact that, such processes being to a certain extent within the reach of a limited intellect, we are apt to ascribe to them that insensibility of which they are in truth the effect and not the cause. Admiration and love, to which all knowledge truly vital must tend, are felt by men of real genius in proportion as their discoveries in natural Philosophy are enlarged; and the beauty in form of a plant or an animal is not made less but more apparent as a whole by more accurate insight into its constituent properties and powers. A *Savant* who is not also a poet in soul and a religionist in heart is a feeble and unhappy creature (Wordsworth, 1982, p. 668).

What is then the reason for Wordsworth's shifting position between the defence and criticism of science? In relation to Wordsworth's confession in favour of an in-depth knowledge of the properties and powers of things which makes them more beautiful, A. Mackie replies claiming that "this was his theoretical opinion", and that it should not be obviated that "his dominant temper of mind was rather unscientific" (1906, p. 57). Certainly, the preface is an example of Wordsworth *theorizing* and defending a position of proximity or sympathy for/with science. But, does he fulfil this in TP?

3. DESCRIPTION OF NATURE IN THE LEXICON OF THE PRELUDE

In order to analyse Wordsworth's proximity or distance with respect to science more closely, Table 1 (see below) summarises, once the results obtained with the software package WordSmith Tools have been thoroughly analysed, the most frequently used adjectives, that is, those adjectives that accompany the greater number of traced nouns relating to the natural landscape. This analysis is not exhaustive to the extent that it does not show a total count of the number of adjectives contained within the work, but focuses only on the adjectives most frequently used in the descriptions of nature. The frequency, indicated by brackets after each noun, does not correspond to the total number of occasions that a specific noun appears in the work, but to the total number of times that said noun appears accompanied by the adjective indicated in the column dedicated to adjectives.

The chosen nouns refer to the elements or scenarios of nature that appear most frequently in landscape descriptions. The adjectival use of nouns like *forms*, *scene*, *mountain*, *flower*, *tree*, *sight*, *water*, *night*, among others, has been traced. The adjectives and nouns of an

ambiguous, dubious nature, or those that make no direct reference to any aspect of nature, are not shown in the table. This way of exposing the results allows easy verification of which adjectives are more frequent in the work and which are used less regularly:

ADJECTIVES	NOUNS/FREQUENCY
Awful	Solitude [1]; Forms [1]
Beauteous	Stream [1]; River [1]; Forms [2]; Scenes [1]; Sights [1]; Pictures [1]; Spot [1]; Scene [1]; World [2]; Domain [1]
Beautiful	Vales [1]; Sky [1]; Hills [1]; Day [1]
Breathless	Trees [1]; Wilderness [1]
Calm	Water [1]; Lake [1]; Waters [1]; Days [1]
Common	Countenance (earth and heaven) [1]; Haunts [1]
Dark	Night [1]; Shade [1]
Deep	Vales [1]; Haunts [1]; River [1]; Breathing-place [1]; Vale [1]
Delicious	Rivers [1]; Lakes [1]
Delightful	Rill [1]; Sounds [1]; Pathways [1]; Day [1]; Island [1]
Distant	Hills [1]; Vales [1]; Winds [1]; Nooks [1]; Mountains [1]; Woods [1]; Sky [1]
Dusky	Lake [1]; Grove [1]; Shade [1]; Wood [1]
Endless	Sea [1]; Solitudes [1]
Enticing	Island [1]; Valleys [1]
Fair	Face of water-weeds [1]; Island [1]; Woods [1]; Expanse (level Pasture) [1]
Famous	Spots [1]; Gardens [1]
Flowery	Gardens [1]; Vale [1]
Frosty	Wind [1]; Moon [1]
Gentle	Breeze(s) [2]; Place [1]; Banks [1]; Undulation [1]; Soane [1]; Bird [1]; Airs [1]
Gloomy	Hills [1]; Shades [1]; Pass [1]; Breathing-place [1]
Great	Nature [2]; Sea [1]
High	Places [1]; Woods [1]
Holy	Scene [1]; Ground [1]
Huge	Cliff [2]; Forms [1]; Sea of mist [1]
Invisible	Bird [1]; Haunts [1]
Kindred	Stream [1]; Scenes [1]
Little	Lake [2]; Vale [1]; Birds [1]
Living	Nature [1]; Trees [1]
Lofty	Height [1]; Elms [1]; Rocks [1]; Mountain [1]; Steeps [1]; Pinnacle [1]
Lonely	Scene [1]; Places [2]; Brooks [1]; Road(s) [3]; Mountain [1]
Lonesome	Places [1]; Journey [1]
Long	Field [1]; Lake [1]
Lordly	River [1]; Alps [1]
Lovely	Forms [3]; Tree [1]; Countenance (lake) [1]; Region [1]
Lower	Grounds [1]; Heights [1]
Lurking	Brooks [1]; Place [1]
Magnificent	Morning [1]; Region [1]; World [1]
Mighty	Forms [2]; Depth of waters [1]; Waves [1]; Place [1]
Native	Hills [2]; Rock [1]; Region [1]; Stream [1]
Old	Haunts [1]; Earth [1]
Open	Field(s) [4]; Turf [1]; Ground [1]
Passing	Wind [1]; Forms [1]

Pathless	Solitudes [1]; Sea [1]
Pleasant	Journey [1]; Fields [1]; Bay [1]; Wandering [1]; Flowers [1]; Sight [1]; Brows [1]; Sound [1]; Nooks [1]
Public	Road(s) [4]
Rising	Moon [1]; Flowers [1]
Roaring	Wind [1]; Stream [1]; Sea [1]
Rural	Haunt [1]; Scenes [1]
Shady	Place [1]; Fountain [1]; Nook [1]; Woods [1]; Dells [1]
Sheltered	Grove [1]; Place [1]
Shining	Sun [1]; Water [1]; Place [1]
Silent	Lake [1]; Water [1]; Bay [1]; Trees [1]; Road [1]; Owls [1]; Rocks [2]; Zephyrs [1]; Day [1]; Night [1]; Hills [1]
Small	Island (s) [2]; Birds [1]
Soft	Nights [1]; Airs [2]; Wind [1]
Solemn	Heights [1]; Region [1]
Solitary	Hill(s) [2]; Cliffs [1]; Place [1]; Shades [1]
Splendid	Evening [1]; Place [1]
Starry	Nights [1]; Sky [1]
Stately	Groves [1]; Roads [1]; Vales [1]; Flower [1]
Steep	Rocks [1]; Hills [1]
Sublime	Shapes [1]; Willow [1]; Forms [1]
Sundry	Wanderings [1]; Forms [1]
Sweet	Stream [1]; Vale [1]; Birthplace [1]; Garlands [1]; Valley [2]
Unknown	Birds [1]; Woods [1]
Vast	Sea [1]; Regions [1]
Warm	Ground [1]; Vales and Woods [1]; Night [1]
Wild	Water [1]; Flower(s) [3]; Field [1]; Wood-honey [1]; Walks [1]; Place [1]

Table 1. Lexicon related to descriptions of nature in *The Prelude* by William Wordsworth.

The data of this lexical analysis of Wordsworth's TP indicates that nature is described using very varied nuances, among which there is a preponderance of those related to what might be called the *aesthetic of emotional*. The Table shows a dual use of emotional adjectives in TP. On the one hand, adjectives referring to elements of nature that generate sensations of calm and tranquillity before natural beauty stand out in Wordsworth's work: *beautiful, calm, delicious, delightful, fair, gentle, lovely, soft, splendid, sweet*, etc. On the other hand, the adjectives with greater expressive power like *awful, beauteous, breathless, holy, lofty, lordly, magnificent, mighty, solemn, sublime*, etc. are significant given they describe the elements of nature that awaken feelings of aesthetic exaltation in Wordsworth. The imposing forms of nature are described with a lexicon that conveys the experience of the sublime lived by Wordsworth, at times an explicitly mystical-religious experience. Both realms, material nature on the one hand, and immaterial nature on the other, are the two main semantic blocks constituting the ideas of nature that Wordsworth used to describe the natural environment.

Many of the nouns appearing in TP are accompanied by unusual adjectival use, not typical of those characteristics of the element of nature they describe, but is instead related to Wordsworth's sentimental state. Adjectives of this type include: *beauteous, beautiful, calm,*

delicious, delightful, enticing, fair, gentle, gloomy, holy, lofty, lonely, lonesome, lordly, lovely, magnificent, mighty, pleasant, silent, solemn, solitary, splendid, stately, sublime, sweet, wild. There are also ambiguous adjectives such as *deep, distant, dusky, native* and *shady*, which refer to both the properties of the landscape and to the impression of nature the observer formulates.

A certain margin of ambiguity must, however, be conceded, between what is truly characteristic of each element of nature and what is related to the mood of the poet/descriptor, as is shown by the use of expressions such as *huge cliff, soft wind, solitary hill, vast sea*, etc. Describing attributes belonging to the landscape and the elements that conform it with expressions such as *deep river, high woods, long lake, little birds*, etc. contrasts with the beautiful, soft, or splendoredness that an afternoon, the wind or a soirée seem to be to Wordsworth. Both the beautiful and the soft and the splendid are expressions of common sensations in the poetic descriptions of nature and are perfectly suited to the stylistic form found in TP. However, these descriptions betray the poet and make of him an overtly sentimental and subjective descriptor. Even the depth of certain elements of nature may be conditioned by Wordsworth's particular impression, which, it must be understood, has dispensed with the necessary technique of measuring the depth of the earth.

Of course, how wild a flower and a field are (*wild water / flower(s) / field / place / wood-honey / walks / place*) or how gloomy (*gloomy hills / shades / pass / breathing-place*) a hill and a pass appear to be, depend entirely on the particular experience of the observer. Wordsworth opts to consider wild the elements of nature with which he is less familiar; sombre, on the other hand, are the places that provide him with a lesser sense of clarity. These expressions, which give account of the impression produced on the observer in different natural contexts, are however between a description in line with the natural reality –if the wild is considered to be synonymous with abrupt or steep and sombre as the absent of light– and a partial or external description of the very characteristics of nature, that is, directly linked to Wordsworth's emotional state. With respect to this last type of adjectival use, the adjectives *delicious, enticing, lovely, pleasant* or *splendid* are significant, perfectly legitimate to express a preference for a charming or pleasant wild flower, and a charming or pleasant sombre lake. Thus combined expressions could be created, composed of either aesthetic-sentimental adjectives or of adjectives that refer directly, or at least partially, to those characteristics typical of nature. Some characteristic expressions, given that they are combined descriptions that could be integrated into TP, are, for example, *delicious silent road, lovely wild flower, pleasant deep vales, enticing flowery gardens* or *splendid rural scenes*.

It should be stressed, however, that the relevance that could be given to the complete or partial inadequacy of such adjectival use depends on the context in which the expressions are used. In a poem like TP, the sublime as a remarkable feature of nature, or the solemnity that

certain scenes of nature suggest to the observer, could be presupposed and totally comprehensible.

Nevertheless, this type of lexicon is not relevant to a scientific study of nature. From this it could be deduced that Wordsworth's aim is to make explicit his feelings, resulting from his aesthetic valuation of nature, described with the use of an abundant adjectival use occasionally accompanied with exclamatory signs that add emphasis to the text. A clear example that manifests the Wordsworthian intention of expressing his particular vision or perception of nature is the use of the adjectives *mighty* and *stately*. It is remarkable the way the poet wishes to describe his particular perception of the strength or power of the different forms of nature. Both *mighty* and *stately* seem to be the adjectives that best fit the expression of the poet's perception of certain elements of nature.

In short, the vocabulary used by Wordsworth confirms that his description of nature is subordinate to the description of the feelings or mental states when he is before its presence. Wordsworth, therefore, presents an enchanted nature in the sense on which Weber presupposes an enchanted world before getting in contact with modern science (Weber, 2004, p. 13). As it might also happen with other Romantic poets, the poet seems to become enchanted by his own emotions, but not with the world. As J. Pacho holds with respect to the different way Darwin and the Romantic poets perceive and describe nature, it could be assumed that Wordsworth behaves before nature "as a child that still can not read and looks at a book with pictures", feeling "amazed by the pictures (landscapes)", but, as he is not apparently able to understand properly the written signs, and following Pacho's analogy, it could be assumed that Wordsworth would "mistake the meaning of the images with the feelings and ideas that these images cause" (2005, p. 82) in him⁸. According to this hypothesis, the insufficiency of explanatory-causal knowledge, or the total lack of it, would have generated an extreme subjective perception of nature. Certainly, the election of a vocabulary more prone to the sentimental analysis of the natural landscape than to the explanatory analysis would confirm this hypothesis.

4. CONCLUSIONS

In the first section, a warning was given about the tentative nature of the conclusions that could be obtained through the fragmentary analysis of Wordsworth's language that has been made in this article. Given the partiality of the study of the Wordsworthian lexicon that has been carried out, and assuming, on the one hand, the technical limitations of the method followed and, on the other hand, the interpretative cautiousness with which the data obtained must be explained, the conclusions developed in what follows are intended to be a preliminary contribution to the study of the descriptions of nature in the work of the poet. The tentative

⁸ Translation mine.

character of the results that are detailed below, however, allows opening new perspectives of computational research on the lexicon in the work of Wordsworth⁹.

Without wishing to make an inappropriate interpretative leap between the lexical data obtained and the conclusions, the results that I consider, with maximum interpretative precaution, more justifiable, are detailed below.

Wordsworth's descriptions of nature show a great tendency to the description of the moods that nature induces in him, that is, the observer-descriptor, than to the description and explanation of the specific features of nature, whose meaning would be subordinate to the description of his feelings. These are, in fact, the kind of descriptions that are consistent with an *enchanted* notion (and the subsequently perception) of nature. Science could not disenchant the world if it had not been enchanted before.

It is, however, inevitable that a Romantic poet such as Wordsworth perseverates in the task of describing the inexhaustible images of nature, expressed with an emotional, enchanted language. This confirms the main objective of TP, namely, to offer an extensive description of nature just as it appears in the eyes of its observer, as well as its effect on his mood. This path of double perception, which can be broken down into a pairing made up of primary observation and psychic assimilation, is derived in a type of poetic description that is easily contrastable with the scientific explanation of nature.

Prima facie, compatibility between poetic and scientific registers is difficult¹⁰. However, the interaction between content and knowledge of both fields is not entirely incompatible, although it is indeed vague: poetic emotion and imagination inevitably alter, not only the *scientific formulas*, but also the way of understanding what is implied by such formulas.

The poetic and scientific registers do not converge in Wordsworth's work. Certainly, this would hardly be a feasible result if we were to take into account, according to J. S. Mill's notes, that the main purpose of poetry is to "act upon emotions", to offer "objects of contemplation that are of interest for the sensitivity" (1987, p. 202) to move, to stimulate, to stir emotional and aesthetic stability, to outline "the deepest and most secret mechanisms of the human heart" (p. 204). However, when the observation and perception of nature converge in a single expressive medium such as the poetic medium, descriptive poetry is generated, which, according to Mill, "consists, no doubt, in description, but in description of things as they appear, not as they are" (p.

⁹ A study focused, for instance, in searching for linguistic patterns, using the *Collocates* option of the WordSmith Tools software package, in the terminology that surrounds a key term in Wordsworth's lexicon, could reveal lexical tendencies that would remain hidden from the reader's eyes.

¹⁰ I am not referring to the multiple possibilities of integration of scientific knowledge in the poetic register and conversely, of the integrations of poetry into the scientific register. I am referring to the logical, lexical and hermeneutical imbalance that would result from the creation of a strictly scientific text, dedicated for example, to the dissemination in verse of results obtained from a methodological study of a particular aspect of nature. Conversely, maybe it is even more disturbing a precise emotional or aesthetical expression of a particular landscape through a strictly technical lexicon.

207). As Mill suggests, descriptive poetry should respond to emotional veracity and not so much to objective veracity.

Although there are no reasons to believe that Wordsworth rejected the influence of contemporary scientific knowledge, we may wonder whether Wordsworth really possesses the knowledge necessary to create a description of nature closer to the objectivity that science offers. Without needing to take a radical position in the debate, it seems difficult to know the extent to which the science of the times was able to influence the work of Wordsworth. However, it is clear that he is aware of scientific progress despite the fact that he, apparently, does not consider such progress as accessible or understandable to all. At least some of the progresses in science, such as the voyages of naturalist explorers, manage to inspire Wordsworth. In terms of R. Holmes: “Mungo Park’s story inspired a number of poets. Wordsworth included a passage about Park ‘alone and in the heart of Africa’ in an early version of *The Prelude*” (2009, p. 232).

Nevertheless, the results obtained from Wordsworth’s lexical analysis could lead us to believe that his defence of certain scientific habits is hardly compatible with his attitudes and with the output of his poetic writings. The seemingly unifying vision of science and poetry, as well as the fervent defence of scientific analysis as an enhancer and maximizer of aesthetic experience, do not appear in TP. Science is indeed explicitly despised because of its divisive study of nature.

Wordsworth does not need science to achieve unity between the observer and observed nature, and thus be able to perceive the natural landscape as a whole made up of interconnected elements. Nature is understood by the poet as a “universal symphony” (Garstang, 1926, p. 4) charged with meaning, that can only be understood through feeling, not through the reason that prevails in the conception of the world that science proposes.

The view of nature that science offers would not be compatible with the unitary perception of nature that Wordsworth derives from his observation of it. He considers, therefore, science to be an alternative approach to nature, with methods of analysis that allow its observation from other points of views that are not too revolutionary. According to A. Nichols (2005, p. 307), the cryptic and enigmatic tone of Wordsworth’s nature poetry proves that, despite having a close relationship with science and with the works of restless travellers, these discoveries cannot be considered as new paradigms in science that have altered the conception of the world that existed at the time. The descriptions of new landscapes serve Wordsworth to create a new poetry, one that was more profound and fascinating, but that did not alter his worldview.

In sum, it is difficult denying a fact as evident as the connection between science and Romanticism but we consider this relationship as the way that Romantic poets gained a more complete understanding of the secrets of the workings of nature’s elements. However, knowing whether or not Wordsworth was aware of the latest advances in science is not what is of

concern, rather the issue is about understanding whether this had any influence on his poetry. Therefore, it could be possible to confirm that if Wordsworth had not assumed an *enchanted* notion of nature, he would have comprehended that although scientific knowledge is certainly not necessary to describe natural beauty, it should not be an impediment either.

The lexicon used in TP could, then, confirm the hypothesis that a lack of scientific knowledge, –or lack of interest in it– probably led Wordsworth to make descriptions of nature that responded to the feelings that the natural landscape awoke in them, rather than to the characteristics of the landscape itself. I therefore presume that Wordsworth’s attitude towards science is the result of the assumption of an *enchanted* notion of nature.

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