

### **Similarities and differences in how the identity of *Lobelia cardinalis* is constructed**

Various disciplines choose to define *identity* differently. There are, however, some overlapping characteristics in the idea of identity across various areas of study. The English dictionary says it is the fact of being who or what a person or thing is (Merriam Webster, 1999). The dictionary does not consider the idea of identity in the context of nonhuman species, but rather in terms of humans and their social identities. Mathematics defines identity as an equality relation between two vectors of information – usually numbers, but they can also be functions or logical propositions – the contents of which, when combined, produce the same respective value. Mathematics goes even further than the dictionary in its lack of consideration for nonhuman species, as it does not refer to any species at all in the definition. Finally, a third perspective is plant identification, the process of matching a specimen plant to a species name known to possess the physical or genetic characteristics exhibited by the specimen plant. More broadly, identifying something is matching a description to a term, or, in other words, knowing its definition. Most applied scientists agree that knowing the identity of a specimen, or the definition of a term, is crucial to the process of understanding said specimen or phenomenon.

At the opposite end of the spectrum we have disciplines, the truth of which is rooted less in empirically demonstrated claims, and more in the observable reality. Similar disciplines rely less on taking reality and framing it into a model, and more on accepting that sometimes, the charm of a moment is not necessarily ascribed to it by being able to use words that describe every single second of it. Poetry is an example of one such discipline. Instead of drawing the edges of a shape and adding color *inside* the shape, careful not to overstep the edges, most poetry might fill the “object” with color first, without necessarily defining the object, and only then

might it add boundaries to show where the object ends and where it begins. This is, of course, not an all-encompassing and definitive description of poetry; there are multiple literary currents, literary periods, and various authors, all of which have unique features to describe the work created by them, and not all of which ascribe to the idea of poetry-making outlined above.

It is also important to note that poetry does not always have portray an objective, matter-of-fact, description of an object, as it is not a textbook. Deviation from matter-of-fact descriptions does not make the claims and ideas described in a poem factually untrue, but rather it creates an additional layer to the meaning of said work. Poetry, similarly to plant identification, but somewhat less rigorously, might offer *characteristics* of the described entity and might allow the reader the space to piece these characteristics together and form an image or idea guided by the reader's own previous experiences. Thus the "bias" and deviation from objectivity does not stem from the author; it can, however, possibly stem from the reader's past experiences.

To put the idea above in a less abstract context: the identities of species described in poems are not always explicitly stated. This is because the goal of a poem is not always to communicate facts. A poem might certainly use facts in its structure, but it does not exclusively rely on them to create its meaning. Instead, most poems seek to evoke feelings and more complex emotional responses, as opposed to bringing the reader only the intellectual satisfaction of having learned a new fact. To further contextualize these ideas, Emily Dickinson's "It Bloomed and Dropt, A Single Noon" poem offers a comprehensive enough description that the reader can picture similar landscapes to what Dickinson experienced, but it does not explicitly state the name of the species she observed. Nor does it explicitly state the location of the observed specimen. Therefore, any further inferences about this poem will be of speculative nature and the subject of the poem will be referred to as the "specimen," instead of as an

identified species, since there is not enough evidence to make a definitive conclusion. Educated guesses, most certainly, are plausible.

The concept of “identity” loses its rigidity once it is used in a discipline not entirely reliant on empirically proving claims with a certain threshold as the margin of error. The reader’s impetus for knowing the exact name of the species described by Dickinson as “distinct and Red,” with capital “r” to highlight its redness as a defining characteristic, may be driven by curiosity. It may be driven by the reader’s desire to reconstruct Dickinson’s experience and interact with a species that connects year 2019 with year 1850. There is a multitude of reasons which may drive the reader to want to know the exact identity of this plant. At the same time, not knowing the taxonomic name of the species described by Emily Dickinson does not change the poem’s meaning, nor does it alter the reader’s experience of the poem, as it is not for plant identification purposes that most readers seek out this poem.

Most of the remainder of this work will be heavily based on assumptions. As given by the nature of assumption, it is entirely possible these claims and further inferences made from these claims are plain wrong. We will call this the “p-value of the premise.” That is, the probability that the claim this work is using as a premise will turn out to be factually untrue. At the same time, since Emily Dickinson is not currently present to confirm or reject this claim, the assumption remains somewhat “both alive and dead,” similar to Schrödinger's cat thought experiment. Therefore, we can assume it is true, as there is no counterargument to lead to a contrary belief. The assumption is of course not entirely based on guesswork, as the poem does offer clues regarding the aesthetic and phylogenetic characteristics of this plant, and these characteristics can be matched to existing species common in the area where Emily Dickinson

may have walked and encountered the plant she describes in “It Bloomed and Dropt, A Single Noon”.

Emily Dickinson lets the reader know from the first line of the poem that it describes an ephemeral flower, as it only blooms for a “Single Noon.” She ensures to capitalize the word “single,” to further instill this idea. This essay is not a line-by-line analysis of the poem, but it so happens that the second line gives additional insight into the identity of the plant. The reader learns the flowering part of the specimen is “distinct,” which is a somewhat subjective descriptor that can be attributed to all flowering parts of a plant. The same line, however, offers insight into the color of this flower – “Red,” with a capital “r.” Knowing the color of the flowering parts of this plant significantly limits the potential identities of the plant and thus makes the reader arguably more educated in any of his guesses. Having these hints, let us assume the plant Emily Dickinson describes is *Lobelia cardinalis*. Now let us see how the identity of this plant is created by Dickinson’s poem, and how it is created by other sources.

A book to synthesize both individual plant characteristics, as well as the plants’ interactions with the natural environment and the organisms around them, the “Flora of the Chicago Region: A Floristic and Ecological Synthesis” highlights the color of the *Lobelia cardinalis* corolla as “bright-red,” together with other species-defining characteristics. The book conveys the same information about the flower’s color as Dickinson does, but it does so in a different manner. This brings back the concept of identity and how it can be created through words, but also how its aspects can differ when described by two sources with different intended meanings. Now the ardent question is: are the ways in which identity is created through words *entirely* different if, in the end, the reader learns the same information about the specimen? A closer look at both sources is needed.

Wilhelm and Rericha, the authors and curators of “Flora of the Chicago Region” describe the species as “uncommon,” as does Dickinson. The words used by each to convey this idea are different, due to differences in the intended meanings of both works. Emily Dickinson describes the mysterious plant, which she does not ascribe an identity to, as having bloomed a “Single Noon.” Dickinson capitalizes each of these two words to highlight the flower’s ephemerality. From a reader perspective, Wilhelm and Rericha strive to be informative and factual. This leads to an almost academic objectivity, wherein facts are laid in front of the reader and then the reader must decide what to do with this information. That is, if one is searching for the characteristics of *Lobelia cardinalis* in the plant anthology, one must almost certainly already have a goal in mind of what to do with the information: be it to use it in a paper, to identify a specimen in the wild or in a laboratory setting, or perhaps to study for a Botany exam. At the same time, due to the nature of most poetry writing, Emily Dickinson’s work leaves ample room for interpretation.

When thinking about these differences in how the same information is communicated through almost diametrically opposed means, it is also important to realize the time difference of these two works – one dates from the nineteenth century, while the other one, the plant anthology, is as recent as 2017. Finally, not only does Emily Dickinson’s work leave room for *interpretation*, but similarly to most other works of poetry, it also leaves room for *feeling*. While the information laid in the poem is still factually true, its objectivity becomes less rigid, and as a result, the work allows the reader more space for constructing their own conclusions and deciding how to feel about this plant which happened to bloom once, and then disappeared.

There are more differences between both works and approaches taken when writing in different styles, which will not be discussed due to space limitations. The importance of these

differences is that, while they shape the identity of the plant, they also shape the identity of the genre each piece of writing belongs to. To conclude, most differences stem, at the most rudimentary level, from the authors' choices of words, and these differences further spill over into creating more complex meanings and generating the plant's identity.

A common theme in both works, however, is *magic*. Magic, part of the identity of the plant, is created in different ways, but it is made present by both sets of authors. First, Emily Dickinson creates it by contrasting the plant with the world around it and highlighting how it is so entirely different. She ensures to mention that it is not the surrounding space which changes, as she lets the reader know she passes through "The Same Locality," and notices how the sun is still "in place," as well as how no other changes have occurred. Dickinson creates this magic around the specimen by describing it primarily using the plant's absence. Lastly, to highlight the plant's importance, Emily Dickinson mentions that the specimen is, in fact, the Nature's Face which "Passed infinite" by her. The reader infers this plant is special, partly due to its aesthetic characteristics, and also due to its short-lived existence in bloom, which then leads to its absence – its most defining characteristic in the poem.

Wilhelm and Rericha describe the "magic" of this plant in exactly the opposite manner – not only does their anthology focus on the specimen itself and its presence, but they also focus on as many particularities as the plant allows for. While they study the plant's surroundings, they also focus on what happens *inside* the plant. The feature of the "magic" described by the two scientists is in the fact that they describe a phenomenon which is real. The description is so detailed and at such a small scale, that the elements of this phenomenon seem surreal to the reader, but that is just perspective and interpretation. To better illustrate my claim, the quote below is an excerpt that describes *Lobelia* as a genus.

“[...] In the male flowering phase, the clandestine style elongates and pushes pollen through a tube consisting of five connate anthers. From the action of the elongating style, pollen exudes from an orifice at the apex of the staminal column. Two of the lowest anthers are white-bearded, which beard assists in tripping the anthers when a nectar-foraging insect or hummingbird visits a corolla. Consequently, the animal gets dorsally dusted with pollen. In the female flowering phase, nectar continues to flow, and the fauna still visit. Resembling an open clamshell, the receptive stigma scrapes against pollen deposited upon a potential pollinator from earlier visits to male-phase corollas.”

The reader gets exposed to a world which would otherwise not be accessible, and it is perhaps this exact exposure which makes the description so “magical.”

Finally, identity can be approached through a variety of means across disciplines. No hierarchy needs to be established across disciplines in terms of who defines identity “better,” as each discipline has its own contribution to the richness of the concept. This work is an example of establishing the identity of *Lobelia cardinalis* through Emily Dickinson’s poetry and through the synthesis of floristic and ecological concepts as seen in Wilhelm and Rericha’s anthology.

Works cited

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