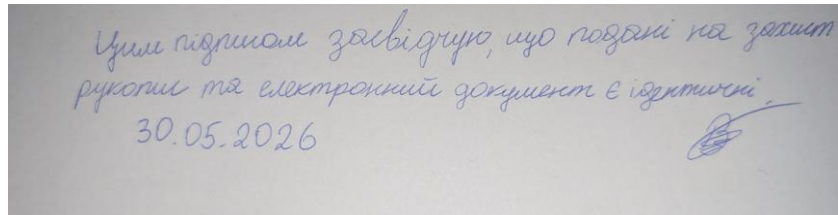


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**SCIENTIFIC VOCABULARY IN EMILY DICKINSON POETRY:
SEMANTICS AND STYLE**

M.A. Paper
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30.05.2026

Research supervisor
Professor A.V. Chesnokova

Approved for defense at
the Linguistics and
Translation Department
26, May, 2026, Minutes 5
_____ Andrii KOZACHUK

Kyiv 2026

2. ABSTRACT

This research paper is focused on the scientific vocabulary in Dickinson's poems, what meaning each term conveys, what metaphor can be drawn.

The study aims to define semantic and stylistic features of Dickinson's poetry, finding and specifying usage of the scientific vocabulary in Dickinson's poetry as well as the analysing the integration of scientific vocabulary into poetry and how its integration creates different reinterpretations, that allows the text to have more deep and complex layers.

The approach this study takes is analysing the full corpus of Dickinson's poems by using the methodology of corpus tools. Additionally, the scientific vocabulary employed by Dickinson was compared against different poets.

Findings indicate that the usage of scientific vocabulary is employed throughout Dickinson's poetry consistently, to mean that the educational influence of poet's life can impact the style of the poetry produced by the poet. The scientific vocabulary that Dickinson used conveyed metaphors for Dickinson's own life, emotions, feelings, and mental state at the time. This study also gives arguments in favour of the claim that scientific vocabulary can also be used differently from poem to poem, despite the scientific vocabulary being more precise and niche. The creation of unique style of Emily Dickinson was integral to the integration of scientific vocabulary. This study also indicates that inclusion of scientific vocabulary alone without other stylistic elements is not enough to establish a multi-layered meaning.

Keywords: scientific vocabulary, metaphor, stylistic analysis, corpus analysis, semantics.

3. INTRODUCTION

Poetry existed since ancient times and still exist to today, during which many writers rose to the heights of the linguistics of poetry, thanks to their unique style, and vocabulary. Emily Dickinson undeniably is one of them, she wrote stunning poems and deep and touching letters in the middle of XIX century. She is well known for her one of a kind styles employing slant-rhyme, conceits, and unconventional punctuation, capitalized nouns. Ignoring the conventional rules, she was able to make her own rules how to write poetry.

Poems written by Dickinson are being researched by linguists using literature analysis (MEI, 2021), pragmatics (Dahlgren, 2005), cognitive linguistics (Freeman, 2002), empirical research (Brantley, 2001), linguo-stylistics (Chendey, 2021) and semantics (Bhadauria 2025). A lot of research that was, or still is being done on Emily Dickinson involves her biography (MEI, 2021) (Eberwein, 2009) (Yashkina, Pakhomova, 2023), as the biography of Dickinson had the biggest impact on the evolution of her semantics and style, and therefore they cannot be ignored (Blythe & Habegger, 2002).

However, despite a vast amount of research done on Dickinson's poetry, only one study mentions the usage of scientific terminology in her poetry

(Patterson, 1979). Likely coming from her own education and intelligence she often uses scientific terminology in her works, to deepen her poetry and expand reader's view on life. Being well educated woman during 19th century was rather uncommon, even more she was an unconventional poet that went beyond conventional norms of writing poems. Usage of scientific vocabulary in unconventionally written poetry can deliver a significantly deeper meaning compared to contemporary poetry.

Important part of analysis this paper makes is analysis of metaphors, which are prevalent in the Dickinson's poetry. It helps establishing the reasoning for the usage of the scientific vocabulary in Dickinson's poetry. Metaphors are stylistic devices that can be terms, or phrases that shifted their original meaning to another, using similarities that are obvious or hidden. Adding scientific vocabulary to metaphorical expressions can add a layer of hidden metaphors to the poem.

The relevance of the present research is determined by the growing scholarly interest in the Dickinson's poetry. Dickinson's poetry is widely studied, for example by Rutledge (Rutledge 1994) Monteiro (Monteiro, 1992), Shaw (Shaw, 1991), Hallen and Shakespear (Hallen, Shakespear 2002), Hogue (Hogue, 1998), Deppman (Deppman 2002,), Dean (Dean 1993). Also, one of the biggest pushing forces for the research relevance is "The Emily Dickinson International Society" established in 1988.

Harvard university library provided vast selection of electronic versions of her pottery, letters and other researcher analyses which lets us access information with ease.

This paper focuses on scientific vocabulary in Emily Dickinson's poems. It answers the question of how and why Emily Dickinson uses scientific vocabulary in her poetry.

The subject of the study is the scientific vocabulary in the poetry of Emily Dickinson.

The object is semantic and stylistic features of the scientific vocabulary in Dickinson's poems.

The aim of the study is to define semantic and stylistic features of Dickinson's poetry, Finding and specifying usage of the scientific vocabulary in Dickinson's poetry as well as the analysing the integration of scientific vocabulary into poetry and how its integration creates different reinterpretations, that allows the text to have more deep and complex layers.

The material of the research is the full corpus of Emily Dickinson's poems (1,775 total).

The methods of the research include interpretational analysis that was used to interpret verbal aspects and concepts aspects of the poetry. Stylistic analysis was used to understand the use of scientific vocabulary, and to explain them with metaphors and simile. Corpus analysis was used to find patterns, phrases and grammatical uses. Contextual analysis was used to outline semantics and style of the author. The choice of these methods of analysis was needed as

the analysis of Dickinson's vocabulary can be only done with linguistic methods of research because of the unique poetic style and semantics of the author.

The value of this research lies in discovery patterns of scientific vocabulary in poetry of Emily Dickinson, which can be ground for further research of the style and semantics of other authors, that could possess similar style or vocabulary.

The results of this research can help in further analysis of the poetry of Dickinson and introduce the idea of scientific vocabulary into analysis of other authors.

Structurally, this research consists of an introduction, theoretical background of Dickinson's poetry as well as the impact of the poetry on the reader and the researchers. It examines the linguistical, cognitive, and interpretational aspects of Dickinson's poetry. Methods of this research is primary the analysis of the scientific vocabulary, and interpretation of its meaning according to the context of the text and comparison to the original meaning that is widely accepted in the scientific studies. The last chapter of this research is the results that provide the insight into author's distinctive style and vocabulary by using the detailed stylistic analysis of Emily's Dickinson poetry and compares it to the poets that have similar vocabulary to her own.

4. THEORETICAL BACKGROUND

In the early days of stylistics, poems were seen as ideal objects of study, since they tended to be short enough to be analysed in full, while also being examples of the foregrounding that was central to a literature. (Hilscher & Cupchik, 2005) This gave rise to the misconception that poems are easier to study stylistically than other types of text. Stylistics of poetry as understood by practitioners of stylistic, involves evaluation of a meaning for the text in question. The difficulty is that we do not follow the previous mistakes and go into interpretive positivism (Simpson 1993) where we suggest the existence of a link between particular linguistic form and particular literary effect and make concluding it to be the reason for all time. Language does not work like this, and researches have explored how different the interpretive effects can be according to the cognitive awareness of the readers, this thought is not suggesting that when we interpret text anything goes. No research claims that there can be only one interpretation of a text, and neither there are infinite number of potential readings. The stylistic research that was already completed in the studies that skilfully combining sociolinguistics and stylistic devices, authors using their style can reveal their own perspective about concepts such as DEATH by using different stylistic choices. Like one study suggests that draws comparison of concept of DEATH in Dickinson's poetry and Whitman's poetry, they both use distinct stylistic tools, Whitman uses repetition and anaphora to make reader feel "closer" to the concept of DEATH and transfer his realistic perspective about it on the reader, while Dickinson uses enjambment and anaphora, she uses it to materialize

the concept of DEATH by creating incomplete sentences, unique to her style. The common concept stylistically can invoke reader's own memories connected to death, which was the intended goal behind both poets' choices of stylistic devices (Mubarak, Abbas Joodi, 2023).

The many stylistic devices are used in poetry, these are: parallelism, anaphora, cataphora, enjambment, analepsis, repetition, and epiphora. They are just common stylistic devices employed by the authors and stylisticians. The general deviation from these common rules is considered a "violation", however poetry itself as a genre is an inherent "violation" from the common language rules. Poetic deviation can be attributed to writer's own style in the literally world, and the deviation achieved from ignoring common rules at grammatical or semantical level are all possible, and confirms that this exact deviation is essential to the study of the style (Leech, 2013).

All of the above says that poems encompass complexities all of which is depended on the style of poetry, which makes poetry a particular difficult genre for stylistic study. Poems can be difficult to read, difficult to interpret and difficult to understand, this is part of an appeal for readers that are willing to spend time and energy on reading poetry (McIntyre, 2013).

As demonstrated in her poetry, Dickinson was deeply engaged in discussion of 19th century scientific discourse, and she had the ability to repurpose the lexicon for different types of introspective. Her ability to fuse science and poetry created a language and style that is both precise and mysterious, it engages both type of readers, one that prefers scientific modern poetry, and one that prefers exploration of deeper meaning. Her poetic achievements continue to inspire new generation of researches of semantics, and linguistics, as well as modern poets.

Dickinson studies and critics of her verses generally note that her poems incorporate such themes as: death, love, religion, nature, eternity. This observation does not consider the amazing thematic combinations of poetic voices that she employed. They range from embarrassing cute poems such as 288 "I am Nobody! Who are you" and 61 "Papa Above!" to the scepticism that comes from 338 "I know he exists" and the passion from 249 "Wild nights – Wild nights!".

Dickinson's style undergoes no linear development, many of the poems early or late are equally complex and multi-layered. Absence of the end-line punctuation creates this continuous wave that runs through entire poetry, while dashes often create hiatus, either in the middle of the poem or at the end. Early critics ascribed this eccentric to Dickinson's inability or unwillingness to punctuate, others see her unconventional style as flouting of convention, particularly as most verses written by women during 19th century were conservative in both form and theme. Still others, noting that configuration of dashes, compare her poems to the lyrics of the nursery rhymes, or to the hymnal melodies that then were sung in Trinitarian churches. These interpretations are

not mutually exclusive since her biography supports both. The real important part of her style is that the irregular rhythms the dashes help create, undeniably improve the poetry. Dickinson did not date, or title her poems. This was also an important part of her style, and because of it Johnson had to figure it all out himself when preparing his 1955 major edition of her poems. The resulting numeration of poems, arranging them in the most likely chronological order. But because poems show no radical shifts in style, the task of dating remains even more daunting.

In our research we are going to reference to the poems using Thomas J. Johnson edition, because his edition tried to organise the poems chronologically and assign approximate dates to each poem. While it is unknown if his interpretation of dates is fully correct, this research was able to consider real events that happened around the dates provided by Johnson (Johnson 1960), therefore in what follows his numbering will be used (for example, J 1111).

Another part of Dickinson's poem style is almost complete exclusion of reference to external specifics. The example for this would be already mention poem J 61 "Papa Above!" which could likely imply her father death, however Johnson assessed chronology positioned the poem in the year 1859 as a year of its creation. Because her father died in 1874, accepting this date means limiting the application of the lines that this poem contains to the poet's father alone. It becomes a parody of a prayer rather than hopeful poem that father will remember his daughter. In our research we are going to reference to the poems using Thomas J. Johnson edition, because his edition tried to organise the poems chronologically and assign approximate dates to each poem. While it is unknown if his interpretation of dates is fully correct, this research was able to consider real events that happened around the dates provided by Johnson, therefore his numbering will be uses going forward in our research (J 1111).

Many of her poems can be hard to read, one of the issues for that might be "T-unit" proposed by Kellogg W. Hunt. A T-unit consists of main clause and all of its modifiers, including any embedder or attached clauses. The challenge of reading Dickinson's semi-punctuated elliptical syntax lies in finding main clauses from depended clauses. T-unit is a useful tool for identification in Dickinson's poetry, simply because it defines sentences by their grammatical structures, not by their punctuation (Hallen & Shakespear, 2002).

Despite that she published seven poems during her lifetime. When the poem J 214 "I taste a liquor never brewed" (see the full text in the Appendix), was published, it was considerably altered to insure the perfect rhyme the two last lines were reprinted as "Not Frankfort berries yield the sense Such a delirious whirl". In the end the blend of L in "pearl" and "alcohol" and the further play of "A" and "O" sounds were completely removed for the sake of conventional rhyme, losing all of her personal style of poetry. This was not the only case, another poem that was published without her permission separated the third and fourth lines, the editor took personal action and separated incorrectly therefore

changing her meaning. The publishers preferred bland sentimental verses, therefore deeming her poems unpublishable. Eventually she despaired of ever publishing her poems precisely because her unique poetic style was being stripped down to fit the narrative of the time, and to fit the preference of editors. (Pickard 1967)

According to Van Peer (1986), foregrounding was introduced to study literature by Garvin (1964), and its prominent position is prominent thanks to the theorist that have generated theories about the effect of specific devices. Foregrounding stimulates readers for deeper analysis of the poems. The metaphor may be missed on the first read, or the sentences can be not understood fully because of the complex grammatical structure. Readers transcend the literal meaning of the text, if they notice in the text new elements.

Poetical text of Dickinson is not big in size, verses are short. However, while being short researchers note that the short verses are able to distinctly talk about nature, death, life, and other deep themes (Anderson, 1960). Another characteristic of Emily Dickinson's style is deviation. Deviation shows itself through her style consistently, she avoids the norms and does not follow the conventional punctuation that a lot of researchers deem as "defects" are actually intended to be stylistic choices. The reader should decide for himself if this deviation from norm is attractive or not. Rather than editors or publishers.

After the publication of Emily Dickinson poems, the attention to her special poetic style only increased. Her unusual style of poetry finally started to become recognizable "experiment of thought".

Different researcher has taken in a different meaning from her style and text. Taking a look at two of the researchers, Barker (1987) takes in her poetry and finds "light" and "dark" motif in her poetry, while Farland (1998) claims that the main concept of her poetry is DEATH. Both are right, the stylistic choices of the author complement both of these theories, her style gives the non-mundane text, and allows reader to experience strong and unexpected feelings when reading her verses. To achieve this, she often employs scientific terminology, that are undeniably a deviation from the norms of poetry, despite that they intrigue and allure new readers. Dickinson's usage of scientific vocabulary has layered meaning and logic, analysing which can provide the answer to why such stylistic choice was used in creation of her poetry.

Deviation can be different, it is a common phenomenon in the literally language, more common in poetry. The term itself was coined by Geoffrey Leech in 1969 while studying a number of different poems. He underlined nine types of linguistic deviation in poetry: lexical, semantic, syntactic, phonological, morphological, graphological, historical, dialectal and register (Leech, 1969). However, in Dickinson's poetry more common are lexical and semantical. Miller (1987) notes that Emily Dickinson deviation is able to be analysed thanks to conceptual grammar that she has built. He takes a look at her poetry through semantics and style, trying to figure out how special stylistic elements function

in different contexts) A grand total of twenty-seven thousand six hundred and eleven words are in one thousand seven hundred seventy-five poems of Emily Dickinson.

General interpretation of the word “style” has versatile meaning, mainly it refers to just how language is used in a given context by an author. “Style” also usually has reasoning behind its creation. Style itself is a relational term, when we talk about “style of Dickinson” we refer to her characteristics of language use and correlating them with linguistics. Therefore, this process is of trying to guess the author’s reasoning of writing, through evidence of his language. Stylistics is the study of the style, and it is rarely undertaken without purpose. We study style because we want to explain something in a piece of literature. (Leech & Short, 2007)

5. RESEARCH METHODS

5.1 Scientific vocabulary in Emily Dickinson’s poetry.

To begin our research, we analysed the entire corpus of Emily Dickinson’s poetry, after that we able to establish a pattern. Her word choice often reflects a mind that moves between observation and abstraction, between the visible world and conceptual thought. In this sense, scientific lexemes do not simply name objects or processes; they help construct a mode of perception in which reality is examined, measured, and reimaged at the same time. Dickinson’s poetry therefore demonstrates that scientific vocabulary can function as an instrument of thought, not only as a lexical category. It can also deepen the meaning of each stanza, and different usage of the same word can imply vastly different metaphorical meaning. To prove this initial idea, we took two poems with same scientific word used. Poem J 313, and Poem J 813 (see the full text in the Appendix), both employ scientific word “circuit”. First poem uses it to refer to speaker’s small enclosed path, and it being repetitive and ordinary, rather than expansive. The line “My little Circuit would have shamed / This new Circumference” makes us think that speaker’s former life was small, having a narrow course with no room to step. Calling her life as “little circuit” emphasizes restricted state of existence, compared to wider possibility beyond it. Here she employs scientific and geometric terminology, to give logical feeling to her poem, it makes religions thoughts feel almost mathematical. Salvation, suffering and happiness are all figured out for Dickinson in this poem, though the language of science. Second poem uses the word same word to suggest way of life. Dickinson talks about pattern of movement, first “Gentlemen and Ladies” then “Lads and Girls” finally going to “Frocks and Curls”, second stanza starts with “Summer nimble passion” goes to mention “Bloom and Bees” and finishing the poem with “Then cease like these”. She shows that “circuit” here is the cycle of all life. The scientific word here gives the movement expansive feel, it is not a straight short line here, it is recurring motion that goes wide and far for every single being

existing. It is a meditation on classical “life and death” where line “quiet Dust” holds a memory of life, energy and past identity. The dust settles, but then it is kicked up again. Adding word “Oriental” to “circuit” suggest the meaning of “sun rising” which can imply new beginning, a new day starting while the previous one “cease”. In conclusion we determined that Poem J 313 (see the full text in the Appendix), uses scientific vocabulary to talk about short and narrow life, followed by a certain possibility of new life. While poem J 813 (see the full text in the Appendix), while similar is more about the circle of life, rather than the afterlife, it talks about the beauty of the “circuit” while the first poem talks about the how “circuit” is little and mundane. This proves that the usage of scientific vocabulary in Dickinson’s poem not only adds calculating tone of science to her verses, but also adds deeper metaphorical layers that can vary from poem to poem.

Another important aspect of Dickinson’s poems that was noticed during the analysis is coexistence of the scientific precision and semantic uncertainty. In her poems, scientifically marked words frequently appear in contexts that resist fixed interpretation. The result is the creation of a tension, that the lexical can and may suggest accuracy and precision, yet the context of surroundings allows it to be read differently each time, even by the same person. Such ambiguity is especially important in lyric poetry, where meaning is not stabilized in the same way as in scientific prose. Dickinson exploits this difference and turns specialized vocabulary into a source of interpretive richness.

Scientific language in her poetry also contributes to the poet’s characteristic compression of expression. Single scientific word can produce a whole cluster worth of associations that allows Dickinson to achieve semantic impact with little text she provides to the reader, maximizing the semantic impact of the text while minimizing the said text, creating a scientific paradox. This economy of expression is one reason her lines often feel abrupt, charged, and intellectually concentrated. The scientific word functions here almost like a hinge: it connects literal meaning, emotional resonance, and philosophical suggestion within a very small space.

In addition, Dickinson frequently uses scientific vocabulary to challenge ordinary perception. Words associated with measurement, classification, and natural order appear in unexpected lyrical settings, where they alter the reader’s expectations about what poetic language can do. This strategy gives her verse a distinctive modern quality, since it unsettles the boundary between common speech and specialized discourse. The effect is not decorative; it is structural, because the unusual lexical choice reshapes the reader’s engagement with the poem.

From this perspective, scientific vocabulary in Dickinson’s poetry may be understood as one of the mechanisms through which she creates intellectual lyricism. She uses words such as “circuit” in poem J 652 (see the full text in the Appendix), a scientific term for “a theoretical structure simulating electrical and

data paths” used to deepen her lyrics by adding new meaning to the scientific word, here it means a path that is repeated, but it suggests more than just physical route, she transformed the word in her poem into “controlled journey” that is not free, not accidental, but predetermined, ordered, constrained. Poem J 1463 (see the full text in the Appendix), has “resonance” a term for “phenomenon that occurs when an object or system is subjected to an external force or vibration whose frequency matches a resonant frequency” used to describe the complexity movement of a hummingbird by using the science, it allows reader to imagine a bird with movement fast and quick like a flash, movement so intense it leaves and aftereffect, leaving a “sound” that continues to impact us with “vibration” even after the verse is over. As these examples show, her poems do not merely describe inner states, they analyse them through the language of observation, limits, scale, and process. This makes her poetry especially suitable for linguistic study, since it reveals how specialized vocabulary can move beyond terminology and become part of a poet’s artistic method.

5.2 Corpus analysis of scientific vocabulary in Emily Dickinson’s poetry.

The next stage of our research was creation of the file that has all 1,775 poems of the author, the full list has only the list of poems without the titles, so not to accidentally influence the final results of data extraction. The file was then saved as word document in the format of docx. In our research we used TextSTAT and VOYANT TOOLS to complete our analysis of Emily Dickinson’s poetry and creation of the output file with the required vocabulary that can be classified as scientific vocabulary further down in the analysis. Outputs of both tools were cross referenced and analysed for mistakes and final wordlist was exported after. The resulting file was exported and organised into Excel file in the format of xlsx. After receiving and analysing the list of files we were able to determine the scientific vocabulary used by Dickinson in her poetry using common definitions found in both paperback and electronic versions of vocabularies. This was done for better cross referencing and establishing our own classification of scientific vocabulary that was used for this research specifically.

Then we analysed the output that contained all of the scientific verbs used in each poem. The vocabulary can be classified into “hard” related to science words, and “soft” related to science words. As well as grouped the scientific vocabulary into science groups to find out and illustrate the overall usage of the words across the poetry, and find out reasoning behind each one. The analysis aimed to find the specific reasoning behind specific scientific terminology as well as to find a pattern in it, with the goal of completing the research aim that was established in the beginning.

Biggest issue was distinguishing terminology that was used only in scientific context and words that attained meaning in common day to day language but still originated, or were closely tied to scientific context and

meaning.

The scientific vocabulary was collected from all the poems from the corpus. It was analysed using data extraction where all words and the number of usages of each word was put into excel file, then it was cross referenced with the dictionary to find all potential scientific vocabulary words that were used in 19th century and 21st century.

In order to demonstrate our methods of research we are going to take poem J 792 that she wrote in late 1861. In this poem she talks about “meteor” which is an astronomical scientific term for small piece of matter that falls from space onto the earth, passing through earth atmosphere and emitting a bright light as it enters the earth’s atmosphere. According to our research word “meteors” is used twice in her poetry, and it is one of many astronomical terms that Dickinson seems to prefer when writing her poetry.

J 792

“The splendor of a Burmah
The Meteor of Birds,
Departing like a Pageant
Of Ballads and of Bards–”

In the poem J 146 “Meteor” is not actually a celestial object, but it rather it describes a sudden, almost “fiery” appearance of birds, that are compared to the “meteor” due to the bird being Oriole. The bird that is defined by its black and orange streaks going across the sky like a flaming shooting star.

J 146

“A stately – shriven – Company–
Convulsion – playing round–
Harmless– as streaks of Meteor–
Upon a Planet's Bond–”

It is likely the inspiration for the use of this word in this specific particular time of writing poem J 792 is “The Red Avenger” that historically was seen on July 2nd 1861. This specific comet was called “war comet” and it was much more superior to any previous comet sightings she would hear, or see from 1845 to 1858.

It is very likely that the use of scientific word meteor was likely combination of her personal life, hardship that she suffered during that year, connecting the meteors and comets to the superstition fears and including them into her writing. But since her belief in science was strong, she knew there was no bad omen hiding behind a meteor, therefore the line “Harmless – as a streaks of meteor”. Going into semantics of the word “meteor”, it was used to describe any fallen object or atmospheric phenomenon, meteors was also a scientific name for shooting stars. Shooting star is often attributed to positive feelings, to “wish making”, good omen that bring happiness and have positive connotation. The idea to not use shooting star but rather use meteor is a decision that reflected across Dickinson’s whole poetry. It gives her poems radical feeling, less warm and

colder and calculating.

Analysing these results, we can see that from one side, there is analogy that transforms scary omen of “judgement” and ending of the world, to neutral and stoic word “meteor” that allows her to transform scary event for most people into “harmless” astronomical phenomenon. On the other side the idea and concept of good and “wish” that comes from falling star is replaced with same neutral meaning, reflecting the inner feeling of Dickinson herself reflected through her choice of words. We can come to conclusion that this poem of Dickinson can be characterized transforming the usual tropes that most writers thread, into creating deep and matriculate imagery in her poetic text.

Another part of this research involved the analysis of scientific vocabulary of Dickinson and Walt Whitman. Reason for such analysis was to see if different poets of similar time period use scientific vocabulary differently and to see just how different usage of such unusual vocabulary can deviate from author to author. This gave us the ability to see metaphors that author employed in her corpus poetry. Comparative analysis was carried out using Dickinson’s poetry as a base and Walt Whitman “When I Heard the Learn’d Astronomer” (see the full text in the Appendix).

5.3 Stylistic features of Emily Dickinson’s poetry.

After performing lexical analysis, next step was the stylistic analysis of Dickinson’s own style and poetry. Starting with her unique usage of nouns, which are integral part of her poetry, and our research. Nouns are biggest part of Dickinson’s scientific vocabulary, therefore their impact on overall poem structure is integral to this research. Sentence structure and complexity was analysed to understand the core structure, see average length and find any notable characteristics of Dickinson’s style of poem construction. The usage of prepositions was also analysed to see the effect and meaning of use they give out in the selected context of Dickinson’s poetry. Then the use of simile and metaphors was compared, to see which is more suited for the deployment of scientific vocabulary as well as which is the better instrument for integration of scientific vocabulary. Lastly cohesion and context were analysed. Cohesion is important part of what makes text in literary writing, and in our case, it is important aspect of literary style of Emily Dickinson.

Further analysis of style shows that Dickinson uses non-standard structure, for example her poems are short and condensed, the usage of dash instead of full stops that she uses as “stops” or “pauses”, unusual capitalisation where she often capitalised nouns in the middle of the sentence, and use of vocabulary that helps difficult concepts, and feelings easier to perceive. She precisely uses her style to guide the reader on graphical level thanks to her visual-verbal imagery. Her poetry became more relevant in late 20th century, and even more popular in the beginning of 21st century. Her tendency to use visual poetry can be traced to the increasing role of the “graphical poetry” compared to decreasing phonetic and

intonation levels of poetry. For example, she intentionally uses compression, capitalisation, dashes and vocabulary, to stop the reader from going through the lyrics too fast. The visual impact of seeing capitalised noun in the middle of sentence, or seeing dash somewhere where reader knows it should not be, slows the reader down, making him take another look at the verse, and making him engage with the style of Dickinson to try and understand why author uses the dash, or capitalised specific word. Starting with capitalisation example line from J 280 “I felt a Funeral, in my Brain,” is a good example of this phenomenon, and is relevant to our research thanks to the scientific vocabulary employed. Word “brain” is biological science term for a human organ, in this poem it is capitalised to draw attention to another capitalised word “Funeral”, the reasoning for that is the metaphor of “The death of thoughts” where “funeral” means the degradation, or decay and “brain” does not represent a human organ but rather subject’s mind and thoughts. The capitalisation of these words stops the reader to think, if we remove Dickinson’s style from this poem “I felt a funeral, in my brain,” we can see that both terms lose their impact, and now this line can be interpreted as “physical degradation of brain” like a cancer, or mental illness. The capitalisation of the scientific term provides layering to its meaning, simply because reader pays attention to it.

Further analysing visual style of her poetry and her “form” we can see that her poetry has unconventional capitalization and uses dashes instead of traditional punctuation. As examples we are going to take a look at a poem:

J 1527

“Oh give it Motion – deck it sweet
 With Artery and Vein–
 Upon its fastened Lips lay words–
 Affiance it again
 To that Pink stranger we call Dust–
 Acquainted more with that
 Than With this horizontal one
 That will not lift Its Hat–”

In J 1527 the biological scientific vocabulary is used, specifically “artery” and “vein”. Using our modern knowledge that they are both “blood vessels” that carry oxygenated blood from and to the heart, we can draw unconscious comparison from biological organs to concept of LIFE. Capitalisation of both gives similar effect that we established earlier in our research. Dickinson draws attention to these scientific terms and gives them expanded meaning. She begs the “internal machinery” of life to start once again, capitalising it to show importance of these two words, she turns them into essential forces of life. The dash creates sudden interruption or pause for the reader, it cuts off the plea making realise futility of the wish after using science terms, leaving it unresolved and fractured.

Dickinson’s poems manage to put a complex thought into small lines,

which makes them perfect for analysis through concepts like schemas, conceptual metaphors. Dickinson avoids direct statements in her poetry and uses words to invoke deeper thinking from the reader. Her most important concepts are CONTAINER, MOTION, DEPTH, HEIGHT, TRANSFORMATION, they help us to explain why her poems feels “wider” than they actually are physically, even when they talk about death, faith or consciousness. The common example would be “The Brain is wider than the Sky” that treats mind and thought as infinite spatial domain. Another poem’s line “I felt a Funeral, in my brain” allows us to see mental collapse and degradation as physical movement or pressure.

This deviation from standards of the poem creation, allows the reader to follow the non-standard poem by looking for dashes and capitalization to make reader pay attention to the words that Dickinson wants. Also, we can pay attention to capitalization in different poems that essentially help achieve similar effect. The dash in English language is used to highlight a break in a sentence, to interrupt speech, or to show speaker confusion and hesitation. However, for Emily Dickinson dash usage does not follow the example provided. We can see that she uses her dash at the end of her lines to slow the reader down when they reach it. While the comma would make reader skip over to the next line, the added confusion helps slow reader down. And to add to this effect she sometimes uses scientific vocabulary right before the dash. It helps not only to shape the rhythm of the poem, give unique visual style for her poetry, but also to make the reader take a look at the unusual word used. It is all made with specific intention for a reader. She ignores the rules and writes some words capitalized, especially scientific vocabulary regardless of the position in the verse.

“With **Artery** and **Vein**–
 When they dislocate my **Brain!**
 "Comparative Anatomy” –
 To leave me in the **Atom's** Tomb–
 The **Meteor** of Birds”

It is likely the employment of these stylistic choices was not only the case of her “rebellious” nature, but to create the effect importance and attention on the words that play important role in the poetry’s meaning and idea. This style and vocabulary used to fill the poetry with either positive or negative feelings across the whole poetry, that varies from poem to poem. Sometimes same words can mean two or more different meanings as we established when analyzing “meteor” in prior section, and the placement of the word, its capitalization and placement of dashes can affect this phenomenon in Dickinson’s poetry.

Taking a look at another set of poems we can take “industry” and trace three different meanings. Poem J 478 (see the full text in the Appendix), explains it as work of life, that life must be spend on something even small, even humble, preferable to wasting it on hate. Poem J 783 (see the full text in the Appendix), portrays as ordinal activity, placing it near early singing of the morning. Contrasting effortless song of birds with human work. Poem 908 shows diligence

and the idea of being alert, active and useful. In poem 908 industry is not capitalized and has dash at the end which makes the word which makes the word not stand out as much, despite being scientific word it does not impact overall theme of the poem and serves more as auxiliary metaphor. Poem J 783 also has it not capitalized, but connected to another scientific verb arrayed and with a dash at the end. The similar effect is achieved, word has deeper meaning hover it is providing not as much depth. While poem J 478 uses it capitalized and adding dash at the end of the verse it is placed in, it is integral to the poem's meaning. It makes it sound more board that just "work" it makes it elevated, preserving the compressed style of her poetry and feel philosophical.

6. RESULTS

The results of this paper are separated into two subsections: the lexical analysis results and the stylistic analysis results. Both analyses have produced the sufficient amount of results thanks to which we were able to conclude our research and achieve the aim of this research of understanding the usage of scientific vocabulary across Dickinson's poetry.

6.1 Lexical analysis of Emily Dickinson's vocabulary

After receiving the data for our research (see full table in Appendix), we were able divide the words into two groups depending on their relation to the scientific subject. Since the amount of words allowed to classify them into different groups depending on the meaning and usage.

We can categorize scientific vocabulary used by Dickinson into the specific science fields they originate from or connect to. We created a graph that shows each unique use of scientific vocabulary from scientific field. The data from corpus analysis research showed Dickinson's favourite science is Astrology with 14 unique words, Physics with 10 unique words and Mathematics with 8 unique words (Figure 6.1).

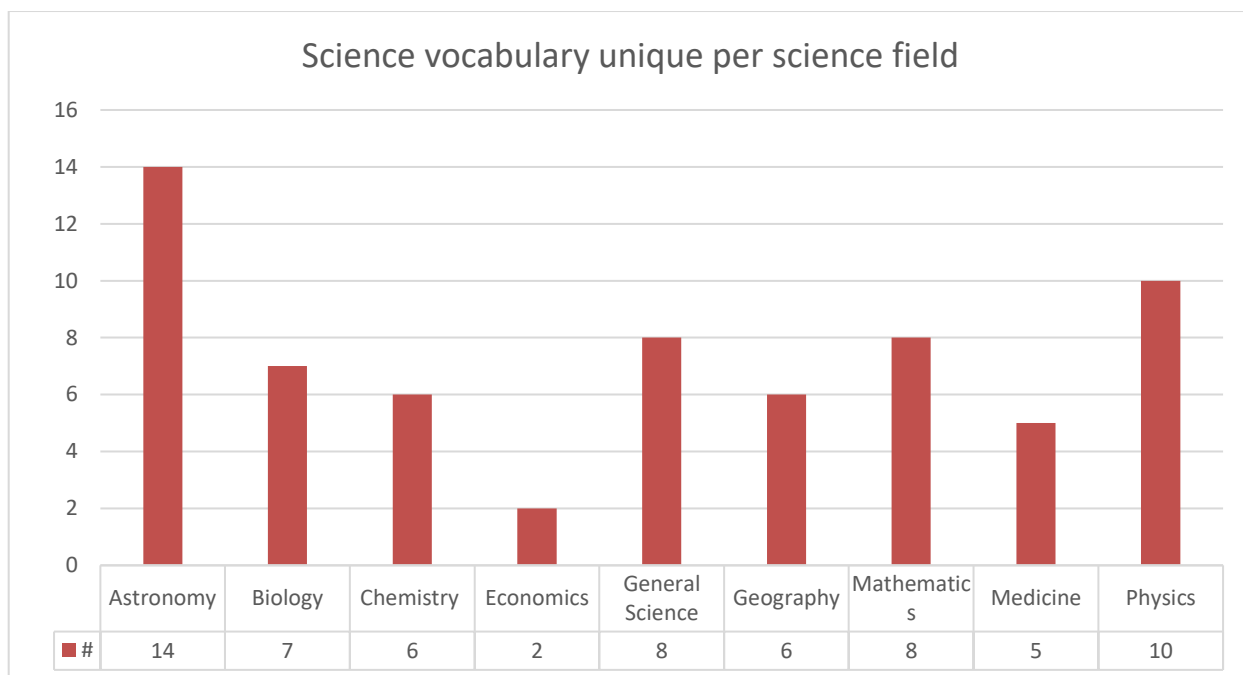


Figure 6.1 Scientific vocabulary unique usage by Dickinson per science field.

However, it cannot be ignored that Dickinson had more than plenty names of cities, countries, mountains, rivers, seas and islands, inclusion of which would make geography as undisputed leader in the number of words used. But such names cannot be classified as scientific vocabulary for our research, therefore Astronomy remains at the number one spot.

The reason for this data can be found in her personal life. It is likely when interpreting her feelings. It is often astronomical imagery is connected to love and feelings. So, it is fair to assume that this is the reason for the love of astronomy. She also has referenced astronomy in her poems directly like in J 1336, and the poem J 591 (see the full text in the Appendix), where it is mentioned directly.

This research shows exactly that, one of early poems describes one of her departed friends as “dropt softly as a star” and then proceeding to compare herself to astronomer La Verrier to diminish her own ability as a poet, and create this feeling of unworthiness. This is prominent example of scientific vocabulary use that allows us not just to draw metaphorical comparison to stars but also, she intentionally makes comparison to not just anyone but a skilled astronomer, likely implying someone with this much knowledge can only find “stars” while all she can do is lose them. This is not the only example of using scientific vocabulary and famous astronomer.

Then we took same data, but with total amount of word used and did similar categorisation to Figure 6.1 but counting multiple use of each word from each science. The new graph shows that Mathematics has overtaken Astronomy as scientific category with the most total scientific words used. Some of scientific vocabulary used is overlapping with different scientific fields. As time goes on, language evolves and develops, same can be said about science as well. Different

words also evolve and get introduced into different science fields. “Atom” is a word that relates to two sciences, physics and chemistry, this word plays integral part of both sciences. Some general words do that as well, for example word “volume” which is a term that can mean variety of things. From mathematical meaning of amount in three-dimensional space, physics and chemistry having similar meaning of “volume”. Finance also has its own meaning of measurement of assets like stocks, shares and bonds, that are traded over period of time. In audio technology same word means the loudness or intensity of a sound wave. And lastly “volume” refers to a single book that is part of multi book publication. All of these overlaps are integral to the deciphering the meaning of poetics, precisely because of their multidimensional meaning. Having multiple meaning adds to the complexity of poetry, being able to use scientific vocabulary that has more than one meaning, allows Dickinson to add layers of complexity and vast amount of room for poetic interpretation. This data also considers the overlap between scientific fields and vocabulary (see full table in Appendix).

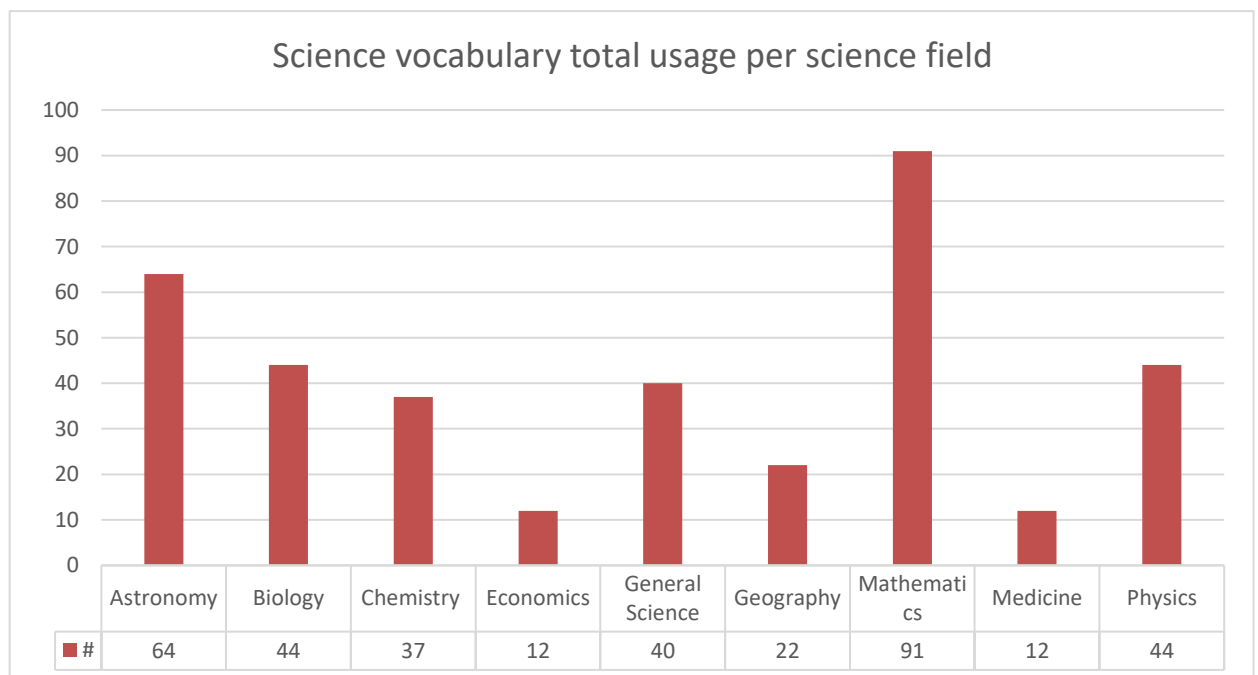


Figure 6.2 Scientific vocabulary total usage by Dickinson per science field.

The analysis of Dickinson’s poetry allows us to separate all words into categories by science, some words are not fully related to one science or another, they are grouped into General Science category, despite being scientific the words that were put into this category are used more broadly and overlap with most if not all scientific fields. Furthermore, the received data allowed us to split the words into two groups.

The first group contains words that are used exclusively in their respective scientific field. Such words as “economy”, “constellation”, “axiom”, “circuit” are

words that are locked into the science they originate from, and rarely if at all used beyond their intended purpose. Sentence “The Little Bear constellation is still used by navigators at sea.” word “constellation” retains its meaning as group of terrestrial objects that form a pattern, or a figure. However, word constellation can be used in a sentence like this: “Most patients have a constellation of diseases.” This example allows to use word in a not standard way, however this example is not reflective of the common language employed, so it cannot be used in day to day language. Next example is “The main lexical elements, which the various systems learn, are words and the main ontological elements are concepts, relations and axioms” the word “axiom” here is strictly referring to a statement or principle that is generally accepted to be true, and the word itself does not have different meaning and is not widely used. Words like this will belong to the first group.

The second group consists of words that are used more commonly in the day to day life, however they are also connected to their respected science, such words as “dissolve”, “test”, “degree”, “chart”. These words obtained new usage over time, and are not as closely related to science as the first group.

We were able to identify the grand total of fifty-seven (57) unique words across the Dickinson’s poetry. Undoubtedly the list we have obtained is not complete list of all scientific terminology Emily Dickinson employed, but rather a list of scientific terminology that we consider most trivial, to this research.

“Hard” science words	“Soft” science words”
Latitude, economy, experiment, circumference, hypothesis, pendulum, Physiognomy, constellation, meteor, axiom, resonance, observation, inquest, stimulus, sphere, hemisphere, atmosphere, circuit, gravity, horizon, horizontal, eclipse, atom, nerve, anodyne, apparatus, Arcturus, axis, carbonates, cell, quartz, equilibrium, algebra, Mercury, Jupiter, galaxy, telescope, astronomy, astronomer, infinite, adhesion, mechanically, brain, vein, artery.	Motion, date, record, implement, chart, degree, test, dissolve, medicine, principle, compass, volume, chemist, element, industry, simulate.

Table 6.1 Scientific vocabulary in Emily Dickinson’s poetry.

After underlining words that fit best the parameters we have set in Dickinson’s poetry, we calculated that the total amount of the words is three hundred and twenty-two (354), which means that the total percentage of scientific vocabulary as we defined it is 1.2%.

Scientific Vocabulary	Times used	Scientific Vocabulary	Times used
infinite	42	atmosphere	4
brain	20	gravity	4
degree	18	anodyne	4
date	18	axis	4
circumference	16	artery	4
dissolve	16	apparatus	3
record	14	compass	3
nerve	13	volume	3
motion	12	meteor	2
horizon	11	axiom	2
atom	11	inquest	2
latitude	10	quartz	2
stimulate	8	telescope	2
circuit	7	astronomy	2
eclipse	7	medicine	2
vein	7	hypothesis	1
chart	7	constellation	1
test	7	resonance	1
industry	7	horizontal	1
stimulus	6	Arcturus	1
economy	5	carbonates	1
experiment	5	cell	1
sphere	5	galaxy	1
implement	5	astronomer	1
element	5	adhesion	1
pendulum	4	mechanically	1
Physiognomy	4	principle	1
observation	4	chemist	1
hemisphere	4	Total words used:	338

Table 6.2 Number of times each scientific word used in Dickinson's poetry.

Dickinson is able to employ same scientific words differently despite their limited meaning. Take into example the some of the common words and their usage. For example, word "degree" has multitude of meaning and according to our research we can classify it as "soft" science word. The word degree represents any units of measurement, especially often of temperature or angles, usually marked by the symbol $^{\circ}$ that is written after a number. Word used when we are talking about weather, heating or cooling water during chemical processes, or when making calculation in geometry. Dickinson uses this word and twists original meaning into metaphorical, she asks to "addeth to my degree", then she talks about the "Needle of the North degree", after that she writes "He never misses a degree". In each of these verses, word "degree" is used in a non-standardized way that we usually employ this vocabulary.

"J 315

He fumbles at your Soul
 As Players at the Keys
 Before they drop full Music on
 He stuns you by degrees –

Prepares your brittle Nature
 For the Ethereal Blow
 By fainter Hammers – further heard –
 Then nearer – Then so slow
 Your Breath has time to straighten –
 Your Brain – to bubble Cool–
 Deals – One – imperial– Thunderbolt –
 That scalps your naked Soul–
 When Winds take Forests in their Paws –
 The Universe – is still–”

The term “degree” is commonly used in measurement, temperature, or angle, the use of this word in the poem gives feeling of “precision” or “certainty”. It allows the reader to feel the spiritual event as something that can be imagined, measure, which in the process makes poem more shocking. The line “He stuns you by degrees–” implies that something does not arrive instantly, we can interpret that it comes slowly, incrementally, in phases, drawing unconscious comparison to increasing heat, pressure. This is possible with the use of the word “degree” which gives us ability to metaphorize science into something that cannot be reasonably measured. Despite being a unit of measurement, it transforms into idea of the progressive escalation of events, that are inevitable, precise.

In Dickinson’s poetry “degree” is used 18 times (Figure 6.2), and each usage comes from same scientific definition, but the diverges into completely different meaning, or become an amplifier for another word.

J 1072
 “Title divine – is mine!
 The Wife – without the Sign!
 Acute Degree – conferred on me –
 Empress of Calvary!
 Royal – all but the Crown!
 Betrothed – without the swoon
 God sends us Women –
 When you – hold – Garnet to Garnet –
 Gold – to Gold –
 Born – Bridalled – Shrouded –
 In a Day –
 "My Husband" – women say –
 Stroking the Melody –
 Is this – the way?”

Poem J 1072 takes the “degree” and allows it to find new meaning in “rank” or “status” rather than scientific definition we established initially. However, unlike the last poem, this “degree” that Dickinson uses, allows her to show symbolic elevation, giving marriage and suffering a higher place. The verse

“Acute–Degree – conferred on me–” is integral to the construction of this poem, the use of scientific vocabulary allows reader to tell apart the distinction. If we replace “degree” with similar meaning word from regular vocabulary “Acute–Title – conferred on me” the poem meaning is partially lost, because we lack the scientific precision that the word “degree” can give us and word “title” cannot. In this poem “degree” might be closer to another meaning of academic qualification, but it also serves at the same time to give the measurement of importance to this line, and poem overall.

Going into the next example, we have word “atom”. Atom is “hard” science word employed in physics and chemistry. In our time it is associated with destruction, and creation contained within the smallest particle that exists in the scientific research. The modern meaning of atom is “the smallest unit of any chemical element, consisting of a positive nucleus surrounded by negative electrons, atoms can combine to form molecule”. Now we are going to take a look at poem J 664 that has word “atom” used in it:

J 664

“Of all the Souls that stand create –
 I have elected – One –
 When Sense from Spirit – flies away –
 And Subterfuge – is done –
 When that which is – and that which was –
 Apart – intrinsic – stand –
 And this brief Drama in the flesh –
 Is shifted –like a Sand –
 When Figures show their royal Front –
 And Mists – are carved away,
 Behold the Atom – I preferred –
 To all the lists of Clay!”

Dickinson uses scientific terminology of the smallest unit and connects it to soul. At the same time in the verses she uses available to her stylistic and lexical tools to make soul not only feel small, but at the same time connect it to fundamental meaning of existence that atom is, something primary, that exists but cannot be seen. While writing about “sense from spirit – flies away” and “mists – are carved away” we are left with inner reality, where speaker chooses to embrace not a body, or any social identity, but soul itself compared to atom.

Dickinson forms metaphors that are close to reality thanks to the scientific vocabulary, because science is often associated with “precisions”, “certainty” and “reality”. Each use of scientific vocabulary through her work makes reader understand them more vividly by associating them with reality and concepts that only science can produce. Words that are from such sciences like: mathematics, physics, geography, chemistry, biology, medicine, economy, allow her to “school” her readers through her style and lexis. Several of her poems use astronomical terms and names such as Arcturus, Capricorn, Mercury, Orion, to

compare people, and you can follow through her use of scientific vocabulary from poem to poem, as her preference, mood, and life changes.

But this research has established that Dickinson preferred scientific word was “infinity”. Infinity and all its derivatives are used 42 times across 1775 poems (Table 6.2). It is undoubtedly a powerful not just in scientifically, but metaphorically and semantically as well. She uses it to represent boundless realm of soul and feeling that lies beyond. Sometimes she uses it as a paradox metaphor, something infinite that can only be felt by finite human life. Perfect example to demonstrate this would be J 847, presumably written in 1864, a hard time in Dickinson’s life, due to eye condition, and leaving her homestead.

J 847

“Finite—to fail, but infinite to Venture –
 For the one ship that struts the shore
 Many's the gallant – overwhelmed Creature
 Nodding in Navies nevermore –”

Her idea of “Finite infinity” is only possible through her semantics and style, through her poems Dickinson is trying to say that the solitude of space and death is fleeting and does not last forever, and that true “infinity” lies in a world that has no room for escape from solitude, because there is nobody to escape to.

Infinity in Dickinson’s poetry used to talk about emotion that is too large to be contained like in the verse “A Jealousy for Her arose / So nearly infinite–“, or in another poem “Were it to be the last / How infinite would be/ What we did not suspect was marked– / Our final interview” same meaning of something large to be grasped. In poem 1249 same pattern of style can be observed, lines “Her infinite disdain / But vanquished her with my defeat / 'Twas Victory was slain.” Suggest the contempt that is unable to be reduced or suppressed, because of the overwhelming feelings. “Infinity” used by Dickinson is rather direct compared to more deeply metaphorical scientific vocabulary she can use, despite that these poems are still deep, complex, and semantically rich. The opposite word to “infinite” for Dickinson is “finite” it follows similar style when she uses her in her poetry. Great example of this is poem 1474 with lines “For Beauty is Infinity– / And power to be finite ceased” uses both words. “Infinity” again represents same unmeasurable concept, but “finitude” does not simply mean something that can end. It suggests a deeper semantical meaning, something that is lost “infinitely”. Different poem has line “Finite—to fail, but infinite to Venture-” where it contrasts human limitation with boundless desire for humans to take risks, suggesting that the success is overshadowed by the effort.

While this research is focused on scientific vocabulary, there is a specific term in her poetry that we cannot avoid. Physiognomy is word that meets the definition of “pseudoscience” and regarded as such by academics because of the unsupported claims. It was discredited by the mid-20th century so the usage of this term in Dickinson can be fascinating to study.

J 1138

“A spider sewed at night
 Without a light
 Upon an arc of white.
 If ruff it was of dame
 Or shroud of gnome,
 Himself, himself inform.
 Of immortality
 His strategy
 Was physiognomy.”

This is a classic Dickinson poem that employs personification. Spider is personified, and his nocturnal sewing is an unusual metaphor for creation in obscurity. This imaging leans into more uncanny side, and the word “Physiognomy” suggest observation and ambiguity. Despite it suggesting that outward form reveals the inner truth, the paradox is created, since the spider does not contain any distinguished signs that can be read by this term. The conclusion behind usage of this word could be the theme of subjectivity, or even making fun of the pseudoscience. However even with analysis it is impossible to tell the true purpose of the word usage.

Another word commonly employed in Emily Dickinson’s poetry is “circumference”. While the term represents perimeter of a circle or ellipse, it is the arc length of the circle, the Emily Dickinson Lexicon lists thirteen definitions for the term “circumference” in her poetry. According to our analysis it is used in 17 poems throughout her corpus, and these definitions could suit the poems, they are not definitive. Taking a look at some of the poems with this scientific term in mind we can analyse the use of this word using semantics. In the poem “I saw no Way– The Heavens were stitched–” the scientific term “circumference” enoves the feeling of standing at extreme edge, it frames into the view of the reader the “limit of the universe”. The use of scientific term here produces a vivid precise image of the boundary, we can read it, measure it. It produces the classic stylistic contrast between mystical tome of the poem, and empirical. The next poem is “Pain–expands the Time–”, here “circumference” recurs as something that confines or contains. Specifically constricting the “brain” which semantically can represent the mind, or consciousness. Here it functions as a metaphor for contained life, something that defines perception. Using a scientific measurement term, compresses the poem, and makes inner thoughts feel contained. In the poem “The Poets light but Lamps–” same scientific term becomes cultural transmission into metric process. Using this scientific term here connects another one “lens” allowing Dickinson to make reader feel the broad poetic influence that “circumference” projects through “lense”.

Very distinct part of Dickinson Scientific vocabulary is the usage of terms such as “Atmosphere” and “Hemisphere”.

J 378

“I saw no Way – The Heavens were stitched –

I felt the Columns close—
 The Earth reversed her Hemispheres—
 I touched the Universe—
 And back it slid – and I alone –
 A Speck upon a Ball—
 Went out upon Circumference—
 Beyond the Dip of Bell—”

“Hemisphere” is a half of a sphere, it is commonly referred to halves of earth. When Emily Dickinson says “The Earth reversed her Hemispheres—” she imagines that the whole world is being flipped inside out. It conveys a shift in a normal reality, thanks to scientific word the perception that this poem gives is turned upside down. It also can mean that internal emotions are in turmoil to the point of intense, mental confusion. The poem goes from architectural “columns” to astronomical “universe” and to mathematical “circumference”, slowly widening the semantical impact of the poem step by step.

Thanks to the application of this analysis, we have the ability to discover that the effectiveness of using scientific vocabulary in achieving enriching context, meaning and vocabulary, because of their transparency of usage and simple compressed form of scientific term used in the comparator function. The reader successfully forms his opinion about something abstract thanks to the comparison to the well-known objects or subjects and their core functions or descriptions. At the same time using the scientific term for comparison Dickinson is able to express her own attitude to the compared object or subject, it helps author evoke certain emotional reactions in the reader and his imagination. Scientific terms employed as comparatives to something else allows to create certain stylistic effect that goes through the whole poem, rather than one line. The use of objects or subjects that are not native to the overall theme of the poem adds a layer of complexity without overcomplicating the poetry. It presents her poetry as being intellectual, deep and very modern regardless of how far the science have progressed. This can be further confirmed by increasing interest in Dickinson’s poems and how they are considered interesting subject for linguistical, semantical, stylistic, grammatical, and other types of research. The emphasis she creates on scientific terminology is consistent through each poem that employs that scientific word, it serves not as obstruction, but rather clarification of what author is trying to say, by helping attribute our knowledge of science to her feelings that she experienced when writing the poem. That methodology enriches the text with expressiveness not observed in the poetry of her time, not even in the modern poetry. Despite there being authors that employ scientific vocabulary in their poetry, the methodology and stylistic choices they employ are different to what Dickinson’s poetry provides. Based on this research we can state that there is no real connection between compared scientific word and the object or subject that Dickinson is comparing it, therefore the connecting comes exclusively from reader’s, or researcher’s own mind. Author’s creativity is the

key to selecting of the scientific terms of comparison and determining the attributes that can be turned into metaphor or simile, therefore the initial creation of the comparison is solely linked to the author's personal depiction of it.

Another scientific term we have discovered through corpus analysis was "compass". The word can refer to a device for finding direction with a needle that always points to magnetic north, it can also mean "to encompass" which means to circle, or to measure. Both meanings are scientific and carry the ideas of orientation, precision and control that takes root in science. In the line of Dickinson's poem "Joy to have perished every step— To Compass Paradise—" the word transforms from measuring distance, now meaning path of suffering, suggesting that every step leads to paradise. While "compass" in our minds mean exact location of the magnetic north, Dickinson pairs it with pain, and experiences that are anything but precise. She amplifies the route to paradise by adding "compass" to it. It is metaphor not for distance, but for the cost of suffering. There can be found semantics in control coming from scientific compass and in surrender coming from spiritual suffering from losing "Joy every step". However, despite that it suggests that "Paradise" can be reached, also thanks to scientific vocabulary, however the paradox is created because she implies that the path to it is not navigation but existence.

Nonstandard composition of her poetry shows specific structure of her poetry that is rather unique for her style. Semantic deviations occur in her poetry because the words or phrases used do not have the literal meaning that is usually expected to be found in poetry. Let's take poem's J 632 first line and analyse it. "The Brain – is wider than the Sky—" undeniably "brain" is most scientific part of human body, that still is mystery to the world, however "brain" in the poem can be interpreted not as a literal human organ, but to overall intelligence of humans to perceive the world. The semantic deviation appears clearly when the widely accepted meaning of brain is changed and now represents intellectual ability of humans. Connecting with word "sky" which stops being literal sky and intertwined into "brain" as a symbol of unlimited possibilities and space for thought, learning and understanding. Continuing with the scientific word "brain" in the same poem there is line "The brain is deeper than the sea —" here Dickinson makes it deeper than the sea. The sea itself is a symbol of mystery, and vast unexplored potential. This deviation connects the too and symbolises complexity and deepness of human thought which is as vast as the sea itself.

Dickinson uses her scientific vocabulary to enrich the metaphors and establish deeper meaning to the scientific vocabulary used. Transforming "brain" from organ to "mind" or to "thoughts", or making "atom" connected to the "soul" or "spirit" by comparing the similarities between the scientific term for "unseen" and abstract concept of "unseen". Despite not being used in all poems, when she uses scientific vocabulary it is always not to just mention the scientific term or process but to connect a link between science and poetry.

“Not so the infinite Relations – Below
 Division is Adhesion's forfeit – On High
 Affliction but a Speculation – And Woe
 A Fallacy, a Figment, We knew–”

In the poem J 104 (see the full text in the Appendix), we can read about “adhesion” which in usual words means binding something, perhaps with glue or something similar. This poem takes concept of binding, unity and attachment and contrasts it with division, and implying a loss. This poem also contrasts below with high, below specifically shows a word full of fragmentation, suffering and affliction, while high suggests world where none of these things exist. By using “adhesion” she amplifies this contrast, by using scientific term of connecting, she implies unity instead of separation. She implies that division in human life is just a lower and limited perspective, while attachment “high” and truth.

J 1219

“Alien, though adjoining
 As a Foreign Race–
 Traversed she though pausing
 Latitudeless Place.”

Poem J 1219 (see the full text in the Appendix), has a unusual example, where instead of word “latitude”, Emily Dickinson employs something new neologism “latitudeless”. This poem to is very likely a heartbreak poem, and this second stanza is confusing. We are once again not looking for literal meaning of the word, this poem is about someone watching their lover become stranger, and recognizing your own futility in trying to change anything. We can take another word from the poem “alien” and connect it to “foreign” they refer to someone who is losing their love, or becoming stranger to them, or unrecognizable, so to the speaker the love between them is lost. The word “latitudeless” is the toughest one to explain, it can bear different meanings. It can have meaning, feeling lost on what to do or where to go, lacking latitude. Or it can refer to lover’s mental state, being lost in your own head rather than thinking “where to go”. Perhaps the space of mind is more appropriate for Dickinson’s style of poetry, but since the word was coined by her it is impossible to understand the true definition of the word she created. Perhaps it was for geographical location, or perhaps it was for printing where it refers to print tolerance. The use of artistic metaphor in the artist’s style using lexicon, involves models of semantic transformations that have to be followed by expressive stylistic or emotional layering. The lexeme, in our case scientific one, is put into a context that is dramatically different thematically from its literal meaning. As a consequence of this the new context author receives semantic application thanks to the overlay that we get from using the different lexeme semantics, also taking in mind the initial creative intention of the author who selected the initial analogy.

This allows expressiveness to flow throughout the text regardless, being amplified by its style, creating an impact on a reader. Metaphor is an instrument

of an author that allows people to use their own knowledge, feelings, social standing, to understand abstract things.

“Forever – is composed of Nows–
 'Tis not a different time–
 Except for Infiniteness–
 And Latitude of Home–
 From this – experienced Here–
 Remove the Dates – to These–
 Let Months dissolve in further Months–
 And Years – exhale in Years–
 Without Debate – or Pause–
 Or Celebrated Days–
 No different Our Years would be
 From Anno Domini's–”

Dickinson uses term “dissolve”, which is a chemical terminology for the process of something be absorbed by the liquid, especially if mixed, also this verb has meaning in the politics, meaning to end organization, or legal arrangement. We use this word in the modern speech when talking about dissolving medicine, or cooking something. Dickinson Employs “dissolve” when she talks about “Month”, which is not how we employ this word in our speech, nor it was employed like this in 19th century. The understanding of scientific word allows us to reach a different semantic field. As a result of this we can now imagine the months blending together, “dissolving” into one another seamlessly, creating an image of flowing time, unstoppable, mundane, and indifferent. As a result, the reader can see the process more vividly, and try to picture the scientific process as something they saw during science class. Blending literature and science seamlessly, “dissolving” the boundaries between poetry and science. As well as using other scientific terms like “latitude”, “infiniteness” which only amplify the desired effect of the poem.

The usage of the comparisons adds to the expression of the semantic transformation across the whole artistic metaphor. The reader can imagine the months in containers being dissolved away creating the one singular entity, hence creating the feeling of “infinite” indifference. Thanks to our understanding of how dissolution works, the imagery readers can imagine becomes clearer and vivid, more sensible thanks to the science.

From the received results of our research we can summarize that the analysis of the metaphors using the vocabulary of the technical scientific as a base contributes to the overall visual expression of the abstract. The knowledge of scientific terminology, can add to the expression of the abstract themes. The overlay between scientific vocabulary and the implied meaning are interpreted by the reader as something more material that it actually is. The repeated analysis of the same metaphorical concepts may as well lead to different interpretation, that conveys the emotional response that the author intended for the reader to

experience.

She avoids direct explanations, using ambiguity that forces reader to employ semantic analysis. For example, lines like “On Doom's consummate Chart / No Territory new is staked” where “chart” is ambiguous not just a map, it is abstract and not bound by the physical. She also frequently used common words with multiple meanings, that is also true for scientific vocabulary of her, words like “date” or “degree”. We can also attribute to her style the use of semantic compression, where her short lines compress meaning, use of dashes to create semantic gaps, and of course the use of scientific vocabulary to condense meaning. She creates a style where a lot of meaning is implied rather than spelled out to the reader. Dickinson relies not on elaborate writing, but on innovation in her semantics, she uses subtle lexical choices, scientific vocabulary and compression to reshape metaphors and their conceptual understanding, and create interaction between literal dictionary science terms and figurative meanings. She intentionally creates the pragmatic gaps that invite the interpretation. Our research allows us to see that Dickinson’s semantics is very similar to modern cognitive theories of meaning, being a poet from 19th century long before the establishment of most of these theories.

Now in this part of research we are going to carry out comparative analysis of Dickinson’s poetry against another poet that employed scientific vocabulary. In our case we will take a look at Walt Whitman’s “When I Heard the Learn’d Astronomer”. We are going to take a look at three Dickinson’s poems to prove our point. Not only because of shorter style of her poems, but also to show clear pattern in usage of scientific vocabulary. Whitman and Dickinson both engage with scientific vocabulary in their respective poems, but distinctively in their own ways. If we take a look at Whitman poem, he represents his scientific terms as a formal knowledge, the terms themselves do not transform or carry deeper meanings. Like the line “Look’d up in perfect silence at the stars” stars here are quite literally stars, or “When I was shown the charts and diagrams, to add, divide and measure them” the same can be seen, there is little room for metaphorical interpretation. We could interpret that the author becomes sick and tired and leaves the lecture to find solace in the stars. The metaphorical meaning, we extracted from this is that the “boring” charts, diagrams, figures, columns, are nothing in comparison to real stars.

Now going over to Dickinson using same scientific terminology. In the poem J 409 (see the full text in the Appendix), we can see “They dropped like Flakes – They dropped Like Stars – Like petals from a Rose –”, here we can see that stars are not just stars in the sky, but something that suggest beauty and death. The falling stars are both beautiful and are meteors that are in the process of “dying”. Following this further comparison is drawn to petals from a rose with same idea in mind. Eventual shift to a wind that possesses “fingers” introduces layer of personification. Eventual contrast creates layered meaning. Now let’s take look at different poem with word “diagram”. We will take poem J 184 (see

the full text in the Appendix), specifically lines “A Diagram – of Rapture A sixpence at a Show – With Holy Ghost in Cages! The Universe would go!”, here word diagram is key to understanding this poem meaning, because it turns “rapture” into something that can be mapped, ordered and contained. Diagram as scientific term is used to reduce something to lines, shapes, numbers, it gives rapture feeling that it can be captured, almost studied. It suggests control, limitation, which adds irony science rapture is usually imagined as uncontrollable and spiritual. Dickinson’s “diagram” creates paradox, where universe despite being spiritual and uncontrollable can be reduced to something small, and calculable.

Already we can see clear differences between two poets, going further and as a final part of our comparative analysis we will take the word “astronomer” from poem J 851 (see the full text in the Appendix). Dickinson’s “astronomer” unlike the Walt Whitman’s “astronomer” is not just an occupation, it represents someone devoted to searching, observing and pursuing something hidden from the normal world. However, in this poem we can observe the “surrender of pursuit”, it implies exhaustion, or moment where knowledge eludes the seeker for too long. Perhaps rather than discussing the scientific limits of “pursuit” this poem might critique loyalty, not in the act of seeking, but in the act of stopping the search, implying the apathy which might be a real betrayer for her.

Dickinson and Whitman are poets that have their own style and employ similar vocabulary, however they way Dickinson is able to twist scientific terminology is different when compared to Whitman. This is not limited to just scientific vocabulary, this also is a correct statement in regards to her style. Comparison to Whitman poetry is great for analysis because both poets come from the same century, and the analysis successfully proved that even if two authors share similar traits, this does not guarantee that the semantics and style of the poets will be similar, in fact the uniqueness of Dickinson’s poetry even further separates the divide between contemporary poetry and her unique style of poetry.

6.2 Stylistic analysis of Emily Dickinson’s vocabulary

The second part of results of this research is those of stylistic analysis. After we underlined the required categories in the theoretical part of this research, we completed the research of stylistics in aspects that were relevant to our research. Applying the Leech and Short classification of stylistic analysis we are able to demonstrate how the Dickinson’s choices lead to the development of her unique style. The reason for conducting stylistic analysis was to prove that the usage of scientific vocabulary does add to the uniqueness to her style, and to demonstrate in what ways. Scientific vocabulary is a tool itself to connect abstract and concrete, and unorganised and random usage of it will not yield the desired result of combining two concepts. However, with correct utilisation of grammatical and

stylistic Dickinson is able to perform this phenomenon, therefore our stylistic analysis is combined with usage of scientific vocabulary, to better demonstrate how Dickinson accomplishes this integration.

Grammatical group.

General lexis. General vocabulary of Dickinson's poetry can be characterized with intentional simple and complex words. She often uses simple vocabulary along with highly complex specific scientific terminology that helps to provide stylistic contrast. Dickinson's vocabulary is generally complex, colloquial, descriptive. Dickinson always makes use of her vocabulary to create different associations of words instead of using their direct dictionary meaning.

Dickinson distinct style can be characterised with the use of mainly nouns. These nouns vary from spiritual and abstract concepts "Soul", "Spirit", "Life", "Faith" to more concrete nouns from scientific vocabulary like "Brain", "Artery", "Vein", "Atom", "Meteor". The main distinction of the usage of said nouns, is that Dickinson employs them with their concrete meanings not in the main focus, but rather as supporting meaning so reader can draw comparison from concrete to abstract. Earlier in our research we established examples of these phenomenon, word "Atom" representing concept of "Soul", or word "Brain" representing "Mind". Almost all scientific nouns used by Dickinson are concrete and dividable by scientific categories, some may overlap from one scientific field to another, but all nouns refer to objects or phenomenon that related to science in general. It is important to note that when Dickinson gives us a line describing scene the nouns used make the reader strive to comprehend and interpret them. This correlation can be explained with the use of unorthodox vocabulary across some poems, and not repeating the scientific term across the poem. Some exclusions to this rule exist like "Brain of His Brain –" and "Blood of His Blood –" that use the scientific terms as rhymical repetition creating quickening rhythm, and resonance between words.

Dickinson does not use too many scientific verbs, due to the nature of this words being more "soft" science words. The modern world and development in science have drastically changed some verbs from 19th century, and we are unable to directly compare usage of our words to theirs, therefore we are unable to tell with certainty which terms were more related to science and which are not. Her text constantly contains and use idiomatic phrases, specifically related to our research is the use of scientific vocabulary which is rare and specialized type of vocabulary. It is overwhelmingly evaluative and analytical and not purely descriptive. When talking about scientific term, she is not describing the science itself, but rather connecting visual traits of scientific terminology used to draw comparison using human association between concepts of scientific and spiritual. Her style creates scientific deviations such as "imperial affliction" or "Quartz contentment". Dickinson general characteristic is preference for specific suffixes that help her solidify abstracts into more permanent state. Specifically, usage of suffixes like –ness and –less, especially with the use of scientific vocabulary like

“Latitudeless” or “Finiteness”.

Sentence structure and complexity. Dickinson style involves a simple similar structure across all poems. Our research analyses the poems that contain scientific vocabulary. The sentence structure employed by Dickinson benefits from inclusion of scientific vocabulary. To prove this hypothesis, we are going to take a look at one of the poems, that has scientific vocabulary and analyse the structure of it, and how it influences scientific vocabulary.

“The name—of it—is "Autumn"—
The hue — of it — is Blood—
An Artery — upon the Hill—
A Vein — along the Road—”

Simple sentence structure tends to end similarly across all the poems, usually ending with noun. The average sentence length is 5-6 words and the complexity stays similar from one poem to another. The complexity occurs when presented with anticipatory structure, where complex subject, such as scientific vocabulary, is presented before the main part of the sentence. This structure remains consistent through Dickinson’s style with some exceptions of poems that flip this structure backwards. Her sentences usually either start with a Noun or end with a Noun, even better effect of amplifying sentence structure is achieved when used with scientific vocabulary. The use of scientific vocabulary here with such complexity of a poem, allows for layering of meaning in the condensed short line. For Dickinson the idea behind using short sentences in her poetry is to present the reader with context rich lines, that leave the feeling of desiring more words, more meaning, setting them to start analysing the short amount of words that the reader is presented with.

Prepositions. Dickinson’s poetry demonstrates a large number of prepositions, referring to place and direction, however it can be implied like in example “Beside infinity” are not referred to literal place being “next to”, but rather abstract existence. The usage of such prepositions suggests that for Dickinson prepositions are perceived as instruments to enhance the metaphor. Her perception of scientific concepts is closely related to the usage of prepositions, allowing to expand the meaning of concrete scientific terms and introduce abstract meaning to them.

Word classes. As established earlier in research, Dickinson’s style has high amount of content words, Dickinson makes her nouns do the majority of work in her poetry, thanks to her ability to connect them with abstract. Simple yet complex nouns that she uses instead of longer conjunctions, makes her style easy to follow and more accessible. The use of a scientific noun enables her to convey a strong, diverse and layered meaning, while using only one word.

Stylistic group.

Simile and Metaphor. Dickinson’s poetry is known for the usage of similes (Sharon-Zisser, 1994), “The Judge is like the Owl—”, “At length, a Mourner, like Myself.” and “HIS Comrades, shifted like the Flakes”, she uses

them as constructions to express the similitude of concepts and objects. However, the simile employed by Dickinson is not directly to scientific vocabulary, rather to simple concepts like DEATH and LIFE. Metaphor is a more favoured tool of Dickinson, especially when used together with unusual vocabulary employed by Dickinson. Her metaphors can be classified widely, they personify concepts, animise them, and especially concretising them. The latter concept of giving abstract ideas tangible characteristics, or introducing them into reality though concepts is key feature of scientific vocabulary usages. However, due to limitations of simile, Dickinson uses mainly with scientific vocabulary.

Cohesion and Context. Dickinson's poetry Cohesion can be attributed to the use of dashes, and adverbial, and a lot of third-person pronouns, despite that it still relies on implicit connections of meaning. Most lines begin with a scientific term, that represents the concept "With Artery and Vein-", "Brain of His Brain -", "Jupiter! my father!", that then are expanded with the following lines. Dickinson's style avoids repetition, not substituting it, for example with a word that closely represents it "Brain" replaced with "Mind", and refusing to repeat the word again creates this elegant effect of not needing to explain every single line to the reader, further allowing to interpret the concept portrayed differently with each reading. The meaning and connections are not reinforced by repetition of words or phrases, rather but using words from scientific vocabulary to further expand on the cohesion of the poems. The poetry does not address reader directly, she creates the image of the speaker that narrates his story, thoughts through a type of monologue. The usage of first-person pronouns "I", "me", "my", "mine" is overwhelming in her poetry, further connecting them to science vocabulary, specifically "my Brain!" was used 6 times across the poetry. Using direct speech to mention concept, while not explicitly talking to anyone, rather leaving "words in the air" for reader to perceive and interpret. There are no significant changes of style, because the speaker is always one and only, and Dickinson's style remained constant throughout her life.

Negatives. Dickinson is also employing negatives in her poetry. Her use of negatives is particular, lines such as "To effort undivine-", "Of unsuspected Suns-" and "But our unfurnished eyes-" choose to create a new negation, not commonly used in the regular speech, it can be device to further create irony of the concept. Interesting phenomenon is created in poem J 879:

"Each Second is the last
Perhaps, recalls the Man
Just measuring unconsciousness
The Sea and Spar between."

Even in modern word, there is no consensus on what is "consciousness" and if it can be considered a scientific concept. However, Dickinson takes this term and adds negation to it, creating an effect of double negative. "Consciousness" being an unmeasured scientific word, adding negative "un" to it and the word closely related to science "measure". Creating paradoxical irony

of “measuring the unmeasured opposite concept of mind”.

Irony. Irony is a phenomenon which can manifest in a single sentence, or extend through whole poem. Emily Dickinson’s poetry can be characterized by her emphasis on the verbal irony and language of paradox. She extends her poetic style and helps reader explore the paradoxes of human condition. Poems like J 435 explore irony through paradox of bringing term “madness” and associating it with the concept of “divine”.

J 435

Much madness is divinest sense
To a discerning Eye
Much Sense—the starkest Madness –
‘Tis the Majority

Using adjective “divine” and transforming it into superlative form, she is able to connect “madness” to it, by elevating it and to praise it with “divinest”. Making “madness” transform into representation of rejection of society and its norms, Dickinson is able to express disappointment through irony. Combination of opposite is what creates irony here, because term “madness” is not associated with actual “madness” rather than concept of isolation from society. However, the use of irony is not only limited to normal vocabulary. Scientific vocabulary is also used ironically in Dickinson’s poetry.

J 401

“What Soft—Cherubic Creatures—
These Gentlewomen are—
One would as soon assault a Plush—
Or violate a Star—
Such Dimity Convictions—
A Horror so refined
Of freckled Human Nature—
Of Deity – ashamed—
It's such a common—Glory—
A Fisherman's – Degree—
Redemption – Brittle Lady—
Be so – ashamed of Thee—”

Poem J 401 has two scientific words used, “star” and “degree”, the meaning of which this research has already established. However, now we are going to look at ironic usage of both in this poem. The word “star” is used as opposite to “plush” which are both referred to description of a woman’s features. This pairing of opposite words creates paradoxical irony, as usual for Dickinson’s style these terms are explored not as real, but rather conceptual. The divide between these two terms, implies cruel irony where it is implied that people is afraid to confront the “cherubic creatures”. The scientific term “star” creates an upper, impossible level of fear in this irony. Second term “degree” is used less an opposite but rather comparative irony. The paradox of “Fisherman’s Degree” is associated with

“common–Glory–” to draw a comparison. The elevation of the “fisherman” with word “degree” is key to understanding the irony, which could not have been possible with similar words.

Personification. Personification is another characteristic of Dickinson’s poetic style. She employs it to create and express themes that depict her thoughts about concepts in her life. Scientific vocabulary is not avoided when Dickinson uses personification, J 341 (see the full text in the Appendix), has the line “The Nerves sit ceremonious, like Tombs–” which personifies “nerves” as “sitting”, “nerves” as a term that represents part of nervous system, they transmit the electrical signals between brain and spine. Dickinson’ “nerves” are not firing, they are “sitting”, this multi-layered personification also involves preposition “like” adding to the end of the line that they are “like Tombs–”. Stillness of nerves also can be attributed to irony, and the final outcome of the poem is meaning that grief produces not chaos and movement, but stillness and formality. This style is main distinguishing feature of Dickinson’s personification from the classical one. It is structurally coherent, serious and strategical, taking scientific terms and infusing it with sentimentality.

The combination of these tools gives Dickinson’s style an ability to represent human thoughts, concepts, ideas as something physical, that can be interacted in a way science interacts with the subjects. Style of Dickinson allows the text to transcend the traditional lyric expressions of feeling, adding a layer of precise imagery. The desired effect of using scientific vocabulary is that it gives Dickinson ability to materialize spiritual and emotional concepts using physical terminology, blending together two aspects, which in term allows to establish a better analogy and metaphor for the reader is achieved by Dickinson. Using science allows author to examine concepts with “scientific” accuracy. It also grounds more abstract concepts like DEATH, ETERNITY, SOUL, SPIRIT and MIND into something more physical that can be measured, analyses, calculated and researched. She using scientific vocabulary also may yield a new emotional colouring for the text written, as our perception of scientific vocabulary being precise and unemotional, this can be uses to show emotional detachment from psychological pain or happiness. The use of scientific vocabulary allowed Dickinson to challenge absolute truth pairing science classification with human emotions she highlights the limits of both. Ultimately the use of empirical comparison serves to amplify the abstract, by adding realism to it.

CONCLUSIONS AND DISCUSSION

Findings indicate that the poetry of Emily Dickinson remains complex for the 19th century that consists of many layers and elements that all interact with each other that allow her poems to be metaphorical and easy to follow. Her creations are deeply thematical and have room for deep interpretational analysis, academical or otherwise

We established the reasoning for the usage of scientific vocabulary in Dickinson's poem, its effects, and what the usage of the scientific vocabulary provides for the poetry and the reader engaging with it. The findings indicate that Emily Dickinson's style and vocabulary are unique and one of a kind not only in her time, but also in the modern poetry. Despite a vast amount of research being done into Dickinson's biography this research confirms that there is room for more research. The analysis of semantics and vocabulary extracted from Emily Dickinson's corpus makes it possible for us to see the possibility of achieving stronger scientific effect thanks to the technical and scientific knowledge as well as the use of the scientific vocabulary along with semantics and metaphors. We have established that the semantic transformation of scientist vocabulary comes to life thanks to the involvement of the metaphor and semantics. Research also proved that same vocabulary can be used differently thought each poem, enabling the author to imbue the scientific term with metaphorical meaning or metaphorical concept with scientific meaning. The versatility of the scientific vocabulary is proven to exist in the poetical use for the creation of the unique style.

The research gives arguments in favour of the claim that Dickinson's style is unique compared to poets of her time, such as Walt Whitman. Both use similar, the stylistic choices of how to use the scientific vocabulary not only produces different themes, meaning and impact, it also proves that her style is quite modern even to our days.

The material of this research made it possible to see different applications of metaphors through scientific vocabulary. The analysis of the selected poems allowed us to find the best examples of the application of scientific vocabulary. Research results obtained thanks to corpus technology also confirm that the vocabulary used does not have a clear semantic connection to the indicated word, but thanks to semantic transformation it acquires that ability. It also allows the word to have a significant change of expression according to author's original intention. Semantic transformation also aimed at revealing the author's original opinions and feeling towards object or subject that was referred.

The application of these methodology also allows to transport the context from distant thematically term to the new context undergoes meaningful change, due to imposition of semantics of this new word, word from scientific vocabulary in our case, with the accordance of author's creative intention who selected the appropriate analogies. We have proved that the usage of scientific vocabulary in unconventionally written poetry can deliver a significantly deeper meaning compared to contemporary poetry.

Interpretational analysis helped interpret verbal aspects and concepts aspects of the poetry, and stylistic analysis helped to understand the use of scientific vocabulary, and to explain them with metaphors and simile. Corpus analysis was used to find patterns, phrases and grammatical uses. Contextual analysis helped us to outline semantics and style of the author

Stylistic analysis of Dickinson's style of poetry proved why specifically the usage of scientific vocabulary in her poetry is so different, it proves that development of unique style is integral to the development of more unconventional poetry. The simple act of usage of scientific vocabulary is not enough to create a complex and deep meaning that Dickinson is able to achieve, it is integral to establish pattern of usage of nouns, verbs and prepositions, then to establish a sentence complexity to further down increase the impact of metaphors and establish cohesion and context.

The limits of this research are the lack of concrete understanding of the reasoning behind Emily Dickinson choices. We can only infer the meaning behind her style, semantics, and vocabulary. Using analysis, we can make assumption using data, and linguistic tools to imply the reasoning behind the extensive usage and connection between metaphorical and scientific. Since Emily Dickinson did not have an autobiography, we are unable to determine her exact thoughts or reasonings behind the creation and usage of her style. As well as lost context of the time when the poems were written. Since most of the poems were not published during her life we are unable to determine the events during which certain some poems were written, once again we can only infer and suggest by looking at the history accounts and events. Another limitation of this research is the focus on semantics, style of vocabulary, so the bigger employment of linguistic studies can help with the deeper analysis of the corpus.

The perspective for further research is deeper analysis of Dickinson's other vocabularies, since while being a major part of her life and education, science takes merely less than two percentages of her total word count. Other researches may try to analyse other sets of vocabulary or her full vocabulary as a whole introducing same semantical and stylistically elements of analysis employed in our research. Another perspective for this research would be comparison of these results with other corpora of different authors, that will allow analyse the deeper meanings of Dickinson's poetry when analyses against more poets of both 19th century and 21st century.

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8. APPENDIX

Scientific Vocabulary	Count (×1)	Science Field
eclipse	1	Astronomy
meteor	1	Astronomy
astronomy	1	Astronomy
constellation	1	Astronomy
Arcturus	1	Astronomy
galaxy	1	Astronomy
astronomer	1	Astronomy
date	1	Astronomy / Chronology
horizon	1	Astronomy / Geography
telescope	1	Astronomy / Optics
vein	1	Biology
artery	1	Biology
cell	1	Biology
brain	1	Biology
nerve	1	Biology
dissolve	1	Chemistry
element	1	Chemistry
chemist	1	Chemistry
carbonates	1	Chemistry
economy	1	Economics
industry	1	Economics
record	1	General Science
test	1	General Science
experiment	1	General Science
observation	1	General Science
principle	1	General Science
implement	1	General Science
apparatus	1	General Science
hypothesis	1	General Science
latitude	1	Geography / Astronomy
hemisphere	1	Geography / Astronomy
quartz	1	Chemistry
infinite	1	Mathematics
degree	1	Mathematics
axis	1	Mathematics / Astronomy
horizontal	1	Mathematics / Geography
circumference	1	Mathematics
sphere	1	Mathematics
axiom	1	Mathematics
volume	1	Mathematics / Physics
medicine	1	Medicine
Physiognomy	1	Medicine / Biology
inquest	1	Medicine
anodyne	1	Medicine
chart	1	Navigation / Geography
compass	1	Navigation / Geography
atmosphere	1	Physics
motion	1	Physics
pendulum	1	Physics
gravity	1	Physics
resonance	1	Physics
atom	1	Physics / Chemistry
adhesion	1	Physics / Chemistry
circuit	1	Physics / Electricity
mechanically	1	Physics / Engineering
stimulate	1	Physiology / Biology
stimulus	1	Physiology / Psychology
TOTAL UNIQUE WORDS	57	

Scientific Vocabulary	Times Used	Science Field		
			Astronomy	64
vein	7	Biology	Biology	44
artery	4	Biology	Chemistry	37
eclipse	7	Astronomy	Economics	12
meteor	2	Astronomy	General Science	40
astronomy	2	Astronomy	Geography	22
constellation	1	Astronomy	Mathematics	91
Arcturus	1	Astronomy	Medicine	12
galaxy	1	Astronomy	Physics	44
astronomer	1	Astronomy		
date	18	Astronomy / Chronology		
horizon	11	Astronomy / Geography		
telescope	2	Astronomy / Optics		
cell	1	Biology		
dissolve	16	Chemistry		
element	5	Chemistry		
chemist	1	Chemistry		
carbonates	1	Chemistry		
economy	5	Economics		
industry	7	Economics		
record	14	General Science		
test	7	General Science		
experiment	5	General Science		
observation	4	General Science		
principle	1	General Science		
apparatus	3	General Science		
hypothesis	1	General Science		
latitude	10	Geography / Astronomy		
hemisphere	4	Geography / Astronomy		
quartz	2	Chemistry		
infinite	42	Mathematics		
degree	18	Mathematics		
axis	4	Mathematics / Astronomy		
horizontal	1	Mathematics / Geography		
circumference	16	Mathematics		
sphere	5	Mathematics		
axiom	2	Mathematics		
volume	3	Mathematics / Physics		
medicine	2	Medicine		
Physiognomy	4	Medicine / Biology		
inquest	2	Medicine		
anodyne	4	Medicine		
atmosphere	4	Physics		
chart	7	Navigation / Geography		
compass	3	Navigation / Geography		
brain	20	Biology		
nerve	13	Biology		
motion	12	Physics		
pendulum	4	Physics		
gravity	4	Physics		
resonance	1	Physics		
atom	11	Physics / Chemistry		
adhesion	1	Physics / Chemistry		
circuit	7	Physics / Electricity		
mechanically	1	Physics / Engineering		
stimulate	8	Physiology / Biology		
stimulus	6	Physiology / Psychology		
implement	5	General Science		
TOTAL	354			

214

*I taste a liquor never brewed –
 From Tankards scooped in Pearl –
 Not all the Vats upon the Rhine
 Yield such an Alcohol!
 Inebriate of Air – am I –
 And Debauchee of Dew –
 Reeling - thro endless summer days –
 From inns of Molten Blue –
 When "Landlords" turn the drunken Bee
 Out of the Foxglove's door–
 When Butterflies – renounce their "drams" –
 I shall but drink the more!
 Till Seraphs swing their snowy Hats–
 And Saints – to widows run–
 To see the little Tippler
 Leaning against the – Sun –*

1336

*Nature assigns the Sun–
 That – is Astronomy–
 Nature cannot enact a Friend–
 That – is Astrology.
 Upon a Lilac Sea
 To toss incessantly
 His Plush Alarm
 Who fleeing from the Spring
 The Spring avenging fling
 To Dooms of Balm–*

851

*When the Astronomer stops seeking
 For his Pleiad's Face–
 When the lone British Lady
 Forsakes the Arctic Race
 When to his Covenant Needle
 The Sallor doubting turns –
 It will be amply early
 To ask what treason means.*

591

*To interrupt His Yellow Plan
 The Sun does not allow
 Caprices of the Atmosphere–
 And even when the Snow
 Heaves Balls of Specks, like Vicious Boy*

*Directly in His Eye–
 Does not so much as tum His Head
 Busy with Majesty–
 'Tis His to stimulate the Earth–
 And magnetize the Sea–
 And bind Astronomy, in place,
 Yet Any passing by
 Would deem Ourselves – the busier
 As the Minutest Bee
 That rides - emIts a Thunder-
 A Bomb – to justify–*

409

*They dropped like Flakes–
 They dropped like Stars–
 Like Petals from a Rose–
 When suddenly across the June
 A wind with fingers – goes–
 They perished in the Seamless Grass–
 No eye could find the place–
 But God can summon every face
 On his Repealless – List.*

104

*Not so the infinite Relations – Below
 Division is Adhesion's forfeit – On High
 AfHiction but a Speculation – And Woe
 A Fallacy, a Figment, We knew–*

184

*A transport one cannot contain
 May yet a transport be –
 Though God forbid it lift the lid –
 Unto lts Ecstasy!
 A Diagram – of Rapture!
 A sixpence at a Show–
 With Holy Ghosts in Cages!
 The Universe would go!*

1219

*Now I knew I lost her–
 Not that she was gone–
 But Remoteness travelled
 On her Face and Tongue.
 Alien, though adjoining
 As a Foreign Race–
 Traversed she though pausing*

Latitudeless Place.
Elements Unaltered–
Universe the same
But Love's transmigration–
Somehow this had come–
Henceforth to remember
Nature took the Day
I had paid so much for–
His is Penury
Not who toils for Freedom
Or for Family
But the Restitution
Of Idolatry.

1463

A Route of Evanescence
With a revolving Wheel–
A Resonance of Emerald –
A Rush of Cochineal–
And every Blossom on the Bush
Adjusts Its tumbled Head–
The mail from Tunis, probably,
An easy Morning's Ride–

313

I should have been too glad, I see –
Too lifted – for the scant degree
Of Life's penurious Round–
My little Circuit would have shamed
This new Circumference – have blamed –
The homelier time behind.
I should have been too saved – I see –
Too rescued – Fear too dim to me
That I could spell the Prayer
I knew so perfect – yesterday –
That Scalding One – Sabachthani –
Recited fluent – here–
Earth would have been too much – I see –
And Heaven – not enough for me –
I should have had the Joy
Without the Fear – to justify –
The Palm – without the Calvary –
So Savior – Crucify

813

This quiet Dust was Gentlemen and Ladies

*And Lads and Girls–
 Was laughter and ability and Sighing
 And Frocks and Curls.
 This Passh'e Place a Summer's nuble mansion
 Where Bloom and Bees
 Exists an Onental Circuit
 Then cease, like these–
 783*

*The Birds begun at Four o'clock–
 Their penod for Dawn–
 A Music numerous as space–
 But neighboring as Noon–
 I could not count their Force–
 Their Voices did expend
 As Brook by Brook bestows itself
 To multiply the Pond.
 Their Witnesses were not–
 Except occasional man –
 In homely industry arrayed–
 To overtake the Morn–
 Nor was it for applause–
 That I could ascertain–
 But independent Ecstasy
 Of Deity and Men–
 By Six, the Flood had done–
 No Tumult there had been
 Of Dressing, or Departure –
 And yet the Band was gone –
 The Sun engrossed the East –
 The Day controlled the World–
 The Mlracle that introduced
 Forgotten, as fulfilled.
 478*

*had no time to Hate–
 Because
 The Grave would hinder Me–
 And Life was not so
 Ample I
 Could finish – Enmity–
 Nor had I time to Love–
 But since
 Some Industry must be–
 The little Toil of Love–*

*I thought
Be large enough for Me—
J 341*

*After great pain, a formal feeling comes —
The Nerves sit ceremonious, like Tombs —
The stiff Heart questions 'was it He, that bore,'
And 'Yesterday, or Centuries before'?
The Feet, mechanical, go round —
A Wooden way
Of Ground, or Air, or Ought —
Regardless grown,
A Quartz contentment, like a stone —
This is the Hour of Lead —
Remembered, if outlived,
As Freezing persons, recollect the Snow —
First — Chill — then Stupor — then the letting go —*

When I Heard the Learn'd Astronomer by Walt Whitman

*When I heard the learn'd astronomer,
When the proofs, the figures, were ranged in columns before me,
When I was shown the charts and diagrams, to add, divide, and measure
them,
When I sitting heard the astronomer where he lectured with much
applause in the lecture-room,
How soon unaccountable I became tired and sick,
Till rising and gliding out I wander'd off by myself,
In the mystical moist night-air, and from time to time,
Look'd up in perfect silence at the stars.*