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The Therapeutic Role of the Monastic Environment for Individuals with ASC: The Case of Hildegard of Bingen and her *Lingua Ignota*

Abstract:

The aim of this paper is to show how a monastic environment can be regarded as providing shelter for individuals with autism spectrum condition in the Middle Ages. By drawing on the recent literature in the history of medicine that traces the signs and symptoms of ASC in Hildegard of Bingen, a Benedictine abbess from the twelfth century, we will turn to her invented language *Lingua Ignota* as a source of justification for her diagnosis and as one manner in which she managed her neurodivergence. We invoke contemporary embodied and ecological approaches to cognition and its impairments in order to understand how the medieval monastic socio-material niche could have played a crucial role in the inclusion of individuals with ASC, and as providing a therapeutic environment.

Keywords:

autism spectrum condition, Hildegard of Bingen, monastic environment, ecological niche, 4E cognition, skilled intentionality

1. Introduction

We will argue that there was a therapeutic side to monasticism, as witnessed in the historical case study of Hildegard of Bingen (c. 1098–1179). By thoroughly analyzing this case study, our goal is twofold: (i) we want to offer support to the idea that a monastic environment was beneficial for individuals with mental disorders, especially individuals with autism spectrum disorder (we will use the term autism spectrum condition or ASC), as Hildegard of Bingen presumably was, and (ii) we want to show how contemporary frameworks for understanding ASC can be used to shed light on (i). This German Benedictine *Magistra* was renowned for her visionary theology and mysticism, but only recently has she been much-praised for her contributions to medicine, botany, and zoology. Additionally, Hildegard of Bingen was a talented composer of monophonic and melismatic music that still resonates today. Scholars have usually focused only on the areas of her work mentioned above, with the currently noticeable trend to embed Hildegard's persona and work into a broader framework of the feminist philosophy of religion and/or Christian studies as well as feminist activism.¹ However, what has remained mostly under the radar so far is Hildegard of Bingen's constructed language and alphabet, namely *Lingua Ignota* and *Litterae Ignotae*.

A controversy over the authorship was boiling throughout the centuries: scholars tended to doubt the authenticity of *Lingua Ignota* included within the Wiesbaden or Riesencodex (e.g., Wilhelm Grimm and Friedrich Wilhelm Emil Roth in the late nineteenth century and, recently, Bertha Widmer), or to deem it a “secret language” based on the version in Berliner Handschrift (e.g., Johannes May). These issues were prolonged due to the scarcity of the relevant literature in English and inept translations of Latin and German glossaries that Hildegard compiled. However, with Sarah Higley's excellent translation and thorough discussion of Hildegard's *Lingua Ignota* in 2007, the beginning of a new era for scholars was at hand. A parallel line of *Hildegardiana* research dealt with cognitive or medical conditions underlying Sibyl of Rhine's visions and *modus operandi* in general. Patricia Ranft² has thus proposed a quite interesting explanation in this regard, namely that

1) Mumford, “A Feminist Prolegomenon”; Duran, “A Feminist Ontology.”

2) Ranft, “Ruminations on Hildegard.”

Hildegard of Bingen had autistic traits and thrived in a quotidian monastic routine while developing a private language.

In this paper, we will further develop Ranft's points and place them in the specific context of the novel research approaches to ASC stemming from cognitive science, namely the 4E cognition, skilled intentionality framework, and predictive processing. Hence, the paper will be divided into the following sections: in section 2, we tackle the question of whether Hildegard of Bingen could have been diagnosed with ASC, whereas in section 3, we turn to Hildegard of Bingen's *Lingua Ignota* to reveal the tentative connection between her *Lingua Ignota* and the alleged diagnosis. Finally, in section 4, we will focus on investigating to what extent monasteries can be regarded as a therapeutic community for ASC individuals and how contemporary cognitive science can add up to such an interpretation.

2. Was Hildegard of Bingen on the Spectrum?

Recently, it has been argued that Hildegard of Bingen, the twelfth century abbess, was autistic. Scholars have been attributing different afflictions to her, holding that her unusual sensory experiences (usually understood as mystic visions), could be described as migraines or epileptic seizures.³ Here, we will only be concerned with the autism interpretation because it adds up to an intriguing discussion on disability, mental health, and therapeutic experiences in the Middle Ages, and offers valuable new insights on these issues for our times. In other words, the really provocative claim is that not only had Hildegard of Bingen been on what is today called the autism spectrum (and could be identified as having had autism spectrum condition), but also that the monastic way of life and education was beneficial for her condition, allowing her to flourish and develop her abilities. This intriguing case poses a plethora of questions: are monasteries and similar institutions a suitable type of environment for persons with autism? What makes them therapeutic for those on the spectrum? Before we dwell more on these questions in section 4, we will first reveal details pertaining to autism that could help us to understand the case of Hildegard of Bingen.

3) Flanagan, *Hildegard of Bingen, 1098–1179*; Sacks, *Migraines*.

ASC understood as a neurodevelopmental condition characterizes it by persistent deficits in social interaction and social communication (i.e., deficits in social-emotional reciprocity, nonverbal communicative behaviors), and restricted, repetitive patterns of behavior, interests, or activities (i.e., stereotyped or repetitive motor movements, insistence on sameness, highly restricted, fixated interests, and hyper- or hypo-reactivity to sensory input).⁴ Leo Kanner, the American child psychiatrist of Austrian-Hungarian origin, is usually taken by official history, as the first to name the condition in a 1943 paper.⁵ He observed a pattern of behavior in a group of 11 children, which he dubbed “early infantile autism” (from Greek *αὐτός* meaning self). Hans Asperger, the Austrian pediatrician, wrote about older children and adolescents and described “autistic psychopathy” in four boys in 1944. This condition was later called “Asperger syndrome,” but the full acknowledgement only came as late as the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders*.⁶

To better understand autism, we can look up Wing⁷ for illustrative examples of individuals who have been interpreted as exhibiting some kind of autistic behaviors. Thus, we urge the reader to consider, say Brother Juniper of the followers of St Francis of Assisi, who lacked social intuition and common sense; or Martin Luther’s account of a child who may have been autistic, where he suggests that the child is possessed by the devil and had no soul and therefore, it is to be taken and drowned.⁸ Wing also mentions the case of Victor of Aveyron, probably the most well-known feral child in history, claiming that there is now little doubt that Victor was autistic. He counter-

4) American Psychiatric Association, *Diagnostic and Statistical Manual* (5th ed.), 50.

5) Kanner, “Autistic Disturbances of Affective Contact.”

6) See, American Psychiatric Association. *Diagnostic and Statistical Manual* (4th ed.). However, recently, it has been pointed out in several papers, (e.g. Sher and Gibson, “Grunya Efimovna Sukhareva’s Life”), that the very first clinical account of autistic children was actually given by a Soviet Russian child psychiatrist, Grunya Efimovna Sukhareva. She published her description of autistic traits of six boys aged between 2 and 14 (who previously had spent two years at her hospital school at the Psychoneurological Department for Children in Moscow), in a German psychiatry and neurology journal *Monatsschrift für Psychiatrie und Neurologie* under the title “Die schizoiden Psychopathien im Kindesalter” in 1926. The paper had already appeared in Russian in 1925. Thus, Sukharova’s work was out in the open two decades before Kanner’s and Asperger’s seminal papers. The boys whose behavior she recounted would today be labelled as high-functioning, (i.e., as those having less severe impairments).

7) Wing, “History of Ideas on Autism.”

8) *Ibid.*, 14; Frith, *Autism: Explaining the Enigma*.

points the ruthlessness of Luther's method of dealing with the "possessed" boy against the affectionate therapy and education of the savage Victor by the French physician Jean-Marc-Gaspard Itard. Itard named the boy and invented an educational program that included sensory stimulation and repetitive physical exercises in order to teach him social awareness and speech comprehension.⁹

Going deeper into the history of disability – in the Middle Ages – we can find the peculiar and thought-provoking example of a high-functioning autistic individual, namely Hildegard of Bingen. This case will prove to be important for investigation because it will show how a specific religious environment (monastic life) provides a better environment for individuals with ASC. Patricia Ranft, in her paper "Ruminations on Hildegard of Bingen (1098–1179) and Autism," defends two claims: that Hildegard exhibited neuro-pluralism that put her on the autism spectrum and that medieval monasticism was pertinent for her effective and healthy integration into a positive environment. Let us unpack what this means. How should one establish the presence of the condition from such a historical distance? Since there are no neurobiological markers for autism, the physical absence of the subject should not be discouraging for the historical investigation. Ranft emphasizes that heteroanamnesis (medical histories as reported by others) is especially important when it comes to making diagnostic conclusions about autism, and there are several reports of Hildegard of Bingen's medical history thanks to different hagiographical sources.

Hence, we can find historical evidence¹⁰ that Hildegard, being the 10th child of her parents, was set apart from her infancy, that she was socially isolated and ultimately dependent on God. Her condition was concerning to her parents, who sought a way to help her and were eventually forced to send her outside of their home. This drew Hildegard's parents to seek the assistance of Jutta of Sponheim's (c. 1092–1136), who was an outstanding teacher, adapting her teaching methods to the individual wants of her students. The virtue of humility is vital both for the monastic life of devotion

9) VandenBos, "APA Dictionary of Psychology."

10) One of the most relevant biographies is, without doubt, *Vita Hildegardis (The Life of Holy Hildegard)* by Guibert of Gembloux (1124/25-1213) the Flemish monk at the Benedictine monastery in Gembloux. The most recent introduction can be consulted in Silvas, *Jutta and Hildegard*.

to God and for the life of a teacher, and it was stated for Jutta that: “she accommodated herself humbly and wisely to the character and station of each person.”¹¹ This was all required for one to be a good teacher to an ASC teenager, dealing with many peculiar pedagogical problems that would arise in such a situation. Hildegard soon became Jutta’s star pupil and was described as possessing virtues of discernment, self-control, discretion, and sobriety. As Ranft concludes, though these virtues are not very important in an abbesses’ topos, they are crucial within a specialized learning environment (especially self-control).¹² Ranft connects these insights with problems of behavior modification of repetitious, involuntary actions.

The autistic trait of repetitive, rhythmic movements of the body like hand-flapping, tapping objects, vocalizations, or rocking movements, are referred to as “self-stimulation” or “self-stims” (these could be “effective ways of managing incoming sensory flows”¹³). Hildegard’s treatises are full of repetitions, and her music of “patterns of echo and geometric formulas.”¹⁴ Moreover, it seems that her whole life was, in fact, structured around restricted and repetitive behavioral patterns: *ora et labora* routines typical for medieval monasteries, intense and almost obsessive interests which resulted in multifarious manuscripts (recall footnotes 1–3 in section 1). Being well-versed in medicine and dedicated to scientific endeavors, Hildegard clearly exhibited affinity with the neuro-pluralism of her time, developed bonds with those who live as such, and disassociated them from demonic possession. Setting her apart from more ancient ways of seeing neuro-pluralism as states caused by evil spirits, Hildegard understood that these neurological differences are tied to the brain, and that it is this organ that causes human behavior.¹⁵ In this regard, it seems to us that Hildegard of Bingen is like a medieval monastic version of Temple Grandin, an autistic person who excelled in science. Temple Grandin is a highly intelligent, high-functioning autistic woman with a Ph.D. in animal science and has published more than 200 scientific

11) Ranft, “Ruminations on Hildegard,” 111.

12) As one of the reviewers has noted, the mentioned virtues can be treated as very basic for members of the monastic community, whatever may be their role. We thank the reviewer for pointing out this.

13) Krueger, “Enactivism,” 379.

14) Ranft, “Ruminations on Hildegard,” 113.

15) *Ibid.*, 112.

articles and autobiographical accounts on her experiences with autism.¹⁶ In light of these accounts, it becomes understandable to assume that Hildegard manifested some core traits found in the criteria for a diagnosis of ASC (both in DSM-4 and 5).

3. Hildegard of Bingen's *Lingua Ignota*

Patricia Ranft makes a bold claim that Hildegard created and used *Lingua Ignota* to answer the challenges experienced by autistic persons in the processing of conventional languages... We believe that this is a brilliant claim and that *Lingua* could have had a vital role within a monastic community. There is ample historical evidence of medieval monastic sign language that rested on a nominative form,¹⁷ which was another linguistic strategy of Hildegard. Thus, after distinguishing *Lingua Ignota* from typical instances of glossolalia and comparing it to other imaginary and artificial languages of the Middle Ages, we will draw attention to the linguistic intricacies of Hildegard's *Lingua*, such as the nominative form.

Strikingly enough, the *maestros* in the field of history of linguistics, such as Pieter Seuren¹⁸ and Umberto Eco,¹⁹ have neglected *Lingua Ignota* altogether on the grounds that it is a mere list of constructions with a mystical overtone rather than invented language *sensu stricto*. Recently, however, the interest in *Lingua Ignota* was renewed due to Sarah Higley's critical edition and its panegyric therein. In particular, Higley compares Hildegard's invented language to two similar and markedly feminist inventions, namely *Kesh*, whose author is Ursula Le Guin, and

16) The mainstream position on the psychopathology of autism is that such individuals do not develop the capacity to mind-read or "mentalize"; they lack the ability to understand mental states and could be called mindblind, see Frith, *Autism: Explaining the Enigma*. From a phenomenological perspective, Zahavi argued that it is the autistic who actually rely heavily on a theory of mind rather than lacking such a theory, Zahavi, *Subjectivity and Selfhood*, 221. Those who endorse the phenomenological and enactivist theories of social cognition maintain that individuals like Temple Grandin have learned to depend on explicit mentalizing and inferring from social cues and rule-based knowledge about the behavior of others because they lack a "social sense" and specific capacities of primary intersubjectivity. Mentalizing seems to be a strategy open to some high-functioning autistic individuals. The Sibyl of the Rhine might have been one such individual.

17) Leigh-Choate, Flynn, and Fassler, "Hearing the Heavenly Symphony," 321.

18) Seuren, *Western Linguistics*.

19) Eco, *The Search for the Perfect Language*.

Láadan by Suzette Haden Elgin, and stresses that these languages are almost always omitted from linguistic canons because they do not belong to the typical Adamic narrative where only an Adam (i.e., a person with a male gender identity) can be considered a nomothete.²⁰ Barbara Newman (one of the most prolific scholars who has been revealing the aspects of Hildegard's opus for almost five decades), in her review of Higley's study, emphasizes the beauty of *Lingua Ignota* that is on a par with J. R. R. Tolkien's Elvish languages.²¹ All epithets aside, Hildegard of Bingen's invented language, to which she imputes divine origins, was in fact, significantly different than other medieval inventions or glossolalia from the purely linguistic perspective and regarding its usage.

Glossolalia is usually understood as vocalizing meaningless, unstructured speech-like syllables for the purpose of religious rituals. Such speaking in tongues was usually linked to prophecies and mystic powers of those chosen by God. However, *Lingua Ignota* proves to be far from such a phenomenon. Not only that it includes a glossary of more than a thousand words with German and Latin translations, but also a designated alphabet, namely *Litterae Ignotae*. Furthermore, even though *Lingua* lacks any verbs or grammatical rules (and therefore any possible syntax), and is composed of nouns, a clear structure emerges when one thoroughly analyzes the glossary. Hildegard classifies words in a plethora of groups, starting with the names for the invisible, spiritual realm of God and ending with names of lower instances of God's creation – that is, living and nonliving things, monastic and secular environment, respectively.

We hold that Hildegard of Bingen's invented language should not be regarded as glossolalia since it exhibits a structure and contains a meaningful set of nouns.²² The sole reason why there could be any confusion about whether *Lingua Ignota* can be considered as an example of glossolalia is the fact that the only known usage of it

20) Higley, *Hildegard of Bingen's Unknown Language*, 6.

21) Newman, "Book Review: Hildegard of Bingen's Unknown Language," 460.

22) Schnapp, "Virgin Words," also merges Hildegard's *Lingua* with other exemplars of glossolalia such as pseudo-Sanskrit, Martian, Uranian, Volapük, and Esperanto. This strikes us as an oddly constructed set of exemplars for which independent argumentation must be established if it is to be claimed that they are similar. Nonetheless, the main reason why Schnapp includes *Lingua* is the presence of the so-called "incantatory semiosis," a mix of infantile babble and extravagant consonantal blocks (ibid., 273). In our view, this is rather indicative of Hildegard being on the spectrum, as we will further explain.

was in Hildegard's composition *Symphonia armoniae celestium revelationum*, which was intended for nuns to perform during the liturgy. Hence, this could be a sign that the purpose of creating such a language was explicitly religious. However, in section 3, we add another layer to our argumentation by developing the idea that one of the purposes of *Lingua Ignota* was to bind together a monastic community that could be neuro-plurally inclusive.

Now, when it comes to other medieval artificial languages, things are not so simple. Although Newman calls them "gibberish" with pseudo-Greek and pseudo-Hebrew elements, such languages were a hallmark of verbal creativity and loaded with symbolism.²³ Nonetheless, Hildegard's invented language has little to do with such inventions but, instead it was inspired by medieval dictionaries and encyclopedias such as Isidor of Seville's *Etymologies*.²⁴ Hildegard's main strategy for constructing *Lingua* amounted to building neologisms: she adapted Middle German, Hebrew, Greek, and Latin roots with systematic suffixes and prefixes exhibiting a limited, exotic, and cyclical consonantal palette.²⁵ The Bishop chair is thus dubbed *tronischia* by the morphological process of derivation from the Greek word *θρόνος*; or, the word for devil, *diuueliz*, comes from Middle German *diuvel*. Interestingly enough, there is no esoteric undertone of *Lisingua*, nor symbolism to be revealed, only intimate links to Hildegard's scientific manuscripts, such as *Causae et curae* and *Physica*, and musical inclinations (as witnessed in her letters to Pope Anastasius, cf. Baird & Erhmann 1994–2004). As Jeffrey Schnapp rightly notices, over a hundred invented nouns denote body parts (including names for reproductive organs and excretions), as well as diseases (skin and physical ones at least). Besides, one can find an elaborate classification of plants and trees in *Lingua* – for instance, around 26 different nouns to denote tree species.²⁶

To sum up, Hildegard constructed the "unknown language," *lingua ignota*, as a sort of private language that seems to be both social and anti-social. It is somewhat hermetic and exhibits exotic linguistic features but, at the same time its lexical

23) Newman, "Book review: Hildegard of Bingen's Unknown Language," 459.

24) Schnapp, "Virgin Words," 284.

25) Ibid., 290.

26) Compare Higley, "Hildegard of Bingen's Unknown Language," 101–102.

richness, which includes names for secular trades, titles, activities, or village and monastery management, suggests that the boundaries of such a language were meant to be outside Hildegard's palimpsest. This should not be surprising since medieval monasteries were inclusive environments that did not allow for the exclusion of individuals; instead, all were incorporated into the activities and enjoyed mutual respect and compassion. The already hinted example at the beginning of this section can be invoked to prove this point. Recall the sign language that closely resembled Hildegard's *Lingua*²⁷ *Ignota* when it comes to grammatical form and usage. This language was a proverbial, elaborate sign language, a kind of deaf-and-dumb alphabet in which the monks expressed themselves without speaking because they had to adhere to the Rule of Silence. Learning this unique language was one of the first things the new inhabitants of the monastery mastered. For instance, the sign for bread was the circular movement of the thumb and the first two fingers of the hand; for fish, it was the hand simulating a moving fishtail, while for milk, it was the little finger at the lips.²⁸ Thus, it could be assumed that *Lingua Ignota* served the same function as monastic sign language, namely to forge communication and enhance teaching in the monastic communities among nuns (and visiting laypersons), who had some form of disability.

4. The Link Between Medieval Monastic Life and Ecological Therapy for ASC

It is quite easy to dig up testimonies and textual evidence describing the external setting of monastic life as well as the many activities of clergy and monks during the Middle Ages. In contrast, the very atmosphere of routine in cloisters and the experience of being a monk (i.e., the phenomenological interior of an individual whose life is given meaning by the pattern of daily prayer and belief in a supernatural and omnipresent Creator), are rarely accompanied by historical sources. The axis of this section is the perceived similarity between the routines of monastic life and modern treatment programs for ASC, which we will substantiate by relying on the histor-

27) We do not claim this would be helpful for autistic persons, though this could be the case for those with different conditions. We thank the anonymous reviewer for making this clarification.

28) Lawrence, *Medieval Monasticism*, 107–108.

ical sources of Hugh Clifford Lawrence and the reflections of Patricia Ranft on the presumed quotidian routine of Hildegard of Bingen.

So, how did the medieval monks seize their days? Contrary to widespread preconceptions, life in monasteries was no more static than in the outside world if one takes into account *Regula Sancti Benedicti* (*The Rule of St. Benedict*), an extensive collection of rules and behavioral recommendations that served to prevent monotony among the monks, along with letters, monastic chronicles, and tracts. Lawrence²⁹ thus reconstructs a Benedictine daily routine from the period of 1050 to 1250 by analyzing *Regularis Concordia*, the historical document presenting monastic reform, monastery statute, *The Rule of St. Benedict*, and instructions pertaining to rites and detailed duties of the monastic settlers.³⁰ This period is not chosen at random: between the monastic reform in the tenth century and the rise of the European universities in the second half of the thirteenth century, the cloister represented a particularly suitable refuge for vulnerable individuals in the Middle Ages. By drawing on Lawrence's reconstruction, we will purport to show how nutrition and other modes of monastic life could have been convenient for individuals on the spectrum.

One of the central features of medieval monasteries was choirs, which performed liturgical songs and theatrical rituals following specific patterns during the day and at night. Under dim candlelight, lanterns, and candelabras, thereby mitigating light sensitivity, this patterned melody constituted a part of the relaxing sensory environment for ASC individuals. Virtually all monastic activities, including daily chants, prayers, and even sleep were in fact, ritualized. For instance, sleep was multiphasic due to the strict observance of the monastic schedule: sleep was interrupted when brethren went to chant Divine office or to pray. *Prima facie* it does not seem fitting for individuals with neuro-divergences, but rather too demanding. However, if we

29) Ibid., 100–32.

30) We, of course, do realize that Hildegard was the abbess of a Benedictine monastery on the Continent, as opposed to the British Isles where *Regularis Concordia* originated. Nonetheless, the content from *Regularis* was also shaped by previous continental reforms in the ninth and tenth centuries thanks to the import of manuscripts and diplomatic liaisons between English kings and Holy Roman emperors on the one hand and between clergy from England and Fleury Abbey on the other hand. By the time Hildegard took over as abbess, the obedience of the monks and nuns in the Benedictine monasteries across Europe practically converged, at least when it came to daily tasks and routine.

focus on the fact that monks and nuns went to bed while whispering soothing prayers for a peaceful night, it becomes clear why such monastic rituals relax the entry into the REM phase. Mechanical liturgical rituals and short daily chores in the field or garden with flowers and plants would be dull or wearing to some, but spending time in nature with cyclical daily repetition of predictable duties represents an advantage of the monastic environment that we strive to emphasize here.

Assignments that individuals with ASC might have performed in medieval monasteries were, for example, working in the bakery or kitchen, as well as copying, transcribing, and painting manuscripts in the scriptorium. Monks and nuns working in the specialized kitchens of the medieval monastery prepared two diet menus – during and outside of Lent – so the diet in medieval cloisters consisted of fresh fruits, vegetables, eggs, legumes, fish, and lean meat.³¹ This diet could be seen as suitable for people with autism who are at high risk for gastrointestinal illness. Also, the rituals around meals, such as prayer, washing, setting the table in a careful and orderly manner, and the calming voice of the reciter of incantations during lunch, were a suitable dietary environment for people with autism who have difficulty eating.

Nonetheless, the overview of previous monastic routines and rituals does not yield an answer to the question of *why* were vulnerable and maladjusted people welcomed into the safety of monasteries in the first place? First of all, it was a Christian's duty to feed the hungry, clothe the naked, and provide shelter, protection, linens, medicine, and sometimes money. The hungry and poor gathered at the monastery gates three days a week. In addition, *The Rule of St. Benedict* prescribed child oblation, the recruitment, and acceptance of children rejected by their parents because they thought that there was "something wrong" with them.³² Many wealthy nobles donated money to the monasteries to establish special wards for the sick and aged, and free schools for the poor. This financial incentive enabled the recruitment of new monastery residents, regardless of their adaptability and characteristics. As a result, individuals with ASC traits could have been offered a peaceful and secure life, as well as an undisturbed routine of existence that the outer world of the Middle Ages did not provide.

31) Ibid., 107.

32) Ibid., 112–15.

Ranft notes how similar some of the routines of monastic life and modern ASC treatment programs are. For instance, both monastic life and modern therapy are highly structured: heavy on the routine in monasticism and “structured classrooms” and “individualized with low teacher/student ratios” in contemporary therapy; relationships are to be hierarchical and demand intense engagement.³³ The previously described daily chanting of the Divine Office would offer an excellent opportunity for “gestalt language learning techniques,” leading to progress in communication skills. Ranft further speculates that chanting the Office could offer a “short-term therapy” for echolalia in autism since it compels one to recite the following line, although through a repetitive cycle.³⁴ Additionally, monastic life is also characterized by prolonged periods of silence, which alleviate the pressure for communication. Being immersed in the routine of the monastery helped Hildegard’s development.

After the death of her *magistra* Jutta, Hildegard succeeded her as a teacher and healer. She proved to be successful in healing the mentally disabled. Hildegard treated her patients in much the same way that her teacher Jutta treated her (i.e., engaging them in the same routine). For example, she writes of her successful (group) therapy of a certain Sigewize in the monastery.³⁵ This suggests that Hildegard herself considered the monastery as a shelter for individuals with mental health problems. However, Hildegard’s empathizing abilities seem to be dissonant with her being identified as a person with ASC. Could she have developed (or learned) empathy through the therapeutic environment found in the monastic way of life, and immersion in the monastic life? Ranft answers in the affirmative, claiming that this was achieved through neuroplasticity of the brain and that this right environment has “conceivably repaired or rezoned her brain to correct any impaired empathizing ability.”³⁶ In such a way of life and upbringing, high levels of empathy are not necessary; it is not particularly important, as it is in the family life of a mother or a wife, Ranft tries to explain. Again, this particular environment would suit a person with ASC. We think that recent work on 4E cognition (embodied, embedded, enactive,

33) Ranft, “Ruminations on Hildegard,” 111.

34) *Ibid.*, 114.

35) *Ibid.*, 112–13.

36) *Ibid.*, 112.

extended³⁷) and predictive processing (PP) can offer an integrative approach to impairments in autism and a suitable, complementary perspective from which to analyze the case of Hildegard of Bingen. According to 4E approaches to cognition, the brain is part of a larger coupled system (brain-body-environment system) that, on the basis of its coupling, is constantly reducing dis-attunement with the environment. This insight that living beings have an inherent disequilibrium within the individual-environment system and tend toward an optimal grip comes from Merleau-Ponty.³⁸ We propose that such insights from the phenomenology of the lived body (Merleau-Ponty), together with concepts from ecological psychology,³⁹ could be used to get a deeper understanding of autistic traits and behaviors. The Gibsonian notion of a person's ecological niche has already found its way into the modern 4E approaches to cognition. The ecological niche can be thought of as a segment of the socio-material environment that is complementary to the dispositions and interests of the individual – objects living and nonliving that offer a multitude of different affordances (possibilities for interaction and engagement).⁴⁰ In the case of Hildegard of Bingen, the socio-material environment of the monastery (life) can be considered her ecological niche – the whole array of interactions with other clergy and engagement in religious practices (together with sacral objects and language), a niche in which she developed, and which shaped her.

Following the PP framework, the brain can be described as working to minimize prediction-errors that result from (mis)matching between top-down predictions and bottom-up sensory information.⁴¹ The brain instantiates a hierarchical probabilistic model of the environment, the so-called “generative model.” In PP, mental health can be understood in terms of the goodness of the agent's generative model. Agent gives more or less precision to either prior beliefs or current sensory evidence (prediction errors) depending on how reliable (“precise”) they estimate each to be. Cultural affordances can have a supporting role in estimating the preci-

37) Newen, de Bruin, and Gallagher, *Oxford Handbook of Cognition*.

38) Merleau-Ponty, *Phenomenology of Perception*.

39) Gibson, *The Ecological Approach to Visual Perception*.

40) Fuchs, “The Interactive Phenomenal Field,” 3.

41) Clark, *Surfing Uncertainty*.

sion of incoming sensory inputs. Artificially supported rituals (religious practices, for example) can regularize behaviors and stabilize expectations, thereby improving predictability.⁴² A neurotypical agent can also actively change the environment to make it fit its predictive models.

A conceptual framework that integrates the aforementioned 4E perspectives with predictive processing is the *skilled intentionality framework* (SIF) of embodied cognition.⁴³ SIF builds on Merleau-Ponty's phenomenology, Gibsonian psychology, and an ecological interpretation of PP. In the SIF, embodied cognition is understood as skilled engagement with affordances in the socio-material environment of the ecological niche by which an individual tends toward the optimal grip in trying to maintain a state of dynamic stability within its environment. The role of the pragmatically structured socio-material environment in constraining and enabling behavior is emphasized, and a distinction is made between "normal" and "pathological" embodiment. Being healthy means adopting new norms to achieve dynamic stability in novel situations. This openness to engage with the environment in fresh, new ways is lacking in a pathologically embodied person. Some people with autism seem to lack the openness needed to be responsive to the relevant affordances, piling up local habits and skills that are rigidly applied without adjustment to the changing environment.

In terms of PP, autistic persons have been characterized as having "high and inflexible estimation of precision of prediction errors."⁴⁴ It is hypothesized that those on the spectrum depend heavily on current sensory information and less on prior beliefs. This means that autistic people can designate atypically high precision to bottom-up prediction errors and have trouble adapting to environmental uncertainties, which leads to a restricted focus in perception and demand for sameness and stereotyped behavior, strategies they resort to in order to cope with a significant amount of prediction error, trying to make the sensory environment more predictable.⁴⁵ Thus, they experience complex social environments as foreign and avoid natural sensory

42) Constant, Bervoets, Hens, and Van de Cruys, "Precise Worlds for Certain Minds," 616.

43) Rietveld, Denys, and van Westen, "The Skilled Intentionality Framework (SIF)."

44) Constant et al., "Precise Worlds for Certain Minds."

45) Ibid., 614.

niches that cannot be reliably predicted. Models they build are “overfitted” and appropriate for very specific situations. To reduce uncertainty, they over-rely on routinized behavior, strict habits, sameness, and a familiar environment – a predictable ecological niche that they construct. So, people with autism can favor social environments that increase predictability through ritual behavior and routines, an ecological niche of monotonous affordances.

The monastic community, with its precise and well-charted daily routines and cultural rituals, favoring sameness and clear, straightforward social relations, within a peaceful, non-intrusive, simple sensory surrounding (artificial sensory niche) based on iconic visuals and rhythmic music, is an environment limiting uncertainty, and as such seems tailor-made for individuals with autistic traits. The monastery is a predictable niche to which a person with ASC could be more easily be attuned. In such an environment, an autistic person would have felt safer, and her anxiety would have been minimal.

5. Concluding Remarks

The main crux of this paper was the claim that the monastic environment was pertinent for the inclusion and well-being of autistic persons in the Middle Ages. Our historical case study revolved around Hildegard of Bingen, the German abbess from the High Middle Ages, whose awe-inspiring life and opus we analyzed under the presumption of her having ASC. We argued that the monastic life could be seen as therapeutic for such individuals in the sense that it integrated such individuals into the community.

Thus, it seems to us that social environments that increase predictability through rituals and routines (e.g., religious communities, and the socio-material niche of the monastic life), like the one Hildegard of Bingen inhabited, could prove to be beneficial for people with ASC. The ecological and predictive processing accounts of ASC show us why this is so. Applying concepts from phenomenology, ecological psychology, and 4E cognition theories to psychopathology and psychotherapy would help institute an ecological approach to psychic disorders and ecological psychotherapy. This means that the socio-material environment can be changed in order to become more attuned to the specific bodily normativity of autistic individuals and even therapeutic.

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