

Aisthesis, Aesthetics and Cognition: Embodiments in Reading

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Abstract: The article argues for a renewed attention to “aisthesis” or the aesthetic dimension in sense perception in the study of reading, because cognition emerges from our embodied engagement with the world. As a case we focus on how three university students read Goethe’s *Faust*. We emphasise specifically how their readings differ significantly in relation to cognitive understanding and aesthetic experience. The embodied cognition framework has potential for changing the modus operandi in neuroscience, literary theory, and aesthetics by focusing on how understanding relates more broadly to aisthesis. We propose to investigate the link through readers’ aesthetic practices in relation to literary texts.

Keywords: aisthesis, aesthetics, embodied reading, material engagement, *Faust*

1. Aesthetics, Aisthesis, Embodiment

Aesthetics is generally understood as “a system of principles for the appreciation of the beautiful” (OED). Following the philosophical groundwork of Kant and Schelling, aesthetics outlines cultural practices that are related to largely exceptional experiences in music, art and literature. We listen to music and shudders run down our spine, we look at art and feel in touch with the endless, we read a literary text and get buoyed in streams of consciousness. Out of the three cultural practices described, listening to music, looking at art and reading a text, it is the last, reading, which does not belong to the aesthetic domain in a manner that is as obvious as in music and art appreciation. We read the newspaper, text messages, and sometimes literary texts. Reading is an everyday skill which can be put to the service of navigating the everyday world, as well as of appreciating the beautiful.

If we approach the issue from this angle, suddenly also examples where other aesthetic experiences are embedded in the everyday come to mind: we listen to music on the metro, and we post beautiful images on our Instagram accounts. Luc Boltanski and Arnaud Esquerre observe an “enrichment” of our contemporary lifeworlds, where experience is sought out and charged with an aesthetic dimension. The affordances of digital social media, with wireless headphones and high-resolution cameras in our smartphones, arguably enhance this development. In reading literary texts, however, the boundaries between the everyday and the aesthetic are fluid and circulated to wide readerships already before the digital revolution, probably because letters on a page are more readily reproduced *en masse*. Reading practices can seek information about the world or appreciation of the aesthetic, and they were under intense cultural discussion at least since the emergence of the (paper-based) public sphere and the cultural prominence of the novel in the eighteenth century (see Habermas; Littau). Since reading practices move back and forth between information and appreciation, we propose to deploy them as a case study for a yet understudied way in which aesthetics can take an important role in studying the human mind.

Here, the original meaning of “aesthetic”, namely, overall sensory perception or “aisthesis” (see Montani), and its later meaning in art appreciation comes into play. Kant’s period-making statements on the aesthetic in *Kritik der Urteilskraft* (1780) builds on earlier work by Alexander Baumgarten. Baumgarten writes *Aesthetica* in 1750, inventing the modern sense of the word “aesthetics” as taste judgement. He starts from the original meaning of the word “perception from one of the five senses” and extends it to refer to the ability to judge from sense perceptions, which we experience as pleasure or displeasure. Sense perceptions and the experience of pleasure and displeasure are understood as rooted in the body. Since Baumgarten, however, the embodied basis of aesthetics has moved into the background. “Taste” in aesthetics retains only a shallow metaphorical connexion with the original sense perception. Barbara Montero observes an overview article on “embodied aesthetics” that the “lower senses”, such as smell, taste and touch, are generally disregarded in modern aesthetics. In order to navigate the distance between subject and object, central to Kant’s aesthetics, contemplation at a distance is best achieved in the “higher senses” of vision and listening.

In such a conception of aesthetics, reading is safely enshrined in visual perception. However, as recent approaches to reading processes and practices indicate, this conception misses a good part of how readers’ bodies are instrumental to accessing texts and to making sense of the written language and its narratives (Caracciolo and Kukkonen). Embodied narratology builds here on studies on how language and conceptual comprehension draws on embodied processes (see Gibbs; Barsalou; Zwaan for indicative references). When reading Goethe’s *Faust*, for example, multiple embodied dimensions are at play: motion verbs, indications of direction or metaphors evoke embodied resonances in readers and create thick situational models, especially when the language is formed for aesthetic appreciation. Mephistopheles introduces himself as “Ich bin der Geist, der stets verneint” (v. 1338; “I am the spirit of always saying no”, 46). His character as the negative of productive nature is specified by the light but repetitive iambus in the verse. (Read the German with the pattern *da-dam-da-dam-da-dam-da-dam*, and you get the effect). Also in prose, syntax and rhythm create similar effects of embodied pacing (see Kreiner and Eviatar). Mere visual perception does not account for embodied pacing. Indeed, it is the embodied cognition (usually placed lower on the aesthetic hierarchy) that stands behind the aesthetic appreciation here.

Aisthesis (whole-bodied sense-perception), aesthetics (experiential appreciation) and higher cognitive processes (understanding) have historically been studied in isolation, but the framework underlying distributed and embodied cognition (Hutchins) allows for integrating these strands. Further, Noë (xi) suggests that life and art are entangled, preconditions for one another, that is: “We are aesthetic phenomena. To understand and know ourselves, we need to undertake an aesthetic investigation of that work-in-progress that is the self we are.” Being an aesthetic human means that one’s embodied engagement with the world is always constrained by habits, values, materiality, technology, and biology. For instance, of all the possible ways an object, or a situation, could be attended to, the actual perception is organised and structured by a system much larger than that of the situated individual (see Goodwin, “Professional Vision”). Appreciation of an object or a situation is therefore, a distributed cognitive-perceptual task shaped by habitual forms of attending with actual physical properties of the situated (Hutchins; Noë). This idea explains why persons who have learned to read automatically perceive symbols or words, when written marks are combined in certain ways and contexts. Together, all these bio-social mechanisms of perception shape what we attend to, and thus in some sense mould appreciation (Gibson). This distributed mechanism also impacts how reading is organised, performed, and appreciated; an issue that is especially salient in today’s digitised reading environments (see Mangen, Olivier and Velay). As Anežka Kuzmičová puts it in the title to an article, it can “make a difference where you read” and the reading environment can be much more than a simple distraction from the text at hand.

While the social values related to appreciation might be constrained by human biological architecture (e.g. the universal preference for symmetry), a biological or evolutionary account of appre-

ciation in isolation will not suffice. Aesthetic experiences are thus not only a result of direct sensory inputs by the nervous systems, they are also enshrined in cultural cognition and reading technologies that come with their own cultural evaluations. In other words, appreciation is dependent on social judgment and must therefore be based in ontogenetic development. Its cultural roots enable heterogeneity, aesthetic variations across cultures, that are passed on by ancestors and learned through moral, educational, and linguistic highlighting (Goodwin “Professional Vision” and “Co-Operative”). The ontogenetic development has ties to broad cultural practices but also individual life processes that is observed as a bodily, subjective *style*. In this article, we are thus interested in *how* the cross-section between social cultural values, individuation, and material engagement with literature enables cognitive-aesthetic experiences.

Human aisthesis involves not just local perception of what is there, Trasmundi and Cowley argue,

Specifically, aisthesis arises as one gains experience of attending to one’s engaging with material properties of the world. As a result, people develop expertise of sensibility. In the case of reading [...] it depends on timing how we saccade (and move) while drawing on expectations and feelings. In that it is prereflective, one cannot set out to explain why it happens or what it means; one can only track evidence for its occurrence. It plainly includes echoes of previous seeing, hearing, smelling, tasting, and touching. Aisthesis thus draws on continuous prereflective judgments that arise in local engagement with visible patterns on a page. The resulting ways of looking feeling and, in some cases, vocalizing are constrained by how one draws on expectations, emergent properties of the situation, the tools with which one is engaged and the historicity of the engaging body, in this case as a reader. (2)

In contrast to non-primates, humans preserve texts for aesthetic purposes and they engage with them in ways that change their perspectives on themselves. Written materials allows people not only to transfer information across time, but also to explore how learned ways of attending affect judgements and experiences.

The tight relationship between embodied cognition and art appreciation has not gone unnoticed in the study of music and the visual arts (see Høffding, Sánchez and Roald). However, it may be the study of literature where it can be investigated with particular precision, because reading unfolds in contexts that are both information-driven *and* appreciation-driven. In this article, we propose to outline how embodied, aesthetic reading practices could be investigated and analysed empirically, based on a small “proof of concept” study. We show how readings of Goethe’s *Faust* reveal cultural techniques of material engagement in ways that impact aesthetic reflection and understanding. We argue that this engagement is characterised by an oscillation between continuous aesthetic and information-based judgments and does not necessarily depend on the primacy of the one over the other. By that we mean that, usually, reading and education research prioritises an information-based approach to reading, which emphasises word- and sentence-level comprehension and other cognitive dimensions, such as memory and analytical interpretation (see for example the handbook *The Science of Reading*; Hulme, Snowling and Nation). The question arises what role appreciation-based reading is assigned in reading and education research, if information-based reading is considered primary. The aesthetic dimension in reading is often tied to the analysis of literary texts and their aesthetic or “poetic function” (see Jakobson), even in the neurosciences (see Jacobs), or to investigating how readers conceive of the aesthetic through surveying the verbal concepts they use (Knoop et al.). We question whether the information-based approach has functional supremacy over the appreciation-based approach and propose to investigate the matter primarily through readers’ aesthetic practices and how they relate to the aesthetic qualities of literary texts or readers’ aesthetic judgements.

The empirical study that serves as the basis for this article focuses on a small number of readers in order to provide a multi-faceted analysis of information- *and* appreciation-related aspects in reading, as well as their highly personalised nature. We aim for unique insights over broad empirical generalisability, proposing our analysis as “proof of concept” for future, more systematic investiga-

tions across a range of texts. The study is designed on the basis of ethnographic work to illustrate how cognitive-aesthetic judgements in reading *can* develop, but it also draws on methods from reading research and cognitive literary studies. The aim is thus to show how, in *different* contexts, readers engage with texts and use embodied strategies to control their cognitive-aesthetic processes during reading.

2. A Cognitive Video-Ethnography of Students' Reading of *Faust*

The aesthetic and cognitive dimensions in embodied material engagement, such as reading, are often temporally intertwined. We exemplify this point with examples from a cognitive video-ethnography study of three university students' readings of Goethe's *Faust*. The cognitive ethnography framework (Hutchins; Trasmundi) invites multi-method investigations of their actual reading practices, and this method can be used to observe, engage and converse with the readers, but also as a means to explore their immediate observable judgements and their analytical reflection of how they experience the text *during* and *after* reading. Hutchins coined the term 'cognitive ethnography' and argued for the need to study human cognitive processes outside the laboratory. He defines the method and its significance in his seminal work, *Cognition in the Wild* in these words:

Many of the foundational problems of cognitive science are consequences of our ignorance of the nature of cognition in the wild [...] The first part of the job is, therefore, a descriptive enterprise. I call this description of the cognitive task world a "cognitive ethnography." One might have assumed that cognitive anthropology would have made this sort of work its centerpiece. It has not. Studying cognition in the wild is difficult, and the outcomes are uncertain. (370-371)

In the cases we present below, we seek to bridge the cognitive divide between information and appreciation-based approaches as opposite and layered phenomena by applying cognitive ethnography in innovative ways within this domain. Therefore, we scrutinise how the processes can overlap and emerge as non-linear forms of reading. As we shall see, understanding has an aesthetic basis, and the appreciation-based approach can also bring forth functional outcomes and enhance understanding of the information presented in the text.

Three qualitative case examples from the study are presented below. The defined task and the socio-cultural frame are the same for all three students: they all read the text as a preparation for the same class, and they all articulate the purpose of their reading as being able to understand, remember and reflect on the text using analytical tools from the curriculum. Yet, they all read in very different ways that lead to significantly different experiences and understandings. As we will show, the students enact very different cognitive-aesthetic strategies. Some of the strategies were more functional than others. Below we describe each reader-setting before we analyse the characterises of different (dys)functional cognitive-aesthetic strategies (see section 3).

2.1. *Setting the Scene: Readers and their Preparatory Reading*

According to the *state of the art* in cognitive science, cognition is – as mentioned above – distributed, observable and grounded in natural actions of behavioural coordination (Hutchins). Following Hutchins' suggestion, grounding cognitive research in the domain of natural, real-life cognitive events, makes one immediately aware of the methodological challenges that follow such a decision. To exchange the laboratory setting for a natural habitat of a sociocultural practice entails considerable repercussions for the way the research design should be framed (Hutchins). Cognitive ethnographic fieldwork is thus suitable for generating *thick descriptions* (Geertz) as part of the investigation of what happens in a socio-cultural context. We thus prioritised a richer level of details and such thick descriptions to get beyond general, broad conceptions of reading. Particularly, three students were recruited for this study¹. One male and two female students in their early 20s. The participants voluntarily signed up for the study. They were informed that the researchers had a broad interest in

getting a better grip on the bodily processes in reading and how their body and reading was experienced by the readers themselves. The three university students were all doing their MA in German, and they were all part of the same study program. The reading cases we present here comes from their preparatory reading in relation to a course in modern, German literature. We will refer to them as reader 1, 2 and 3 respectively (see Figure 1 below). Reader 1 is a native German speaker, whereas reader 2 and 3 are native Danish speakers, but enrolled in a master programme in German.

All students read in their natural, self-preferred settings. The medium on which they read, is also self-chosen, and depended on which version they had bought for the particular course. Two students preferred the paper book, whereas the third downloaded the text on his computer and read it on the screen. They read different editions. They all notified the observer about when and where they would read, so that the observer – prior to the reading – could set up cameras. The cognitive ethnographic fieldwork underlying this study, involves a combination of methods ranging from observational research such as video-observation and participant observation as well as observing material culture over time and collecting qualitative interviews. The design allows for a dual focus on both the micro and macro scale of reading, as well as a registration of an experienced and observed level of behaviour and sense-making. Specifically, the observer was present and took fieldnotes during their actual readings in those locations². Afterwards the observer conducted semi-structured interviews with the readers, and asked them about their reading experiences – both their concrete and general experiences – to learn about their reading habits, strategies, and personalities. In total, the dataset used for this analysis, counts approximately three hours video-observation of their reading and also three hours interviews. The data were coded by use of the method of *Cognitive Event Analysis* (see Steffensen) that is developed to study how humans adapt to and modify their environment in order to achieve a task. Space limitations prohibit a thorough unfolding of the analytical method (for a detailed presentation, see Trasmundi, Steffensen). In this article we highlight those moments that has significance for the aesthetic and cognitive-affective reading experiences.

Below is an overview of the three observed reading settings, as well as the materials they had at hand.



Figure 1: Overview of three readers and their preferred reading settings

Below follows an elaborate description of each reader's reading setting. The description is crucial for how the aesthetic-cognitive processes emerge as we emphasise in the analysis.

2.1.1. Reader 1: Reading at Home at the Desk

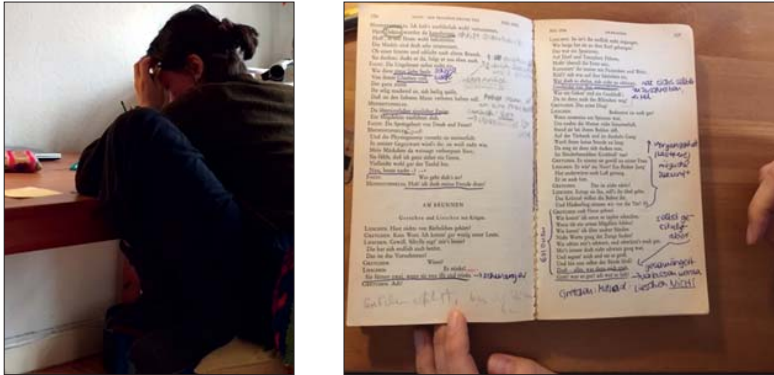


Figure 2: Reader 1

Reader 1 reads at home at her study table, which is her general, preferred reading location. Prior to the reading, she makes the setting comfortable, and she gets blankets, lights a candle, gets her teapot and she adjusts the lightning in the room. She puts herself in a casual position on the chair, as visualised in the picture above. She reads a printed book version of *Faust*. It is her own book, which she has read before in high school. Her reading setting is designed so it affords a comfortable and flexible, multimodal reading mode that prompts a soothing emotional threshold. At the same time, large part of her reading is centred around seeking information. She has secondary texts lined up, just as she has organised pens and rulers in front of her at the table. She further explains that the aim is to read, understand and be able to discuss the intentions, interactions and functions of the characters in the story. For instance, she must be able to recall and explain what happens in the story world when Mephistopheles appears etc., and for that reason, she has organised the setting in a way that scaffolds the realisation of this task in efficient and predictable ways. Overall, her reading setting reveals her role as a student preparing for an information-based reading task.

2.1.2. Reader 2: Reading at the University in a Lecture Room

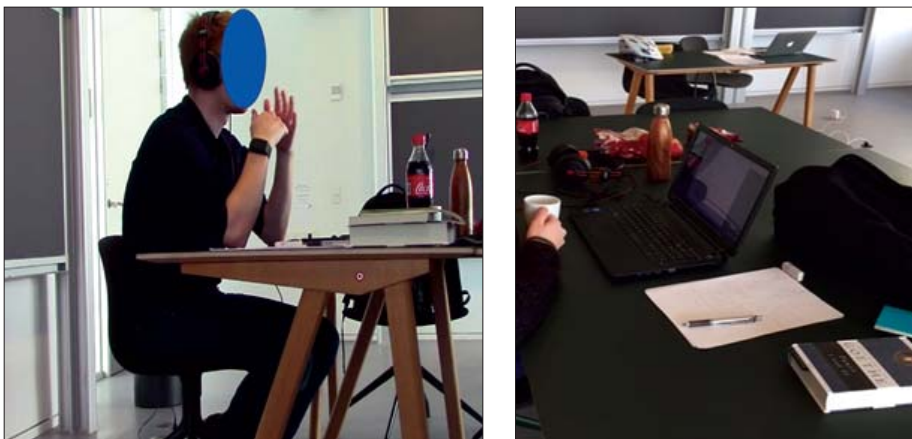


Figure 3: Reader 2

Reader 2 reads at the university, in a lecture room and on a computer screen, even though he has the printed book version on the table too. Like reader 1, he has prepared the reading setting, and has brought pastries, a soft drink, coffee, and he has direct access to both pen and paper. In contrast to reader 1, reader 2 wears headphones throughout the entire reading as he listens to music on his cell phone.

His understanding of comfortable and effective reading is different from reader 1. He places himself in a public space which invites a different form of reading attitude compared to a homely setting. The different locations might reflect their different personality traits as reader 2 explains, that he needs to place himself in an environment that constantly reminds him of the task and demands during reading. Further, he reduces auditory couplings to his environment through his use of headphones, whereas reader 1 prefers complete silence.

2.1.3. Reader 3: Reading at Home on the Floor

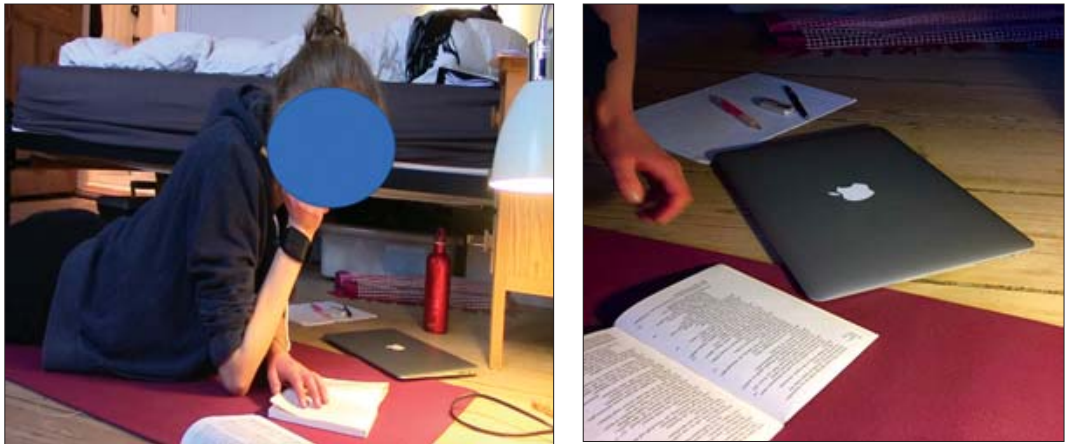


Figure 4: Reader 3

The second female reader, reader 3, reads at home. She lies on the floor on a yoga mat in her own apartment and reads in a print book. She has her computer next to her in case she needs to look up and explore a concept in the text further, she explains. Her reading setting is characterised as very personal and intimate and in ways that enable the body to be more relaxed compared to table reading. Comfort is much related to the bodily flexibility, whereas readers 1 and 2 were more concerned with generating comfort through other factors, such as food, soft drinks/tea and candles. Reader 3 only has a bottle of water next to her and a little reading lamp that provides her with optimal visual conditions for reading.

3. Analysing Cognitive–Aesthetic Processes in Student’s Reading of *Faust*

As mentioned above, the students read Johann Wolfgang von Goethe’s *Faust*. The text is a touchstone of modern literature. The protagonist seeks knowledge and the key to lead a better life, so much that he is ready to strike a deal with the devil for these ends, but he fails to understand the human needs of the woman he loves. Goethe entwines metaphysical and psychological matters in this drama, and he brings key controversies of the modern world into dramatically compressed situations and highly recognisable lines. While *Faust* is a drama, and the verse lines are allocated to individual speakers who are then realised by actors on the stage, such as Mephistopheles famously by the actor Gustaf Gründgens, it is –today– mostly read by pupils and students in German literature.

We are interested in studying how the three readers enact different cognitive–aesthetic reading strategies when they engage with this text and genre. Further, we want to explore how those strate-

gies are bodily enacted, experienced and how they function in relation to the task. Based on observation of their preparatory reading (which in this case lasted approximately one hour), we present four overall embodied reading strategies identified in the dataset across the three readers. The strategies amount to: (i) drawing in reading, (ii) writing in reading, (iii) bodily coordination, and (iv) rendering out loud. The strategies are analysed in relation to their aesthetic-cognitive function and experiential value.

We underline that the aim of the analysis is not to suggest general or universal functions or to claim an exhaustive list of embodied strategies, rather, we point to actual particular cases that might lead to more systematic investigations of how embodied strategies function for aesthetic-cognitive reading more generally.

3.1. Drawing and Writing as Part of Reading: Aesthetic Marking as Ordering Information

The first embodied strategy, we explore, is that of drawing while reading. The phenomenon of drawing was a rare exception that only happened two times in this preparatory reading study. While the function of drawing proves to be an aesthetically and cognitively significant activity for understanding, writing is a much more profound means for ordering information. Regardless of the kind of trace-making (drawing or writing), both types of imprints are judged aesthetically, affectively and cognitively. For instance, handwriting is unique and personal. Handwritten concepts (words and sentences) thus carry a unique bodily trait, because every handwriting is different and reflects a person's control of the micro movements and coordination (Chemero). Those traits are judged more or less beautiful according to both cultural and personal style (Ingold). Likewise, the visual features enabled by design and use of pencils and ball pens leaves very different imprints even though they may signify the same linguistic meaning. The fragility, manifestation, colour, and other material affordances of different markers impact the aesthetic perception, and even memory (cf. Malafouris).

Interestingly, while both reader 1 and 3 make multiple handwritten marks during their reading (highlighting, underlining, note-taking, drawing), reader 2 does not take any notes at all. Recent results from reading research on text materiality suggest that screen reading affords less manual interaction with the text (Mangen; Mangen and Van der Weel). Further, handwriting is a non-uniform aesthetic trace, whereas computer generated notes have a universal, mechanical and predictable expression. The disembodied and predictable expression affects appreciation. We thus explore these effects by asking what the aesthetic-cognitive value of drawing and handwritten notes is in the cases observed in reader 1 and 3.

3.1.1. The Aesthetics of Drawing Notes: Visualising and Anchoring Information

In most cases, reader 1 and 3's handwritten note-taking amounts to alphabetic annotations in the margins. However, in one instance both readers make use of drawing. The reason might be that, generally, drawing is a cognitively expensive, time-consuming, and skill-demanding activity. Writing is simply easier to manage. In informational terms, a translation from one modality to another (from verbal to drawing) do not add to the meaning of a symbol. It adds however an aesthetic dimension to the narrative and makes the reading experience richer and more tangible for the reader. It is a striking fact that the only drawing that reader 1 and 3 make during the 1-hour reading happens to be the same, namely 'a flame'. This circumstance indicates a deeper cognitive challenge related to the flame-contexts. When reader 3 was asked why she only once made use of another marking technique, she hesitated. In the attempt to reconstruct the reason for the drawing, she mentioned that she "just felt some sort of importance of the word 'flame'". The pictorial manifestation of the flame gave it a certain hierarchical priority compared to the multiple alphabetic notes. As such she responded to the feeling by giving it a unique aesthetic-cognitive trace in the text.

Reader 1 mentioned that ‘the flame’ in its context “was an interesting image,” and that the drawing “just happened”. While both readers respond in similar ways (by drawing) to the intriguing significance of ‘the flame’, the contexts, in which the flames appear, are not the same. Likewise, their drawings also differ slightly, but might serve similar aesthetic–cognitive functions at a basic level. Reader 3 highlights the stage direction: **DER GEIST erscheint in der Flamme** (16; English translation): “**The SPIRIT appears in the flame**” (20). See drawing in the picture below.

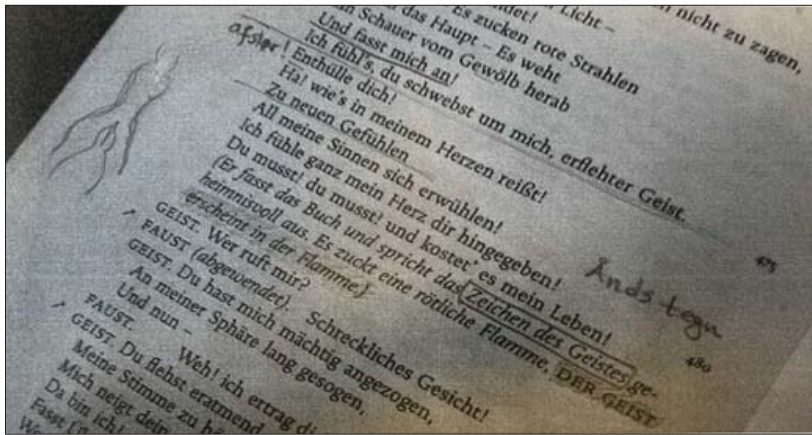


Figure 5: The flame drawing in the left margin, made by reader 3

In the left margin, reader 3 has drawn the flame and an abstract contour of the SPIRIT rising from the flame, almost as if following the stage directions herself. Reader 1, on the other hand, draws ‘a strainer and a flame’ in continuation of the stage direction: **Sie fährt mit dem Schaumlöffel in den Kessel und spritzt Flammen nach Faust, Mephistopheles und den Tieren** (71; English translation): “**She thrusts the stirring spoon into the cauldron and splashes flames at Faust, Mephistopheles and the animals**” (86). Reader 1 draws the following picture.



Figure 6: The flame drawing by reader 1

The flames belong to the alchemical activities of Faust (in the first instance) and to the witches’ magic (in the second instance). They relate the supernatural in the play to something that is visually perceptible. Readers 1 and 3 make for themselves visually perceptible what remains printed words in the stage directions. Their drawings become aesthetic markers that organise understanding around the theme of the supernatural. Adding a pictorial dimension to the description can help highlighting the information as a richer, more embodied perception, and the “flame” is an emotionally salient, atten-

tion-grabbing image (see Forceville). The drawing thus becomes the imagery correlate to the supernatural textual description which can enhance memory, and make the information more tangible and concrete, as the empirical correlate to flame-throwing and spirit-rising are absent.

It seems that drawing can give the fantastic or empirically unreal a shape of reality – an appearance. The drawing might serve as a functional aesthetic-cognitive strategy that enhance memory, emotional engagement and even understanding as one is forced to think the scenario through in the concrete. However, while drawing is one kind of (rare) embodied trace-making during reading, handwriting is much more profound.

3.1.2. *The Aesthetics of Handwritten Notes: Re-Arranging Information*

Both readers 1 and 3 make multiple handwritten notes in the margin. Their annotations often are copies of sentences in the text. Other times they take shape in forms of questions or interpretations. Those cognitive, repetitive aspects of their writing help sediment their memory, or they allow them to extend their thinking and elaborate on the information in text (adding their own or other perspectives to what is there). The notetaking, in itself, reveals an information-based approach, but especially reader 3, is also concerned about the aesthetic traces her writing plants.

The very mark-making and the tools reader 3 uses to take notes are important choices that impact her reading experience. We observed how the book she reads already had multiple notations made by a ballpoint, and when we talked to her about it, she felt almost ashamed and highly distanced from this kind of mark-making. She reveals: “I used this book in high school too, and I just realise I wrote with a ballpoint. I would never do that anymore. It looks really terrible – to see the marks in the book, but I was probably not thinking about that back then.”

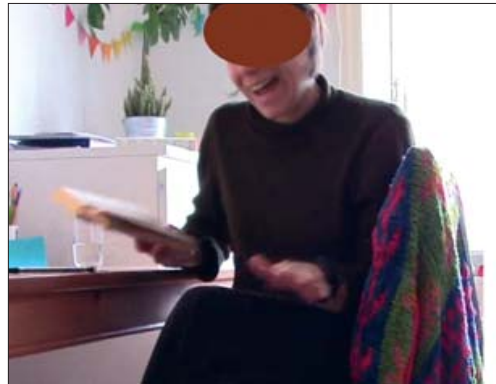
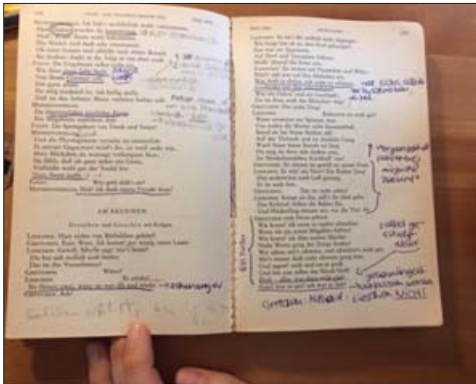


Figure 7: Annotations by reader 1

As she utters ‘never’ she makes a significant gesture with both hands (see the picture above) and laughs. Her laugh, gesture and utterance of ‘never’ reveals the emotional dissonance between her former and current readerly self. The symbolisations that constitute the narrative in the text are one set of experiential anchors, whereas self-produced marks over time (then and now) give insight into skilled reading, i.e., the kind of link between individual experience and conventionalised practice of judging the aestheticisation of marks.

Reader 3 has decorated her workspace with plants and colourful garlands, giving it an aesthetic dimension. Arguably, she chooses her writing implements with similar considerations. Indeed, despite the ongoing digitisation of learning environments, craft pens and biros, as well as high-quality notebooks appear still to be in high demand. Arguably, this links to the overall phenomenon of the “aestheticisation of the world” (Lipovetsky and Serroy) or to “enrichment” (Boltanski and Esquerre), but, on the level of reading practices, these aesthetic implements also support the individuation of the

reader as well as the refinement of their aesthetic judgements. Reader identity becomes traceable not only in a single act of reading, as readers follow the written record, but also across the aesthetic aspects of the note-taking at different points in a reader's biography.

3.2. *Bodily Rhythm and Text Flow: Cognitive-Aesthetic Resonance and Dissonance*

The recently developed scale for reading flow RFSS (Thissen, Menninghaus and Schlotz) identifies the dimensions of presence (that is, the feeling of being there in fictional worlds), identification, suspense and cognitive mastery. It stays exclusively with what is written in the text, but not how that text is read. Flow, in reading, is enabled by a strong coupling between reader and text and analysed as the reader's ability to engage with a text's stylistic features and structure (see also Kukkonen). This coupling can be enhanced and nurtured by creating the best conditions for such engagement, just as it can be inhibited by external disturbances that break the engagement and inhibit focus, concentration and even rhythmic sensitivity. We underline, that depending on the text and purpose, breaking the flow – or decoupling – can be crucial for learning, critical thinking and imagining (cf. Trasmundi and Toro; Trasmundi et al). Yet, the crucial question is whether the (break of) flow is elicited by the reader herself, or whether it is caused by inability to concentrate focus and engage due to external stress imposed on the reader-text system. Below we describe how reader 2's reading setting forces him into fixation loops that might be detrimental for his reading experience and sense of being in a good reading flow, exactly because he is caught between being coupled with the rhythm of the text, and the rhythm of the music he listens to (see also Figure 8 below).



Figure 8: Reader 2 listening to music

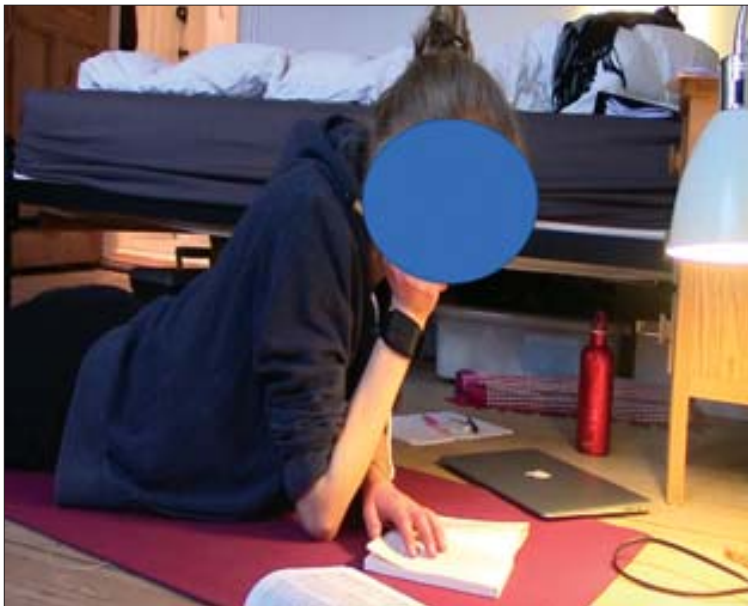
Reader 2 reveals many embodied signs of frustrations throughout his 1-hour reading. From the videos, he systematically sighs, he shakes his head in resignation, and he moves uncomfortable on his chair. Further, he raises his eyebrows and then seeks for something in one of the books in front of him, and resumes reading without being able to reduce the emotional tension that his body reveals. In between these embodied shifts, he gets into a musical flow and uses his hands and upper body to enact a beat rhythm. He appears to be more strongly coupled with the music than with the narrative. Indeed, his reading flow is constrained by the musical rhythmicity more than of the text rhythm constructed by stylistic choices (such as prosodic features, syntax and word/sentence length).

Reader 2's frustration was also addressed in the interview after the reading. He uttered that he found the text difficult and that there were several words that he struggled with. While we cannot say directly how his musical absorption relates to his struggling, it is plausible to assume that his reading environment inhibits flexible embodiment and thereby turns into an obstacle for text-flow. He

breaks the flow and repeats the reading, and thereby experiences a struggle. There is no way to predict whether another strategy will remedy the struggling he experiences, yet his options are kept at a minimum, and his embodiments are constrained. In contrast, we see, below, a much more flexible, adaptive reading trajectory enacted by reader 3, who runs the reading through her body in multiple ways that seem to be conducive for her reading flow and experience.

3.3. Rendering out Loud: Running it through the Body

Reader 3 also explains how she struggles with understanding metaphorical expressions and also translation issues during her reading. However, observations of her engagement with the text revealed several flexible strategies. First, she lies on the floor, and eventually she enacts a particular rhythm by moving her shins back and forth. Compared to reader 2, reader 3 does not listen to music. From the interviews, she emphasises that she likes to lie on the floor, because her body does not become exhausted and tired from sitting up straight, and it is possible for her to move more easily when she seeks to sustain attention, for instance. Sometimes her movement mirrors a tempo or reading rhythm, for instance when she pronounces a difficult word, her legs movements will be aligned with her vocal articulations of syllables. Yet, her rhythmic movements are not always conditioned by the stylistic features in the text, rather, she explains, she can also impose and invoke rhythm through bodily coordination so she will maintain focus and force a flow onto the text, which enables her to maintain a constant pace. Reading is running through her body and involves both brain, eyes, hands, torso, and legs.



However, we also observed another bodily strategy that she used, when she experienced both decline in attention span, and when she felt unfamiliar with peculiar words. One way to get familiar with expressions or words is by rendering out loud to simply taste them in a rich multimodal sense. Particularly, we observed how she eventually, would switch between ‘silent’ reading, to silent reading where she moves her lips, but without producing any sound, to a soft whispery reading and finally to reading out loud. When asked why she did that, she gave reference to both aesthetic and cognitive explanations. Starting first with the functional explanation that matched the emotional frustration that relates to attention span, she uttered:

“I do it because it is another language. [...] the fact that I hear it – the case that it is not just a voice inside my head, but I actually also hear it, allows me to focus my attention; that my thoughts so to speak are moved in the background [...] but I could also do it in Danish, because I like to use multiple senses in some way to... well then that is the only thing I need to focus on, and I am not going to remember what I will be doing tomorrow [...] which I often do when I read inside my head”



Figure 10: Reader 3 as she utters “moved in the background”

As she explains how she seeks to “move the thoughts in the background” she gestures (see Figure 10) to underline how her strategy allows her reading to be foregrounded and disturbances are left behind. Her voice materialises and speaks to multiple senses at the same time, and it constrains attention very efficiently. However, she also mentions that at other times, she simply prioritises the aesthetic dimension of reading over information. Or in other words, she shows how the aesthetic is intertwined with understanding. She elaborates:

“I think German is awesome, I enjoy speaking it. So, therefore it is also... it is just cool I think. To read it out loud and hear it, and at the same time feel it in the mouth, how the words kind of feel.”



Figure 11: Reader 3 as she utters “feel it in the mouth”

Producing music through reading aloud is not just ‘auditory cheesecake’ (Pinker). Rather, the aesthetic and functional are inseparable aspects of reading experience. And to “feel it in the mouth” is another way of running the reading through the body. Reading is a highly embodied activity that meshes aesthetic sensations with understanding.

The examples in the analysis above serve to guide reading and literary research in more embodied and aesthetic-based directions. We suggest that readers exploit multiple embodied strategies when they read, because exploiting the body’s multimodal potential, can be a rewarding strategy in terms of aesthetically-cognitive outcome and experience.

4. Limitations

Our study highlights *tendencies* in readers and identifies areas warranting further investigation, along with proposals for theoretical backdrops to inform the analysis. We fully acknowledge that there are inherent limitations in the kinds of generalisations we derive from a relatively limited number of subjects and recordings. In our research, we undertake a qualitative investigation of the ecological “wild”, where “studying cognition [...] is difficult, and the outcomes are uncertain” (Hutchins, 371). The limitations are clear as our study does not yield the “pure” and generalisable results achieved from quantitative research (see Dreier). Quantitative analyses may elucidate general tendencies, but are detached from social practices, and therefore lack the explanatory power needed to understand the unique coordination intrinsic in ecosystems of cultural practices.

In foregrounding the interaction between aesthetic and cognitive dimensions of reading, we demonstrate how these events are managed in situ. As an initial step towards highlighting this interaction, our study is limited, but it can link to larger quantitative studies, investigating a single aspect on the one hand, and future inquiries into how cultural-material constraints—such as media, genre, norms, texture, etc.—affect these cognitive processes more broadly, on the other hand.

5. Conclusion

Why read Goethe’s *Faust* in German classes? A traditional argument would perhaps run along the lines of mastering the German language in its most complex realisation or acquiring fundamentals of cultural capital in German literature. Our case study suggests another set of reasons building on an embodied understanding of reading — such texts inspire students to explore the aesthetic dimension of reading in a foreign language and thereby have the potential to bypass hurdles in reading comprehension. Reader 3, for example, experiences German as a *cool* and *enjoyable* language in a strongly embodied mode, which arguably motivates and keeps sustainable her engagement with this difficult text. We have seen similar effects in the other readers’ aesthetic practices, as well as difficulties if the aesthetic dimension is shut out. Our study involved only a small number of participants, but we hope that it can serve as a “proof of concept” for how appreciation- and information-driven reading processes can feed off one another. We have shown how readers use the aesthetic – appreciation-based approach to get into the flow and engage with the information in efficient ways. Sometimes, the approach can be very specific: one searches for meaning, or one enjoys a sound, but at other times the cognitive and aesthetic intermesh more globally in the reading setting, involving pen and paper or alternative aesthetic inputs, such as music.

The small-scale explorative study we presented here indicates numerous lines for the empirical analysis of aisthesis in reading could proceed:

- (1) Reading aloud vs. reading silently. Reading a literary text, written in verse, can contribute to students’ understanding of a text and, moreover, to inhabiting a foreign language both linguistically and emotionally. Reading research has foregrounded the importance of the “phonological route” for sounding out words in beginning readers (Dehaene), but clearly the

aesthetic dimension of reading aloud has much untapped potential for reading experiences and it could profit from insights on the effects of prosody, verse and metre in literary studies.

(2) Flow reading. The study of reading flow foregrounds textual elements that improve or impede “flow” (see Thissen, Menninghaus and Schlotz). Flow, however, has a strongly embodied dimension (see Pianzola; Kukkonen) that arguably is also affected by the readers’ physical position and by the configuration of the environment they find themselves in (see Kuzmičová). New directions in “ecologically valid” reading studies could investigate the interrelation between the relative importance of flow in embodied language and flow in readers’ bodies.

(3) Interactions between multiple modes of aisthesis. Readers in this study chose to write on their texts and draw images, they listened to music and decorated their reading environments. Predilections in verbal, visual, and musical mental imagery differs between individuals with different “cognitive styles” (Kozhevnikov). How do readers enrich the written text to suit their own predilections, as a kind of self-designed “environmental propping” (Kuzmičová)? And could this enhance the study of different modes of mental imagery involved in reading, which so far has privileged visual mental imagery?

Lipovetsky and Serroy are concerned about new antinomies between an aesthetisation of the world on the one hand and new forms of “losing ourselves” (“Nouvelles formes de dépossession subjective” 466) in measuring our body stats, medicalising what we eat and what we do, prizing efficiency above all, overemphasising the virtual, and engaging in hyperconsumption. At the end of their book, they express hope that society can move past these antinomies (482). The readers in our exploratory study designed practices between information and appreciation through an engagement with the aesthetic dimension of the reading process, arguably not “losing themselves” but finding reading strategies that suited and satisfied them aesthetically. Our embodied starting point encourages work across disciplinary boundaries and dialogue with neuroscience, phenomenology, cognitive science, linguistics, anthropology and literary studies. Indeed, literary studies may take the lead in such an endeavour because of its long-standing attention to appreciation- over information-driven modes of reading. From such an interdisciplinary investigation may come not only a better understanding of reading as an information- and appreciation-driven process but also possible teaching practices to encourage young readers to make best use of the aestheticisation of their current lifeworlds.

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Notes

¹ All participants were both given written and verbal information about the project according to national ethical standards and legal protocols. They were given time to read the research protocol that covered relevant practical, ethical and legal aspects of the project as well as relevant documents, e.g. documents concerning written consent. They indicated if the data could be published in their original form or as blurred images.

² Participant observation always involves ethical considerations about how the participants' situation influences the data collected. This methodological bias cannot be avoided but was addressed in preparatory conversations with the participants. They all revealed that video-recording is a common phenomenon and that they felt a bit awkward in the very beginning, but soon ignored the camera and the observer. We are aware that the presence of the cameras and the observer can have a significant influence on the participants, hence we addressed it directly and were sensitive to this issue in the analysis and interpretation of the data.

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