



**DEPARTMENT OF PHILOSOPHY,  
LINGUISTICS AND THEORY OF  
SCIENCE**

**SENSORY ECOLOGY:  
Hearing *viriditas* in the writings of  
Hildegard of Bingen**

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Essay/Degree Project:	Degree Project 2, 15 credits
Program	Ancient and Medieval Philosophy and Philology
Course:	AMP090
Level:	Second cycle
Term/year:	VT2023
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Examiner:	Jenny Pelletier



# ABSTRACT

**Title:** SENSE ECOLOGY: Hearing *viriditas* in the writings of Hildegard of Bingen

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## **Abstract:**

Human intrusion into the environment have resulted in heightened levels of anthropogenic noise, which studies have shown, have lasting effects on plant diversity. Embodied hearing experiences that are presented by historical accounts, can broaden the reach of inquiries that arise within the research of noise and its effects, and serve as a corrective measure to the limited biophysical perspectives we have today. This study explores Hildegard of Bingen's (1098-1179) sensory ecology, audial awareness, and *viriditas*. What are the insights that can be derived from Hildegard's viewpoint regarding her posits on listening, sound-noise, and the non-human world? This study analyses the correlation between Hildegard's auditory conjectures on humans and plant hearing, situating it within the broader framework of sensory ecology. Analysis of *Scivias*, *Causa et Curae*, and Hildegard's *Epistolarum*, was carried out with the aim of identifying excerpts that showcase her innate understanding of anthropogenic noise pollution and hearing. Subsequently, a textual analysis methodology was employed to examine the chosen excerpts. According to the analysis conducted, Hildegard's work demonstrates that humans are subject for inner discernment. Listening reveals "other worlds." Her causative experiences of God, humans, and non-humans imply that hearing provides knowledge of environmental events beyond auditory stimuli.

**Keywords:** Sensory ecology, hearing, vegetal power, *viriditas*, Hildegard of Bingen, perception, anthropogenic noise, noise pollution.



# ACKNOWLEDGEMENT

*You have two ears and one mouth. Listen more than you talk.*

-Zeno of Citium, as quoted by Diogenes Laërtius

This thesis took its form by contemplation in the Swedish forrest, when spending days and weeks at a time, residing beneath wind shields, and procuring fallen timber to use for both warming and cooking. In solitude, I engaged myself in the act of observing: Sensing the stimuli from the sun, rain, hail, wind, temperature fluctuations and sound, in the absence of urban noise pollution. When I was young, my mother used to take me out in the forrest, and showing me all the beauty that lived there. She used to say to me: “Whatever happens, I want you to know that you have nature to fall back on”, and she would say, “go to the flowers, because they will show you the way”. And so, when noise was taking over in my everyday life, I went back to the place that would show me the way, from which this essay transpired from.

I wish to convey my gratitude to the individuals who have provided invaluable support throughout the course of this project. The level of love and encouragement received has been invaluable. While not all are explicitly mentioned, I am sincerely appreciative of everyone’s contributions, and I will always hold them in my heart. I would like to give a special recognition to my mother Jeanette Schäring, who’s knowledge and encouragements have been the inspiration for this thesis.

Much love!

Kungälv, June 2023



Jessica Persson Schäring

# TABLE OF CONTENT

1. INTRODUCTION .....	1
2. BACKGROUND .....	5
2.1 RESEARCH OBJECTIVES .....	5
2.2 RESEARCH METHODOLOGY AND CHALLENGES .....	6
2.3 THEORETICAL FRAMEWORK.....	7
2.3.1 <i>Sensory Ecology</i> .....	7
2.3.2 <i>Sound</i> .....	9
2.3.3 <i>Synaesthesia</i> .....	10
2.3.4 <i>Vegetal Power</i> .....	11
3. ANALYSIS .....	13
3.1 SENSORY ECOLOGY .....	14
3.1.1. <i>Into the writings of Hildegard of Bingen</i> .....	15
3.1.2. <i>Sense Perception</i> .....	17
3.1.3. <i>Humans</i> .....	19
3.1.4. <i>The Vegetal power</i> .....	22
3.1.5. <i>Sensory organs</i> .....	24
3.2. CONTEMPLATION .....	26
3.3 SOUND.....	27
3.3.1. <i>Anthropogenic Processes</i> .....	30
3.3.2. <i>Synesthesia</i> .....	33
3.3.3 <i>Aesthetics</i> .....	34
4. CONCLUSION .....	37
5. REFERENCES .....	40
5.1 APPENDIX .....	44

# 1. INTRODUCTION

As the world has become more and more urbanised, the intrusion of human energy-generation into the environment have resulted in heightened levels of anthropogenic noise. The impact of noise on animals and plants has become a growing area of interest for researcher and scientist,<sup>1</sup> yet it is unclear to what extent the issue of noise pollution has gained traction in political discussions. Nevertheless, studies have shown that anthropogenic noise can have significant consequences on animals, such as heightened stress levels and impaired abilities; for instance, problems to locate mates or evade predators.<sup>2</sup> Furthermore, researchers have discovered that human noise pollution has lasting effects on plant diversity.<sup>3</sup> Where did we go wrong? How did we get here?

The current anthropogenic culture, that places emphasis on post-factual information, tends to marginalise traditional values that necessitate substantial investment of time, such as contemplation, and commitment. Presently, there exists a proclivity to seek out knowledge without achieving a more comprehensive understanding. Within the reality of our current digital era, we tend to solely engage in the act of observing and documenting data without attaining a more authentic comprehension and relation to the world around us. The development of the life-form entails the emergence of information that is initially absent and ephemeral in character. Whilst passive participation within communities may encourage continuous communication, it tends to solely lead to the accumulation of a significant amount of data, with inadequate preservation of associated recollections. Where is the space for contemplation?

The physical environment's interpersonal and emotional environment, which emerges from social interactions and connections with significant

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<sup>1</sup> For example, see Halfwer & Jerem (2021).

<sup>2</sup> Harding, Gordon, Eastcott, Simpson & Radford (2019), p. 1501.

<sup>3</sup> Phillips & Termondt (2021), pp. 1-9.

objects, replaced by fleeting gestures on the electronic display's that we use, suggest temporary and disconnected encounters. Social media has emerged as a significant platform for self-expression, where humans are susceptible to becoming disoriented amidst the multitude of divergent stimuli. How do we admit the subjective reality of other living things in such context?

Learning is a constant moving of ideas, re-assessing opinions and discovering new perspectives, and so to effectively address the issue of noise pollution (and the disconnection from the world around us), it is imperative that we gain a comprehensive understanding of its impact on a wide array of diverse ecosystems, by taking an intra-disciplinary approach to address the problem. We need to connect the issue from different angles, for a better sense of the matter.

The arts and humanities play an integral role here and can assist in expanding our understanding and appreciation of the complex interactions between consciousness, and imaginative thinking; all that which can shape our subjective experiences, such as sensory awareness. Embodied experiences that are presented by historical accounts, can serve as a corrective measure to the limited biophysical perspectives we have today. Such experiences can broaden the reach of inquiries that arise within the research of noise and its effects and introduce novel curative options.

Despite passage of time, works of medieval thinkers offer insightful commentary on the human conditions in relation to noise and sound. It has long been known that medieval music theory placed tones and intervals in a philosophical understanding of the cosmos's melody.<sup>4</sup> The tradition of Pythagorean theory and Christian Platonism together provided medieval audiences with an understanding of all human music as reacting universal harmonies,<sup>5</sup> and numerous scholars posited that the human body, while

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<sup>4</sup> Butler & Nooter (2019), p. 4.

<sup>5</sup> Hicks (2014), p. 8.



situated on earth, function as a locus of auditory experience, and that during this process, the physical form undergoes a notable transformation, ultimately emerging as a remarkably dynamic and energetic embodiment of musical expression.<sup>6</sup>

The High Middle Ages Benedictine abbess, and mystic Hildegard of Bingen (1098–1179), rendered a deliberate effort to shed light on the realm of sound. Famous for her prolific writing in Latin, Hildegard is recognized as a polymath; a revolutionary woman who authored theological, botanical and medicinal treatises, in addition to composing letters, beautiful hymns, and antiphons for liturgical purposes. Furthermore, she constructed a language known as *Lingua Ignota*, and is appreciated for her idiosyncratic concept on greenness [*viriditas*]. She also composed poetic works while overseeing the production of miniature illuminations in the manuscript for her publication, *Scivias* (“Know the Ways of the Lord”), wherein she expresses the illuminations of her hearing God’s voice in a form of synaesthesia and stresses the importance of “sharp ears of inner discernment” [*acutas aures interoris intellectus*]<sup>7</sup>, that is: “an attentive listening”.<sup>8</sup>

The legacy of Hildegard boasts the largest surviving repertoire of chants among all composers from the Middle Ages,<sup>9</sup> and in contrast to the scholarly men in the vicinity of Hildegard, her proficiency in the field of medicine, her distinction on the vegetal power of *viriditas*, her synaesthesia; a whole-body experience of knowledge; provides a unique frame of mind on sound, senses, and the vegetal, leaving her perspectives indispensable to the comprehension of sensory perception scaling and

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<sup>6</sup> For examples on harmony in twelfth-Century Cosmology, see Holsinger, (2001), pp. 87-136, on The Musical Somatics of Hildegard of Bingen.

<sup>7</sup> The notion on “*acutas aures interoris intellectus*” is put forth this in twelve entries, all in the third book of *Scivias*. See Hildegard CCCM, 43, (1978). pp. 347; 370; 388; 407; 431; 461; 476; 514; 544; 573; 613; 636.

<sup>8</sup> See Schäring Persson (2023), and Marder, Green Mass -The Ecological Theology of St. Hildegard of Bingen (2021), p. 58.

<sup>9</sup> Henderson (2003), p. 15.

auditory experiences in the High Middle Ages. Her sensory ecology is the subject for this thesis, which ponders upon anthropogenic noise, plants, and curative measures, in the works of Hildegard of Bingen.

## 2. BACKGROUND

This chapter offers an examination of the objectives, challenges, theoretical framework, and methodology utilized in this thesis. The chapter is organized into three distinct sections, by the following manner:

- *2.1. Research Objectives.* In this section objectives is delineated and the aim is explained.
- *2.2. Research methodology and challenges.* This section provides a comprehensive elaboration of the methodology and challenges for this essay.
- *2.3. Theoretical framework.* This section, consisting of three sub-sections, presents the theoretical framework for this analysis, by which discourses will serve as the contextualizing background for this thesis.

### 2.1 RESEARCH OBJECTIVES

Analyses of the correlation between sensory perception, the divine entity, and the surrounding environment in the literary work *Scivias*, as well as Hildegard's conception on the micro-macrocosm, have been researched, however, her understanding and viewpoint on auditory sensations has not been sufficiently established. The aim of this thesis is to acquire a deeper comprehension of Hildegard's sensory ecology and audial awareness, within the context of her concept of *viriditas*. What are the potential insights that can be derived from Hildegard's viewpoint regarding her posits on listening, sound-noise, and the non-human world? Based on this aim, the essay proposes two research questions. Firstly: What is Hildegard's position on sense perception, in particular the psychophysical scaling of hearing? Secondly, can the ability to hear be classified as a vegetal power?

The inquiries posed aim to facilitate an expanded insight of the world around us, and the intricacies of sound and noise, its agency for humans, as well as for the non-human-world. The objective is two-fold. The first is interpretive; it looks at Hildegard's notion on sensory perception, and in particular that of listening and sound, as well as her conception on the more-than-human world. The second objective is philosophical and entails situating Hildegard's position on "listening" within a broader tradition of sensory ecology.

## **2.2 RESEARCH METHODOLOGY AND CHALLENGES**

This study is based on qualitative methodological research. Textual analysis, including content analysis, theme analysis, and a discourse analysis, are used to emphasise and contextualise Hildegard's work, which is an approach that enables new perspectives. The vast body of literature authored by Hildegard is impossible to cover in this thesis, why this research will be focusing on *Scivias*; one of her most recognised philosophical publications. *Causa et Curae*, and some of her letter of correspondence with authorities from her *Epistolarium* are read as secondary literature. Moreover, Barbara Newman's translation of *Scivias*, and selected translations of Hildegard's *Cause et Curae* by Margret Berger is consulted, parallel with the work of other resourceful academics and philosophers.

Hildegard's Latin is arguably unpolished, non-scholastic, and the influences are not well established. It is with humble regard to the above-mentioned challenges, that I will endeavour to analyse Hildegard's written works, utilising my novice Latin skills, with the aim of fulfilling the stated objectives of this thesis. As a result, this essay is anticipated to exhibit at times a complex and intricate writing style, focusing on broadness, depth and beauty, over simplicity. The objective is not to alienate the reader. On the contrary, it aims to integrate the reader and provide an elaborate reading encounter. Efforts have been undertaken, to guide the reader

through Hildegard’s biography and body of work, employing a structure in the thesis that highlights important positions, resulting in a progressively expanding understanding and experience. By the end of this thesis, hopefully the reader has acquired new questions, and an aspiration to attune to a listening to the world around us.

## **2.3 THEORETICAL FRAMEWORK**

This section establishes the foreground on which Hildegard’s work is contextualized in this thesis and is organized under four subsections. These four discourses bring together important key factors for how we humans recognize the subjective reality of other living beings. Each concept highlights the perception of “hearing”, and illuminate thoughts on “the other”, “self-awareness”, and their interdependence. In context, the four discourses will be presented in following order:

- In section 2.3.1 *Sensory Ecology* is conferred upon.
- In section 2.3.2. *Sound* is presented within a historical context.
- In section 2.3.3. *Synaesthesia* is explained in a general way.
- In section, 2.3.4. *Vegetal Power* is presented as a notion expanding into the world of awareness.

Although this thesis is mainly philosophical and philological in nature, the framework also asserts relevance, and can facilitate further intra-disciplinary approach on the progressing matter of anthropogenic noise.

### **2.3.1 SENSORY ECOLOGY**

Sensory ecology is an emerging area of study that focuses on gaining an understanding on the behavioural patterns of species, i.e., the mechanisms by which organisms acquire, interpret, and react to stimuli from their surroundings. The field is inherently interdisciplinary. Scholars from

various disciplines, including philosophy, medicine, physical science, biology, physiology, psychology, and related fields, conduct research on sensory activities, establishing that there exist varying degrees of similarity in the perception and filtering of environmental information among different species.<sup>10</sup> Organisms are recognised as to be encountering discrete perceptual realities, commonly known as the notion of “umwelt” or “other worlds”, due to the impact of their sensory filters.<sup>11</sup> The notion of “other worlds” suggests different perspectives on that what is to be obvious.

Physicists and chemists have significantly contributed to comprehending of the characteristics of stimulus energies on senses, such as acoustic, photic, thermal, mechanical, and chemical.<sup>12</sup> This phenomenon has resulted in fundamental assessments of human sensory function. The human sensory system comprises a range of modalities, such as pheromone detection, nociception for pain, electroreception, and magnetoreception, alongside olfaction for smell, gustation for taste, mechanoreception for hearing, and vision for sight.<sup>13</sup> Sensory ecology has been a significant driving force behind the diverse array of sensory systems observed in the natural world.

Sensory ecology comprises a range of interpretations that entail both biological and political connotations. Aldana and Otálora-Luna argues that Sensory Ecology traditionally centres on the utilisation of information by organisms for survival purposes, but not to live and prosper.<sup>14</sup> They argue that the discipline has conventionally given precedence to scrutinising the dynamics of material and energy transfer among

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<sup>10</sup> For example, see Dominoni, Halfwerk & Baird (2020).

<sup>11</sup> The term “umwelt” was originally coined by Jakob von Uexküll in 1926. See Schroer (2021) for more on the concept “umwelt’s” and the potentials of an anthropology beyond the human.

<sup>12</sup> For the nature of these established Nature of Physical stimuli, see Uttal (1973), pp. 26–75.

<sup>13</sup> Frings (2008).

<sup>14</sup> Aldana & Otálora-Luna (2017), p.2.

ecological systems. With these interactions, there occurs a reciprocal transfer of matter, energy, and sensory data, in order to efficiently and promptly react to the various opportunities and threats present in the environment, making it imperative for every species to possess a sensory system that is specifically adapted to its ecological position.<sup>15</sup> However, by re-defining (not denying) the “neo-Darwinian” notion, on Aldana and Otálora-Luna’s account, noteworthy questions regarding the use of sensory capacities by living beings arises: How do organisms employ their sensory faculties to experience and endure the various aspects of life? Furthermore, is there a sense for beauty? To adequately respond to this inquiry, it is crucial to stress the importance of the objective, as well as the affective, and the non-logical; the time-independent significance; and to include the question about the aesthetic influence of biological structures and their symbolic depiction. The objective transcends simplistic symbolism and foster creativity, while promoting co-responsibility.

### **2.3.2 SOUND**

According to Yrjönsuuri and Silva’s historical analysis of sensory perception, a significant number of philosophers throughout history have regarded sense perception as a subordinate form of knowledge.<sup>16</sup> In context: we can only sense our knowledge, but it seems yet to be subjective, as it is through our senses, we experience our world and establish “facts”. In the essence of sensing, or hearing sound, Yrjönsuuri and Silva put forth that the Platonic definition of sound posits sound as the that which is produced by the impact of air on the ears, brain, and blood, and then transmitted to the soul. Consequently, on Plato’s account, sound is not solely external to the perceiving subject or object, but also involves the body of the object being perceived; the production of sounds is a result

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<sup>15</sup> Aldana & Otálora-Luna (2017), p.5.

<sup>16</sup> Yrjönsuuri & Silva (2014).

of the interaction between the percussion and the object it comes into contact with.<sup>17</sup>

The prominent Christian Church Father Augustine, reflected on the fleeting nature of sound as a metaphor for the impermanence of human life. According to Augustine, the origin of the rhythms in the soul can be attributed to corporeal rhythms. The act of hearing cannot be construed as the corporeal manifestation of the soul's production, rather, it is the result of the soul's operation, generating "something out of the body." Consequently, the soul governs the physical vessel in a manner that enhances our perception of the external environment. This is because, as it is argued, Augustine believes that the soul is superior to the body, and the body is the entity that is impacted by these rhythms, rather than the soul itself.<sup>18</sup>

### **2.3.3 SYNAESTHESIA**

Synaesthesia can be understood as a "blending" of the senses. The phenomenon of synaesthesia is characterized by the occurrence of involuntary experiences in a second sensory or cognitive pathway, resulting from the stimulation of another sensory or cognitive pathway. All recorded cases of synaesthesia are based on a fundamental set of observations: that a small proportion of individuals encounter extraordinary perceptions of colours, flavours, shapes, and other sensory stimuli, which are triggered by ordinary activities such as reading, listening to music, and consuming food. Individuals with synaesthesia possess a heightened conscious awareness of their sensory experiences in their daily lives. The synaesthetic experiences provide an additional element to the typical sensory-specific perceptions, without replacing them. An example of synaesthesia involves the perception of colours in

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<sup>17</sup> Yrjönsuuri & Silva (2014), p.20.

<sup>18</sup> Silva (2014), p. 86.



response to auditory stimuli, which occurs simultaneously with the typical auditory perceptions experienced by individuals without synesthesia.<sup>19</sup>

### 2.3.4 VEGETAL POWER

Demonstrating the existence of the vegetal life presents a significant obstacle from a rigorous standpoint, as it relies on the analysis of the fundamental observation that specific living entities display organized matter with identifiable characteristics. In the comprehensive work: *Vegetative Powers – The Roots of Life in Ancient, Medieval and Early Modern Natural Philosophy*, Guido Giglioni accounts for the ways in which early philosophers and physicians conceptualized the elusive notion of vegetative perception. Giglioni notes that in Plato's *Timaeus*, plants are recognized possessing particular perceptions, and that emphasis is placed on a set of interconnected concepts that have contributed to the formation of the concept of vegetal perception. Plato's viewpoint posits that the innate capacity of plants perceives and possess inclinations of natural sensation and desire. However, these operations do not constitute actual cognitive functions, but rather are functions that are based on the cognition of an intelligence that exists beyond the realm of plants. More precisely: while plants possess individuated vegetative functions, the intelligence of their other functions is merely derivative and stems from the intelligence that governs the order of the universe.<sup>20</sup>

The ethnobotanist and mystic Terence McKenna said: "Plants live in a dimension characterized by solid state, the fixed and the enduring. If there is movement in the consciousness of plants, then it must be the movement of spirit and attention in the domain of vegetal imagination".<sup>21</sup> He argues that Hildegard's awareness of the green side of mind, i.e., *viriditas*, can open us up to new paradigm capable of offering "a path out of the cultural

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<sup>19</sup> Baron-Cohen & Harrison (1997), p. 295

<sup>20</sup> Giglioni (2021), pp. 340.

<sup>21</sup> McKenna, *The Archiac Revival* (1991), p. 220.

quicksand”.<sup>22</sup> Michael Marder’s conceptualization on *viriditas* transcends and presents a juxtaposition to the conventional perception of plants as inscrutable entities. Marder argues that the conventional comprehension of the term “the vegetal”, treats the vegetative as being lifeless or displaying a state of inactivity. His theoretical construct of “vegetal power” and the “vegetative soul” stands in contrast to ingrained dogmas. He contends that such perspective fails to account for the extensive ecological system, and he suggests that plants may be considered deficient, as they exceed our understanding.<sup>23</sup>

Whence, in the pre-text of this thesis, the concept of “vegetal power” pertains to the motion and mechanisms that plants utilize to grow, reproduce, and adapt to the environment—all functions that are integral biological processes, expressed in the notions of photosynthesis, respiration, and transpiration—essential for the continued existence and growth of plant organisms.

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<sup>22</sup> McKenna, *Plan, plant, planet* (1989), p.8.

<sup>23</sup> Marder, *Saint Hildegard’s Vegetal Psycho-Physio-Theology* (2018), p. 2.

### 3. ANALYSIS

This chapter presents the analysis for this thesis, which is a continuation of previous research.<sup>24</sup> The study explores the interplay of Hildegards different concepts of hearing within the frame of sensory ecology, and the supposition on vegetal power in relation to her notions on *viriditas*, while in parallel addressing contentions on anthropogenic noise. The audit will be divided into three sections, with several sub-sections for easier reading.

In section 3.1 the discipline of sensory philosophy is delineated upon under the heading *Sensory Ecology*. This section serves as an introduction to its sub-sequent parts:

- 3.1.1. *Into the Writings of Hildegard*, gives an explanatory background on Hildegard's life and the writings that are the primary sources for this thesis.
- In 3.1.2. *Sense Perception* is delineated upon.
- In 3.1.3., an analysis on Hildegard's account on *Humans* is given.
- In 3.1.4. Notions on *Vegetal Power* is addressed.
- In 3.1.5. *Sensory organs* are discussed, such as our presumptions on ears, and the reciprocal forces of such.

Section 3.2. is dedicated to *Contemplation*, which is a pause for thoughts, before dwelling into the last part of the analysis.

Section 3.3., is the final part, and addresses *Sound*. Related topics to sound are discussed in the following order:

- 3.2.1. Anthropogenic processes.
- 3.2.2. Synaesthesia.
- 3.2.3. Aesthetics.

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<sup>24</sup> See Master Thesis, AMP 070, Persson Schäring (2023), on Ecological Theology: *The sense of hearing in the writings of Hildegard of Bingen*.

The focal point of this chapter is to elucidate Hildegard's views on auditory sensory perception; which plausibly serves as the foundation for her ecological perspective; and reason upon whether or not the ability to hear can be classified as a vegetal power on Hildegard's precept. The questions raised, are intended to open up for a better understanding of the complexities of sound, and its powers mediated by, not just as instruments, but also as notations in liturgical manuscripts, and other outer settings, signifying Hildegard's relevance for contemporary debates regarding the emerging anthropogenic culture and noise pollution. The accentuated translations, in the following analysis, are used to highlight Hildegard's position on the subject of matter, but also to illuminate her aesthetic in language.

### **3.1 SENSORY ECOLOGY**

The examination of the origins of sensory and emotional experiences involves an inquiry into the way in which varied mental frameworks are shaped by social and cultural factors, and how they intersect with distinct historical periods. The field investigates the emotions of happiness and fear, as well as the sensory experiences of smell and sound, and seek to determine whether these phenomena can be effectively delineated upon by discrete linguistic expressions, or if they exhibit cross-cultural variation. The aforementioned topics are the subject of concern and problematisation in the academic discourse, which include affect theory, the dichotomy between discourse and experience, intersensoriality, multi-sensory processing, embodiment, distributed cognition, epigenetics, human-animal relations, and affective neuroscience, and it is contended that the discourse is propelling one of the most rapidly expanding interdisciplinary domains.<sup>25</sup>

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<sup>25</sup> For more on the Histories of Emotions and the Senses see Boddice, Nagy & Smith (2023).

Many scholars recognise Hildegard for her visions as the infusion of several senses, and furthermore, that on Hildegard's teaching, emotions are linked to the health of the body.<sup>26</sup>

### **3.1.1. INTO THE WRITINGS OF HILDEGARD OF BINGEN**

Hildegard was born 1098, on the Rheinland-Pfalz, a place in Germany known to have been ideal for supporting and promoting her education.<sup>27</sup> She was the tenth child in family of noble lineage, and when she was eight years old, she was offered as a companion to the six-year older noble girl Jutta of Sponheim, when she committed herself to serve the Church. On All Saints' Day in 1112, at the age of thirteen years old, Hildegard's vows were received by Bishop Otto of Bamsberg. After almost twenty-five years, under the teachings of Jutta, Hildegard succeeded Jutta as Mother Superior in 1136, taking over the Disibodenberg convent; modifying her succeder's ascetic standards at the convent.<sup>28</sup>

Hildegard asserted that she, from her formative years, experienced a continuous sense of God's presence, and that God communicated to her through illuminating visions. In 1141, these visions increased, leading her to conclude that they were a divine command, to record and share her experiences. In her capacity as prioress at the Disibodenberg nunnery, she sought the counsel of Bernard of Clairvaux for validation; who had outlawed the infamous Peter Abelard and his teachings that same year and called for the first crusade a few years later; to Hildegard Clairvaux replied: "We rejoice with you in the grace of God that is in you. And as for us, we exhort and beseech thee to regard it as grace and to respond to it with all the loving power of humility and devotion."<sup>29</sup> Thus, the richness

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<sup>26</sup> Boyce-Tillman (2000), p. 24. For more on Hildegard's medical knowledge, and how it is on par with today's research on epigenetics, see Melino & Mormone (2022).

<sup>27</sup> Tsakiropoulou-Summers (2002), p.135; Myers & Pettersson (2000), p. 25

<sup>28</sup> Jaeger (2023), p. 14.

<sup>29</sup> Jaeger (2023), p. 16.

of ideas and the fullness of what was seen by Hildegard, found their form in language. Hildegard would come to spend a decade with the monk Volmar; who was serving as a priest, scribe, and confessor at the time; collecting and documenting her dreams and visions into the contemplation *Scivias*, before finalizing it in 1151.

The Latin source of this thesis is the Corpus *Christianorum Continuatio Mediaevalis XLII A Hildegardis Scivias*, edited by Fürkötter in collaboration with Carlevaris,<sup>30</sup> from which extract will be presented in various context. Furthermore, extracts from the Corpus *Christianorum Continuatio Mediaevalis XCI B Hildegardis Epistolarum*, will be extrapolated upon. Paulus Kaiser's edition of *Hildegardis Causae et Curae* are also explicated on.

The central idea of *Scivias; Scito vias Domini*; is a knowledge of God's will, as the title suggests. The manuscript can be thought of as a system-building ecological theory that seeks harmony within the theological framing of the genesis.<sup>31</sup> In her letters of correspondence with the monk Wibert von Gembloux in 1175, Hildegard expounds upon her vision for the title at great length. She contests that her vision was to be named *Scivias*, as it was revealed to her by means of the Living Light, and not through any form of human instruction. The *corpus* of *Scivias* includes an extensive appendix that encompasses a wide range of terms. It is noteworthy that hearing is only briefly mentioned in a few lines, while the corpus contains a total of forty-eight references to ears (*auris, -es*).<sup>32</sup>

*Causae et Curae* (1151-1158) is the second book of two written works (the other being *Physica*) in which Hildegard specifically collected her knowledge of the natural world and therapeutic methods, both being a cosmological text and a medical handbook. The primary intent of these works, which was compiled in *Liber subtilitatum diversarum naturarum*

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<sup>30</sup> Hildegardis (1978).

<sup>31</sup> Newman (1990), p.22–23.

<sup>32</sup> See appendix.

*creaturarum*, or “The Book of the Secrets of the Various Natures of Creatures,” was according to modern historians, to serve as a comprehensive natural history text. With over three hundred sections, *Causae et Curae* explores the causes of diseases, their corresponding therapeutic approaches, and the subtleties of human anatomy and psychology. An overview of the physical features of the human body, including the differences between males and females, as well as their corresponding medical disorders, is given in these texts. Additionally explained is the temperament hypothesis, which divides people into four main character types.<sup>33</sup>

Hildegard’s scientific theory offers a unique synthesis of Greek and Latin traditions, coupled with Christian ideology, as applied to folk medicine. The foundation of such conceptualisation involves a synthesis of diverse patterns that centre around the numerical value of four, popular numerology in the Middle Ages, as it symbolised things such as the elements, the seasons, and so forth. Many old medical works published in Latin that been forgotten in Central Europe, and were inaccessible at the time of Hildegard, due to the Church’s seeming disinterest. One of the few sources that were accessible to competent medical professionals was the manuscript that Hildegard wrote.<sup>34</sup>

### **3.1.2. SENSE PERCEPTION**

There is a long history of the belief that our perceptions, in whole or in part, deceive us about objective reality. The classic assertion made by Democritus was that human perceptions on heat, cold, sweet, bitter, and color are mere conventions, rather than facts, and what travels from the source to the ear is something bodily, a puff of air or a stream of atoms.<sup>35</sup>

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<sup>33</sup> Glaze (1998), p. 131.

<sup>34</sup> Palmer (2011), p.164–165.

<sup>35</sup> Barker (2019), p. 94.

Plato compared human perceptions and ideas to the fluttering shadows, that are the invisible reality that casts on a cave's wall. Since then, philosophers have argued over how perception and reality relate to one another.

As for Hildegard's notion on sense perception, in 1175, she writes in a letter to Gembloux about in what sense she received her illuminations of God; Gembloux was the monk who would subsequently come to serve as Hildegard's last secretary up until her passing in 1177:

*And since I see this in such a way, I therefore also see it according to the change of the clouds and other creatures. But I do not hear these things with my bodily ears, nor with the thoughts of my heart, nor do I perceive them by any comparison of my five senses, but only in my soul, with open eyes, so that I never suffer the ecstasy thrown into them; but I watch that day and night carefully.*<sup>36</sup>

Hildegard's notions posit doors to perception on the archaic technique to "ecstasy" that does not cause harm. She does not see with corporeal eyes and hear with outer ears. She puts forth a notion on how she seamlessly integrates into her surroundings, in a world around that is constantly communicating to her, revealing its secrets and "mysteries" in subtle ways. It is a connection to the all-encompassing nature that brings a deep sense of peace and fulfilment. It is a remembrance of our existence in the grand scheme of things. Hildegard's perception is depended upon the elements of creation.

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<sup>36</sup> *Et quoniam hec tali modo uideo, idcirco etiam secundum uicissitudinem nubium et aliarum creaturarum ea conspicio. Ista autem nec corporeis auribus audio nec cogitationibus cordis mei, nec ulla collatione sensuum meorum quinque percipio, sed tantum in anima mea, apertis exterioribus oculis, ita ut numquam in eis defectum extasis patiar; sed uigilanter die ac nocte illa uideo.* Hildegardis CIIR, (2001), p. 261.



### 3.1.3. HUMANS

For Hildegard, humans are subject to senses because they lead them to work, function and act, and in chapter four, of the first book of *Scivias*, Hildegard gives an explanatory explication on the human senses. For her, it is in the senses in which the interior powers of the soul depend on [*opus interiorum uirium animae adhaeret*]. Hildegard's spiritual awareness was grounded in what she called the [*umbra viventis lucis*], the reflection of the Living Light.<sup>37</sup> Senses do not impose work on the soul's interior power, because they are their shadow<sup>38</sup> [*quoniam umbra earum est*].<sup>39</sup> In that sense, human perception, on Hildegard's account, is not a window on objective reality, rather it is an interface that hides objective reality behind a veil of helpful notions. To Gembloux she wrote:

*Man is heavenly and earthly, through good knowledge indeed, the rational soul is heavenly, and through evil he is fragile and dark; and the more he knows himself in good things, the more he loves God.*<sup>40</sup>

On Hildegard's note, rationality is circular. It is like the stars, embracing many things.<sup>41</sup> She argues that man's countenance is dirty and sprinkled with dust, as he looks at it in the mirror, and as he tries to clean and wipe it, even though man; who have sinned and realised that he was involved in a variety of vanities; he moans [*gemat*]<sup>42</sup> because he knows that he is

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<sup>37</sup> Newman, Hildegard of Bingen: Visions and Validation (1985), p. 163-175.

<sup>38</sup> *Umbra* is to be understood as the opposite to substance or reality. *Umbra* is a trace, obscure sign or image, faint appearance, imperfect copy or representation, semblance, pretence.

<sup>39</sup> *Et ille eis subiectus est, quia eum ad opus perducunt, non autem ipse eis opus imponit, quoniam umbra earum est, faciens secundum quod ipsis placuerit.* Hildegardis CCCM, 43; 1, 4.24, (1978), p.82.

<sup>40</sup> *Homo celestis et terrestris est, per bonam quidem scientiam rationalis anime celestis, et per malam fragilis et tenebrosus; et quanto se in bonis cognoscit, tanto amplius Deum diligit.* Hildegardis CIIIR, (2001), p.259.

<sup>41</sup> Baird & Ehrman, *The Letters Hildegard of Bingen II* (1998), p.23

<sup>42</sup> The sound of noise, such as moan and roar, always signify the presence of evil, on Hildegard's pretence. Henderson (2003), p.15.

polluted [*pollutum*] in the good knowledge.<sup>43</sup> Furthermore, human longing is confused by the froth of the serpent, on Hildegard's note. The human is poor and needy, since she lacks an honourable opinion in speculative knowledge, because she does not desire the eternal glory which she tastes through good knowledge, by complaining to God.<sup>44</sup> On Hildegard's deem, individuals exhibit inherent human qualities, and any actions or behaviors are not necessarily deliberate or purposeful.

On such note one could argue that we should never attribute to malice what can be attributed to ineptitude. Everything you and I have going on; we all have going on. At the same time, no one knows what everybody else is going through. The subjective experiences of individuals are not universally known or understood by others, and so it is important to cultivate a heightened sense of self-awareness and be aware of the world around us.

On Hildegard's account, man is known by his face. He sees with his eyes, hears with his ears, and opens his mouth to speak. He feels with his hands and walks with his feet, and therefore there is sense in man. Like precious stones and like a precious treasure sealed in a jar. But as the treasure is seen, and as the treasure is known in it, so also in the sense of the other powers of the soul, senses are understood.<sup>45</sup> On the powers of the soul, Hildegard explains in *Causa et Curare*:

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<sup>43</sup> *Nam si in speculo uultum suum sordidatum et puluere sparsum aspexerit, mundare et tergere illum studet. Ita etiam, si se peccasse et uarietati uanitatum se implicitum esse intellexerit, gemat, quoniam in bona scientia se pollutum scit;* Hildegardis CIIR, (2001), p. 259.

<sup>44</sup> *Humana concupiscentia per spumam serpentis est confusa. Ipsa etiam pauper et egena est, quoniam in speculatiua scientia honorifica opinione caret, eo quod gloriam eterne uite quam per bonam scientiam gustat, a Deo querendo non desiderat.* Hildegardis CIIR, (2001), 259.

<sup>45</sup> *Homo in facie cognoscitur, oculis uidet, auribus audit, os ad loquendum aperit, manibus palpat, pedibus ambulat, et ideo sensus est in homine uelut pretiosi lapides et ut pretiosus thesaurus in uase signatus. Sed ut uas uidetur et ut in eo thesaurus scitur, ita etiam in sensu ceterae uires animae intelleguntur.* Hildegardis, CCCM, 43, 1.4.24, (1978), p. 83.

*The soul is internally fiery, windy and it is moist, and possesses the whole heart of man. The liver makes the heart, the lungs cover it, the stomach is the other interior dwelling that exist with man to receive food. O man, who art broken from the dust of the earth, and ashes from the ashes, cry out the day of the entrance of incorruptible salvation, this brightness shines back on your sight, shows him in the kingdom of bliss who rules the whole world in the full gore of unfailing serenity.*<sup>46</sup>

Hildegard's vision on human nature describes how the various organs of the body are connected to each other and to different emotions and illnesses, all closely connected with the external "winds and air".<sup>47</sup> The soul's power is internally and elemental, and man knows himself in the mirroring of God. For Hildegard, all relate. In *Scivias*, the first book, second vision, in passage twenty-nine, she writes:

*Spirit must be tested by spirit, flesh by flesh, earth by water, fire by cold, action by reflection, good by evil, beauty by deformity, poverty by riches, sweetness by bitterness, health by weakness, long by short, hard by soft, height by depth, light by darkness, life by death, paradise by punishments, the heavenly kingdom by hell, the earthly with the earthly, the heavenly with the heavenly.*<sup>48</sup>

How can our senses be useful, if they don't tell us the truth about objective reality? The disparity between the physical body as it exists in reality and

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<sup>46</sup> *Anima antern ignea, ventosa et humida, est et totum cor hominis possidet. Jecur ver cor facit, pulmo illud tegit, stomachus auterm interius habitaculum in compare hominis est ad suscipiendum cibos. 'O homo, quae fragi lis es de puluere terrae et cinis de cinere, clama et die de introitu incorruptae saluationis, et claritas ipsius uisum tuum reuerberet, ostendit in regno beatitudinis ipsum qui in ful gore indeficientis serenitatis toti orbi terrarum imperans.* Hildegardis (1903), 31.

<sup>47</sup> Boyce-Tillman (2000), p. 24.

<sup>48</sup> *Spiritus per spiritum probandus est, caro per carnem, terra per aquam, ignis per frigus, pugna per repercussionem, bonum per malum, pulchritudo per deforme, paupertas per diuitias, dulcedo per amaritudinem, sanitas per infirmitatem, longum per breue, durum per molle, altitudo per profunditatem, lux per tenebras, uita per mortem, paradisu per poenas, caeleste regnum per gehennam, terrena cum terrenis, caelestia cum caelestibus.* Hildegardis CCCM, 43, I,2.29, (1978), p.33.

the body as it is expected to be creates a surplus of potential energy. This excess energy prompts the development of cognitive processes aimed at incorporating it into the organism's overall functional system. Hildegard's philosophical framework extended the notion of the non-self by integrating the senses and underscoring the significance of the soul. She contended that the soul assumes the responsibility of distinguishing the non-self and identifying any harmful physiological and psychological elements that may impact the body. All though it is the senses of man she is explicating on, that is not to say that she claims that plants do not have senses and posit powers of the soul.

### 3.1.4. THE VEGETAL POWER

Hildegard gives an elaborate explication on her natural philosophy, as to what the power of the world has, in both *Scivias* and *Causa et Curae*. The earth has the strength of a stem, and as she posits, God set up the earth so that it would sprout at the right time and die in the bud at the right time, just like the moon waxes and and wanes. This transformative power is reciprocal and generating [*viriditatem et ariditatem*].<sup>49</sup> *Viriditas* literally translates to “the greenness,” and is expressed in one hundred and forty-eight times, in *Scivias*, as compared to the red, which is mentioned twenty-six times.<sup>50</sup> Hildegard's account on *viriditas*, as transformed by vegetation,

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<sup>49</sup> *De terrarum viribus. Terra autem naturaliter est frigida et ceptem vires habet, ita tamen, quod particulata in aestate frigida est, in hieme calida est, et quod viriditatem et ariditatem in ce habet, de terrarum viribus et quod germina producit et animalia sustinet, et quod omnis portat; sicut et deus in cox diebus operatus est et in septima requievit, cum etiam omnis, quae creaverat, utilitati hominis subiecit. Nam in hieme sol supra terram sterilis est et sub terram calorem suum figit, quatinus terra divorsa germina servare possit, et sic illa per calorem et frigiditatem cuncto germina profert; sed et euntia et currentic animalia sustinet, ne in ipsa demergantur, quia et de calore et de frigiditate indurata est et sic omnia potenter portat. Deus enim sic terram posuit, sic terram posuit, ut congruenti tempore germinaret et congruenti quoque tempore in germine deficeret, quemadmodum etiam luna crescit et decreseit.* Hildegardis (1903), p.30.

<sup>50</sup> See appendix.

causes a number of abrupt changes. *Viriditas* can be understood as a “greening power,” and is the force that brings life and growth to all things, while *ariditas* represents the force of decay and death. In *Scivias*, Hildegard gives the illustration of the Virgin Mary as the “greenest branch” and confers upon her with an elevated degree of potency, particularly in contrast to the flower, which serves as a symbol of the infant that she cradles. Additionally, the life-giving quality of plant life serves to breathe new life into the entire natural world.<sup>51</sup>

The aforementioned forces of the vegetal powers of *viriditas*, serve as that which operate for the betterment of the collective, with the ultimate goal of achieving self-improvement of the entire whole. Since intelligence (rationality) is the root of normativity and teleology on Hildegard’s account, plants must indeed be tied to some sort of intelligence if they are to be both orderly and beneficial. Plants need individual souls to be distinct from one another and have their own organized lives, but the knowledge they need for their unique senses is not similarly individuated; rather, it is the intellect of the world itself. The distinctive partial individuation of plants results from the fact that, unlike animals, their ultimate good is only derived; a plant’s good can only be a good thing if it contributes to the completion of the cosmos.

On Hildegard’s account, the soul has a living voice, and the body is simply its garment.<sup>52</sup> Because vegetal soul inhabits a physical form, and by the tenet of the relation of function and dependence between body and soul, and because every plant is a sign of intelligence by *viriditas* on Hildegard’s account, “sensitivity” becomes the universal cause of life.

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<sup>51</sup> Wright (2015), p. 205.

<sup>52</sup> Marder, Green Mass -The Ecological Theology of St. Hildegard of Bingen (2021).

### 3.1.5. SENSORY ORGANS

Studies on sensory interactions have generally focused on how they affect how various physiological systems behave and operate. This refers to the sensory organs, such as ears by example. The current philosophical focus on non-human animals, and the possible advantages of utilizing a language that revolves around plant life, has been examined in the context of comprehending the non-transcendent factors that facilitate engagements with plants. Numerous inquiries emerge when thinking about such in the context of this thesis objectives: What are the pre-existing beliefs that we hold on to sensory organs? To what degree do sensory organs, such as that of ears, engage with the external world? Is it plausible to classify the mechanism responsible for the recognition of agency, as a sensory organ, regardless of whether we adopt a more permissive interpretation of the term “organ” in this context? Think about the effect on ears, and that of vestibular sensations. Such experiences cannot be consciously controlled since the underlying mechanisms are invisible. There is nothing one can do to enhance their perception of their vestibular surroundings, and there is no easy way to monitor their visceral health. Because they are ways of learning about the world, i.e., the state of the cosmos that just so happens to coincide with one’s own body, why these experiences fit the requirements for being labeled as perceptual. Hildegard necessitates “sharp ears of inner discernment” [*acutas aures interioris intellectus*], which entail reciprocal transfer.

*But he who has sharp ears of inner understanding, here in the ardent love of my mirror, yearns for these words and writes them down in the consciousness of his soul.*<sup>53</sup>

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<sup>53</sup> *Qui autem acutas aures interioris intellectus habet, hic in ardente amore speculi mei ad uerba haec anhelet et ea in conscientia animi sui conscribat. Hildegardis, CCCM, 43, (1978), pp. 347; 388; 431; 461; 476; 514; 544; 573; 603; 613; 636.*

This idea highlights the power of language and faith in shaping our perception and understanding of the divine. Hearing God implies relationship, intimacy, and stillness, i.e., “to hear we have to be close and attentive enough to respond”. What are the constituent elements of our auditory domain? Is there a discernible distinction between the perceptual processes involved in auditory perception and those involved in visual perception of everyday objects? We can understand sensory organs, on Hildegard’s account, as specialized processes, that take as input energy of a particular kind, and produce as output representations in an appropriate structure, some of which are experiencing.

The relationship between abstract concepts and sensational reactions can become obscured when one grounds one’s justifications and accounts of one’s conduct towards the notion of God on sensory data. On the other hand, as a consequence of this phenomenon, the typical range of motions that one may encounter may also facilitate a more profound spiritual connection with the divine, both in the earthly and non-earthly realms. Or vice versa, by assuming a mechanistically approach, it may hinder imagination and development, alienating us from the intuition of mystical experiences. To assume the role of an observer, one must maintain a certain level of detachment from the subject of observation. On the other hand, to actively engage in an activity, one must fully commit to it. This leads to a lower level of detachment, which makes it possible to observe the event with greater integrity.<sup>54</sup> The empirical objectives exhibit a bias towards the idea that objects are indifferent to the effects of their actions. While it may be true that perception can be considered a passive process, it is deceptive to assume that a passive state cannot convey a sense of agency.<sup>55</sup> As for current scientific enterprise, research indicates that the focus on plant acoustics is generally changing from the question of if plants can perceive sound, to the question of “how” they can.

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<sup>54</sup> O’Shaughnessy (1980), p. 31.

<sup>55</sup> Macpherson (2011), p.369–370.

### 3.2. CONTEMPLATION

Take heed and pause for thought. Is it dependable to rely on our senses for accurate perception of reality? Sharpen the senses. What is your reflection? Me perceiving "the thing", is the result of a particular configuration or disposition, that not only makes the perception of things possible, but also allows those things to be perceived in a certain way, as the color green for instance. How I see a specific thing as a green "thing" depends on a number of psychological and physiological traits that are unique to me, and shape how I see that specific thing. A question arises in the pre-text of this thesis: Do we perceive humans as organisms, or humans as one of the species? We need a feeling for the organism.

The growth process as we currently perceive it is focused on achieving optimal quantity, more precisely the full and mature manifestation of each individual organism in accordance with its own characteristics. The biological process of reproduction is primarily focused on the production of distinct organisms, ensuring the perpetuation of the specific species. The aforementioned thought stem from a limited and detrimental perspective on human advancement, which was reinforced by a mechanistic and human-centered ideology.<sup>56</sup> Although it is generally believed that human perception is primarily visual, it is likely that alternative senses may be more important in other species.

Uexküll<sup>57</sup> said that "for there to be an effective interaction between the flower and the hummingbird, it is necessary to establish a hemisphere. Such a semiosphere can act as an interface between the process of self-representation and the interpretation of the "other world".<sup>58</sup> What if we were to acknowledge the existence of alternative worlds (umwelt), is it then possible for us to experience a deeper understanding and profound

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<sup>56</sup> Aldana & Otálora-Luna (2017), p. 5.

<sup>57</sup> Jakob Johann von Uexküll, was the Baltic German biologist who coined the term "umwelt" or "other world." in 1926. Aldana & Otálora-Luna (2017), p. 3.

<sup>58</sup> Aldana & Otálora-Luna (2017), p. 2.



interaction with the world around us? When the private is revealed and ceases to be exclusively reserved for individual idiosyncrasies, it opens up the potential to foster a culture of collaborative exchange and engagement.

### 3.3 SOUND

Since sound is inherently ambiguous, there are many different perspectives on its metaphysical qualities, which are reflected in the terminology used to describe them. Think about how our minds piece together the sound of a song as it enters our ears. The song may last for several minutes, but our minds interpret it all as a single, more or less coherent experience. To be aware of our surroundings, we constantly use audial awareness for “coding and decoding”, but in what sense does the body actually interact with sound?

Plato’s account has it, that the production of sounds is a result of the interaction between the percussion and the object it comes into contact with. In contemporary scientific understanding, otoacoustic emission is the concept that pertains to the notion of hearing, which involves the sound waves, that come from the structures inside the cochlea, i.e., the inner ear.<sup>59</sup> Otoacoustic sounds are made by different cell and mechanical processes. Several lines of evidence show that in mammals, the outer hair cells improve the cochlear’s sensitivity and frequency selectivity and, as a result, provide the energy for amplification.

On Hildegard’s account, sound elevate action [*Sonitus enim uerbum in altum tollit*]. In book two, chapter five, seventh passage, Hildegard beautifully lays forth:

*For the sound lifts the word aloft, as the wind lifts the eagle so that it may fly. So also, the soul emits the sound of reason both in the hearing and in*

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<sup>59</sup> It was predicted by the astrophysicist Thomas Gold in 1948, and its existence was demonstrated experimentally by British physicist David Kemp in 1978.

*the understanding of men, in so far as its powers are understood and that every work is brought to perfection. But the body is the tabernacle and relief of all the powers of the soul, since the soul remaining in the body works with the body and the body with it, whether it be good or bad.*<sup>60</sup>

The metaphoric of the sonant self is present, and Hildegard uses the image of wind to describe the macro-microcosm relationship. In *Causa et Curae*, she explicated that the harmonies of the firmament emits wonderful sounds. Yet, due to its extreme height and breadth, we cannot hear them. Likewise, the wheel of a mill, or wagon produces its own sounds as it turns. But the firmament extends around the world so high and so broad, that humans and animals on the earth will not die as long as it is far away from them.<sup>61</sup> It is the frequency of divine order. Like instruments in a symphony, all of earth's living things contribute their own distinctive tune to the greater whole of ecology. Bird songs, leaf rustling, and river currents come together to form a symphony that is both beautiful and complex, and it is this music that recounts the tale of our existence. The symphony is ever evolving, taking cues from the changing seasons and external conditions, while still seeking equilibrium. On Hildegard's understanding, it is imperative to care for both body and soul in order to achieve balance. Neglecting one, can lead to negative consequences for the other.

*And again, I heard a voice from on high saying: These are the daughters of Zion, and with them are the lyres, the harpers, and all kinds of musicians, and the voice of all joy and gladness of joy.*<sup>62</sup>

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<sup>60</sup> *Sonitus enim uerbum in altum tollit, sicut uentus qui aquilam subleuat, ut uolare possit. Ita et anima sonitum rationis et in auditu et in intellectu hominum emittit, quatenus uires ipsius intellegantur et ut quodque opus ad perfectum ducatur. Corpus autem omnium uirium animae tabernaculum et subleuamen est, quoniam anima in corpore manens cum corpore operatur et corpus cum illa, siue bonum siue malum sit.* Hildegardis CCCM, 43; 1.4,23 (1978), p. 82.

<sup>61</sup> Hildegardis (1978), p.82.

<sup>62</sup> *Et iterum audiui uocem ex alto dicentem : Tsti sunt filiae Sion, et cum eis sunt citharae citharoedorum et omne genus musicorum ac uox totius laetitiae et gaudium gaudiorum/* Hildegardis, CCCM 43, 2.5.f. (1978), p. 176.

The passage above, accentuates a thought on Hildegard's perception on hearing and sound. The consideration that she puts forth is that the voice from the heavens can fill us with a sense of awe and wonder, with the emotion of happiness.

When Hildegard's era, the harmony of sound was considered as a reflection of the divine structure. The separation of music into celestial, humans, and instrumental forms, as seen in the works of Boethius, served not only as a means of structuring the subject of matter into distinct areas of focus, but also as a means of affirming the inseparable connection between all three. Hildegard was able to quote Boethius' *Consolation of Philosophy* freely, and it is contested that in her works there are numerous traces of pythagorean and Neoplatonic influences, pointing to Hildegard having a wide interest in ancient Greek and Roman literature.<sup>63</sup>

Hildegard's religious expressions in *Scivias* were founded on the Benedictine Rule, which prioritizes achieving sanctity through moderation in all aspects. The dissemination of literary works played a significant role in the Benedictine lifestyle, whereby the community placed great emphasis on the use of auditory channels to exchange information through verbal discourse. Hildegard's texts' illuminates the exegetical works of the Church Fathers on the Psalms, which imbued symbolic theological significance to both instrumental and vocal music, thereby reinforcing its contextual relevance.

The utilization of religious texts communicated through the auditory channel would subsequently lead to the manifestation of her individual prophetic declarations.<sup>64</sup> A philosophical approach to comprehending Hildegard's subsequent ingenuity can be achieved through an analysis of her scholastic qualifications. Her work involved the utilization of pre-existing sources of knowledge through the processes of borrowing, interpretation, and expansion on the Scriptures, with the aim of preserving

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<sup>63</sup> Tsakiroppoulou-Summers (2002), p. 137.

<sup>64</sup> Henderson (2003).

and enhancing her own comprehension. Through her action, she fully immersed herself in the totality of existence and recognized that this totality cannot be comprehensively encapsulated by the senses. However, there remains a certain level of uncertainty regarding the extent of originality of her ideas and their importance in her methodology of sermon delivery.

The analysis of Hildegard's implementation of *viriditas* in conjunction with Augustine's works implies her adherence to influence, albeit with variation. Studies on Hildegard's notions on sensory experiences demonstrates that literature made for monastic daily routines, strongly include the idea of silence.<sup>65</sup> Silence denotes "not hearing" or "hearing nothing,". The notion on silence denotes a rejection of sensual experience. A question arises: Is sense-averse attitude a virtue in the monastic life?

### **3.3.1. ANTHROPOGENIC PROCESSES**

Contemplating sound and energy-generation, provide a real-world agency. Sound stimuli cause fluxes, signatures, and an increase in reactive oxygen levels at the molecular level. Stress brought on by noise frequently results in immunosuppression, which can make one more vulnerable to infection. Similar, noise's effects on parasites, for example, may lessen their infectiousness. The effects of noise and disease on host mortality, development, and reproduction are probably synergistic and adverse. And so, there seems to be that all living is affected by sound, or noise. Current scientific enterprises have demonstrated phono-tropic root growth, which is the physiological process that involves the perception of sound to guide the plant towards essential resources, such as water. In addition to its role in promoting plant growth and improving their stress tolerance, researchers have found that sound can also function as a mechanism for

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<sup>65</sup> See Wright (2015), and Henderson (2003).

alerting plants to potential dangers and facilitating their defense responses. The key question is whether sound is processed through a specific organ or if it is sensed directly by individual plant cell?

Every new object, clearly seen, opens up a new organ of perception in us, when contemplating on the words of Hildegard. Her sense of the anthropogenic processes, of attuning to inward awareness, introspection, and reciprocal affliction, is illuminating. If we listen really well, what can we hear? For Hildegard, action must be tested by reflection [*pugna per repercussionem*], and everything that is, is inter-connected:

*Spirit must be judged by spirit, flesh by flesh, earth by water, fire by cold, action by reflection, good by evil, beauty by deformity, poverty by riches, sweetness by bitterness, health by weakness, long by short, hard by soft, height by depth, light by darkness, life by death, paradise by punishments, the heavenly kingdom by hell, the earthly with the earthly, the heavenly with the heavenly.*<sup>66</sup>

The process of curative measures does not follow a straightforward path towards equilibrium, and as one can comprehend from the cosmology of Hildegard, the human organism is an autopoietic<sup>67</sup> system that maintains its equilibrium through a variety of processes, including forward backward, and multimodal mechanisms.

*Because the body and blood of his Lord, that is the savior of the world, he receives bitterly and dying, when he is prone to evil and polluted by*

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<sup>66</sup> *Spiritus per spiritum probandus est, caro per carnem, terra per aquam, ignis per frigus, pugna per repercussionem, bonum per malum, pulchritudo per deforme, paupertas per diuitias, dulcedo per amaritudinem, sanitas per infirmitatem, longum per breue, durum per molle, altitudo per profunditatem, lux per tenebras, uita per mortem, paradisus per poenas, caeleste regnum per gehennam, terrena cum terrenis, caelestia cum caelestibus.* Hildegardis CCCM, 43, 1,2.29, (1978), p.33.

<sup>67</sup> An autopoietic system is a system that produces and reproduces its own elements as well as its own structures, Luhmann (2012), p. 32.

*impurity and forgetful of the fear of the Lord, thus defiling the palace of salutary redemption.*<sup>68</sup>

Hildegard argues that man flies with the two wings of rationality, and explains that, where the right wing is good knowledge, and the left wing is bad knowledge, and evil serves the good, and good is practiced and controlled by evil, and by it all this is made wise. Furthermore, one can become defiled by impurity, but the two wings of rationality are necessary to us for understanding the world.<sup>69</sup> Hildegard's written visions argues the idea of inner talk, where knowledge of good, is the ability to discern what is right and just, while evil, helps in the ability to recognize what is wrong and unjust. Hence, it is important to consider context and consequences, before justifying one's actions. The contact between all kinds of life is an opportunity for soul-discovery, why contemplation and reflection become a nourishment for soul revealing on Hildegard's account.

*For when a man knows that he has a muddy rot and by no means if he is able to restrain himself from the taste of sins, then you will condemn him very blackly they defile the whole, but then also he himself through the rational soul which he neither sees nor knows, he trusts in God by believing.*<sup>70</sup>

What we believe, we perceive. What we perceive, we believe. Hildegard's demeanor is characterized by an inclination towards inciting action to motivate others to stand up for authenticity while also encouraging us to report instances of wrongdoing.

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<sup>68</sup> *Quia corpus et sanguinem Domini sui, id est saluatoris mundi, mordaciter et moribunde accipit, cum pronus ad malum et pollutus immunditia et oblitus timoris Domini est, ita contaminatus palatium salutiferae redemptionis aggrediens.* Hildegardis CCCM, 43, 2.6.58, (1978), p. 277.

<sup>69</sup> Baird & Ehrman, *The Letters of Hildegard of Bingen* (1998), p.23.

<sup>70</sup> *Nam cum homo lutulentam putredinem se habere scit et nequaquam a gustu peccatorum se continere ualet, tunc nigerrime aues eum totum sordidant, sed tunc etiam ipse per rationalem animam quam nec uidet nec cognoscit, in Deum credendo confidat.* Hildegardis, CIIR, (2001), pp.259–260.

### 3.3.2. SYNESTHESIA

According to others, Hildegard experienced sensory perception distortions, such as synesthesia, since she expressly described aural and visual changes while transcribing a cosmic symphony and believed that all elements were interconnected. Synesthesia is a phenomenon that happens when sensory modalities are mixed, resulting in the perception of a fusion of several sensory motions or sensations.<sup>71</sup> The auditory and visual sensory pathways appear to interact early on, according to imaging and neurophysiological studies, despite the lack of a defined anatomical connection connecting human auditory regions to primary and/or early visual association regions.<sup>72</sup>

*Who will help me, but God? I remember you, O mother Sion, in whom I had to dwell, most bitter I examine the servitudes to which I am subject. And when I have brought to memory every kind of music that is in you, I attend to my wounds. But even when I remember the joy and gladness of your glory, then I detest those poisons with which they were polluted.*<sup>73</sup>

Hildegard work puts an emphasis on the beauty and harmony of creation, suggesting that she saw aesthetic experience as a way to glimpse the divine order underlying all things. However, her understanding of hearing as an inward listening contradicts the neurological phenomenon of synaesthesia, where stimuli in one sensory modality can trigger experiences in another modality. Hildegard's emphasis on the external control of the senses through discipline and virtue ignores the fact that some individuals may not have the same level of control over their senses, and therefore cannot be held to the same standard of spiritual attainment.

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<sup>71</sup> Baron-Cohen & Harrison (1997), p. 295

<sup>72</sup> Afra, Funke & Matsuo (2009).

<sup>73</sup> *Quis me iuuabit nisi Deus ? Cum autem recordor tui, o mater Sion, in qua habitare debui, amarissima seruitia quibus subiecta sum inspicio. Et cum omne genus musicorum quod in te est ad memoriam duxero, uulnera mea attendo. Sed et cum recordor gaudii et laetitiae gloriae tuae, tunc uenena illa quibus polluta sunt detestor. Hildegardis, CCCM, 43, 1.4.1, (1978), p. 63*

Hildegard's literary works, therapeutic techniques, and visionary experiences all combine to form a coherent whole, or enlightenment, that reflects the integration of her artistic and musical manifestations of her sensations on auditory experiences. The enlightening visions demonstrate Hildegard's understanding of audial experiences as colors vibrating dynamic processes, like the fermentation processes of color, that evolve into physical extensions of transparent receptors, that gather ambient data, and more or less continuous with a source thought to have contributed to the genesis of a certain modality.

Hildegard's synesthesia, shed light on the intricate dynamics between individuals and their interaction with the surrounding, a connection self-eternalized by the power of *viriditas*, which acts as the photosynthesis.

### **3.3.3 AESTHETICS**

Hildegard's understanding on hearing is that it is not only an observation, but rather a listening that goes inwardly. She argues in the third book, sixth vision, in the thirteenth passage, that what is understood by the external control of the interior:

*By the exterior is meant the interior; since as man knows from the visible and nourished persona, how man is to be feared and honored and loved, so also in the same understanding let him understand how the invisible and supreme God is to be feared and venerated and loved above all things. For through outward and secular dominion man is reminded of the inward and spiritual power of the divine majesty, which is so closed and hidden from man, that it cannot be seen by his carnal eyes except as much as is apprehended by his faith. And since God is invisible to mortal creatures,*



*at least through visible teaching man, man should learn to fear and revere the Highest, the founder of the same preference. How?*<sup>74</sup>

McKenna said that “inwardness is the characteristic feature of the vegetable, rather than the animal approach to existence. The animals move, migrate and swarm, while plants hold fast. If there is movement in the consciousness of plants, then it must be the movement of spirit and attention in the domain of vegetal imagination”.<sup>75</sup> The imaginative introduce new perspectives on self-conceptualization and perception, thereby stimulating a dynamic discourse, which can assess prevailing paradigms. Hildegard’s notions on hearing, as an inward experience, suggest that sound can have both an internal and external effect on living beings.

Aldana and Otálora-Luna argues that sensory perception, aside from its survival function, possesses an aesthetic value. Their perspective offers a thought-provoking and motivating outlook on the sensory connections between living organisms and their environment, emphasizing the innovative potential of emotions over the limiting influence of rationality. Aesthetics encompasses both natural and anthropogenic stimuli that produce sensory experiences, and the cognitive processes involved in evaluating such stimuli. Beauty makes us care about our environment.

Hildegard’s texts espouse an all-encompassing viewpoint that emphasized the interconnectedness and integrity of every element of the environment. By Hildegard’s philosophy, humans live simultaneously on three planes of

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<sup>74</sup> *Per exterius intellegitur interius ; quoniam ut homo cognoscit ex uisibili et alta persona hominis quomodo homo timendus ac honorandus et amandus sit, sic etiam in eodem intellectu intellegat qualiter inuisibilis et altissimus Deus metuendus ac uenerandus et diligendus sit super omnia. Nam per exteriorem et saecularem dominationem admonetur homo interioris et spiritalis potestatis diuinae maiestatis, quae ita clausa et absconsa est homini, ut non possit carnalibus oculis eius uideri nisi quantum fide illius capitur. Et quandoquidem mortali creaturae Deus inuisibilis est, saltem per uisibile magisterium discat homo timere et uenerari ipsum Altissimum eiusdem praelationis institutorem. Quomodo.* Hildegardis, CCCM, 43, 3.6.13, (1978), p. 441.

<sup>75</sup> McKenna Plan, plant, planet. (1989), p.8.

understanding; we are spiritual, we have an intellect, and we live in physical bodies. But because we lack awareness or understanding of who we are, we are locked into a physical world.

## 4. CONCLUSION

The pervasive addictive tendencies of the digital realm have a profound impact on a significant portion of the population. The unceasing influx of information inundates our cognitive capacities and real-life connections. It is imperative to disengage from the tumultuous flow. How else are we to be able to recognize intentionality of other living things? The aspects, to which we allocate our attention, serve to delineate the contours of our existence. Superficial manifestation reflects inner self-experience and echo the very selfhood of every living thing.

The impact of noise pollution on ecological communities has been observed by a vast collective of researchers and scientists, who have found that the removal of noise does not necessarily lead to an immediate recovery of ecological function. Noise pollution on biodiversity have been evidenced by long-lasting impacts on trees and plants. How do we change this trajectory in our environment?

We must extend awareness further than our culture wants it to go. A cognitive framework that recognizes the fusion of cosmic and numinous components, that stresses a reality with inwardness, silence, and contemplation, could liberate our narratives. When the imaginative introduce new perspectives on self-conceptualization and perception, a dynamic discourse can assess prevailing paradigms. The study of Hildegard of Bingen's understanding of the senses and sound, reveals a methodology in which the fundamental aspect of communication between humanity and the divine is demonstrated through acts of listening. Listening means learning to hear the interplay between God, humans and the more-than-human world. Her notions on perception and auditory experiences regarding God, humanity, and the non-human, can be interpreted as a form of causative experiences of gestures, suggesting that hearing enables an awareness not only of sounds, but also to environmental occurrences that extend beyond auditory stimuli.

The complex and dynamic nature of our existence presents a difficulty for conventional thinking that justifies affliction, which centers exclusively on human beings, and which rely on an erroneous comprehension of the cosmos. Hildegard's writing exhibits a synesthetic fusion of subjective and objective elements, which argues that their differences determine what each species and individual perceiver perceives. Hildegard's legacy demonstrates rootedness in the corporeal. Her literary works, curative techniques, and visionary experiences all combine to form a coherent whole, or "enlightenment", that reflects the integration of her artistic and musical manifestations of her sensations on auditory experiences. They are embodied sensations. Her synesthesia shed light on the intricate dynamics between individuals and their interaction with the surrounding, a connection self-eternalized by the power of *viriditas*.

The macro-microcosm in Hildegard's teachings, serves as a useful reminder of the interconnectivity of all beings, highlighting the potential impact of individual actions. If we limit ourselves to superficial interactions in life, we will fail to discover anything important that merits further investigation. We will become polluted in our knowledge, which should serve as a warning cue for us to regulate our conduct. The relationship between belief and perception is reciprocal, and sound and noise, whether originating from internal cognition or external sources, has the capacity to inflict harm, or heal, on Hildegard's account. Hildegard's devise embodies the notion that humans are mind and body that are indivisible entities, and that enlightenment can solely be attained by adopting a comprehensive approach to recognizing the surrounding world, yet the the enlightenment is merely a shadow. Our unique view of reality is a result of the experience, which involves being fully immersed in the vibrancy of the natural world. We can take corrective action for our environment simply by adjusting our consciousness, and consequently our cognitive processes, that are motions of emotions, will be improved by our own listening.

Albeit no specific passages claiming vegetal hearing was found in the sources for this thesis, some vegetal awareness is to be considered under Hildegard's devise. This thesis suggests that further research on Hildegard's sense awareness and vegetal power needs to be conducted, as it is anticipated that Hildegard's other literature can offer a more profound comprehension on the subject and offer insight that can assist in current debates on human pollution.

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## APPENDIX

Auri	pp. 225; 299; 556
Auris	p. 273; 680
Auribus	pp. 4; 83; 123; 132; 158; 171; 224; 247; 306; 307; 325; 767
Aure	p. 175; 181
Aurem	p. 436
Aures	pp. 58; 86; 157; 309; 314; 347; 370; 388; 407; 431; 461; 476; 484; 514; 544 557; 573; 577; 584; 613; 636; 680; 743; 771; 785; 861; 870; 892
Viridi	pp. 149; 309; 319; 373; 386; 437; 457
Viridis	pp. 214; 308; 314; 479; 505; 518; 539; 670; 695; 739; 791; 811; 818; 832; 884; 899
Viriditate	pp. 32; 116; 129; 147; 192; 203; 212; 214; 219; 238; 240; 254; 343; 387; 419; 456; 457; 473; 500; 501; 502; 505; 552; 554; 591
Viriditatem	pp. 56; 67; 70; 78; 92; 113; 114; 127; 128; 252; 319; 343; 501; 502; 532; 591; 674; 720; 736; 760; 878; ; 880; 899; 906
Viriditatis	pp. 68; 124; 147; 148; 253; 255; 549; 685; 759; 764; 765; 809; 819; 881; 905
Viriditatum	pp. 197
Viridissimi	pp. 159; 162; 568; 818; 884
Viridissimae	pp. 159; 162; 818; 884
Viridissimis	pp. 159; 162; 884;
Virentem	pp. 369; 559; 560; 755
Virenti	pp. 254; 255
Virentia	pp. 21; 113
Virebant	pp. 502; 505; 740
Viriditas	pp. 84; 113; 118; 127; 128; 129; 698; 721; 754; 755; 760; 763; 785; 791; 843; 844; 867; 874; 875; 802; 826; 881; 885; 888; 891; 896; 900
Viror	pp. 129; 750
Virore	pp. 128; 129; 753
Virorum	pp. XI; XLVIII; LVI; 177; 590; 740; 859
Virorem	pp. 128; 631; 764; 865
Viredine	pp. 631; 764; 865