



Commodification in academic writing: a comparative analysis of two LLM apps

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Abstract

This paper investigates the impact of Large Language Model (LLM)-assisted writing on reflective thinking, building on existing adaptations of Albert Borgmann's device paradigm to Don Ihde's postphenomenology. Academic writing can facilitate engagement with our beliefs and pre-judgments, making it highly conducive to reflective thinking. However, generative AI tools, such as OpenAI's ChatGPT and Microsoft Word Copilot, may undermine such meaningful engagement as they 'disburden' users of the effort inherent in reflective writing. Still, we fall short when we leave unexamined the kinds of uses each writing app inclines its users to pursue. Despite using the same LLM, a cross-comparison reveals that the user interface (UI) design of ChatGPT and Word Copilot affords distinct forms of interaction: ChatGPT's UI design may, in principle, facilitate reflective engagement through conversational interactions, prompting users to formulate and engage with their beliefs on a given topic. In contrast, Word Copilot emphasizes automated document production, making a similar kind of engaging use unviable. As a conceptual basis for the argument, this paper extends Ihde's history of writing 'technics' and brings it together with recent conceptual developments in postphenomenology by discussing the apps in terms of 'quasi-materiality' of application UIs and the affordances they offer as part of 'multistabilities'. This paper concludes with a call for academic writers to critically assess how their tools mediate academic writing and thinking processes, arguing that choosing a writing tool for academic writing has ceased to be a matter of personal preference and has become one of academic ethos.

Keywords Borgmann, Albert · Commodification · Postphenomenology · Large language model · Academic writing · Reflective thinking

1 Introduction

Writing has deep connections to "critical" or "reflective" thinking. Especially in academia, writing helps us develop and scrutinize our arguments and beliefs. At times, the relation between thought and writing is so intimate that writing can be considered *part of the thinking process*. In his postphenomenological philosophy, Don Ihde asks how writing is influenced by technology and its "capacities and constraints" (Ihde 2010, 77): Clay tablets do not lend themselves to calligraphic letter writing in the same way that pen and paper does (Ihde 2010, 74).

The recent introduction of large language model (LLM)-based generative AI tools, such as ChatGPT, has once again

transformed how we think about technology in academic writing and sparked controversial discussions on whether they should or shouldn't be used (Milano et al. 2023). This is part of a broader discussion on how the use of Big Data and AI technologies impacts academic research (cf. Leonelli 2020). I will contribute to this discussion by analyzing what capacities and constraints such apps have, specifically regarding forms of writing that are part of the thinking process. Through an adaptation of Albert Borgmann's (1984) ethical concept of the "device paradigm" to a postphenomenological methodology (Verbeek 2005; Rosenberger 2017), I will demonstrate that LLM-assisted writing may incline the user toward "commodified text production": as I will argue, this commodification disconnects writers from engaging with their own pre-judgments and beliefs on a given topic, thus undermining reflective thinking.

As will become clear in a cross-examination, this is much more pronounced in Microsoft's implementation of Copilot in Word (version 16.88) than in OpenAI's ChatGPT

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(October 2024). Both apps make use of the *same* underlying LLM, however. This demonstrates, therefore, that we fall short when we consider only the decision *whether or not to make use of LLM apps* for writing, but leave unexamined to what kinds of uses (stabilities) each writing app inclines the users. Based on this, I will conclude that academic writers are well-advised to understand capacities and constraints of the different LLM apps in relation to reflective writing. As I will argue, choosing an app for academic writing has ceased to be a matter of personal preference and has become one of academic ethos.

For this, I will need to lay substantial conceptual groundwork in both Sects. 2 and 3. In Sect. 2, I will begin by introducing Borgmann's main ideas and then continue to discuss reflective writing as a focal practice. I will also explain, how this has been adapted as an evaluative criterion in postphenomenology, extending its otherwise more descriptive focus. In Sect. 3, I will briefly introduce Ihde's relational theory of technological mediation and show, based on his discussion of historical writing 'technics', how a technology's materiality shapes its use. Extending this discussion to LLM-based writing apps, however, makes it necessary to connect several more recent methodological contributions in postphenomenology. As I will show, such apps can be discussed in terms of 'quasi-materiality' of application UIs and the affordances they offer as part of so-called 'multistabilities'. Covering this extensive conceptual ground will yield the intellectual tools necessary for cross-examining the use of Copilot in Word and of ChatGPT in terms of their commodifying effects on reflective writing (Sect. 4).

2 Commodified writing: LLM apps and the device paradigm

2.1 Commodification and Borgmann's device paradigm

I will start my discussion of LLM-assisted writing by means of an "analog" detour via Albert Borgmann's critique of modern technological culture, which is encapsulated in what he calls the "device paradigm". This denotes a larger cultural pattern that leads to the displacement of meaningful practices (Borgmann 1984, 47–48). He clarifies this by differentiating a *thing* that requires our involvement (e.g., an old wood burning stove) from a *device* that makes "no demands on our skill, strength, or attention" (Borgmann 1984, 42). In contrast to the stove (thing) that needs skill and attention in preparing wood and in starting and maintaining the fire, a central heating plant (device) "procures mere warmth and disburdens us of all other elements" (Borgmann 1984, 42). It is the hallmark of technological devices to provide *commodities*, here warmth,

through a machinery that disburdens us of the means usually connected with it. "A commodity is truly available when it can be enjoyed as a mere end, unencumbered by means" (Borgmann 1984, 44).

This technological promise, however, comes with a catch. While procuring warmth is certainly more convenient in rooms equipped with central heating, something is also lost in this process of *commodification* that makes the stove's demand for skillful effort obsolete:

"In calling forth a manifold engagement, a thing necessarily provides more than one commodity. Thus a stove used to furnish more than mere warmth. It was a focus, a hearth, a place that gathered to work and leisure of a family and gave the house a center." (Borgmann 1984, 41–42)

As Verbeek (2005, 178) comments, the "device paradigm is thus a pattern in which things that promote engagement become replaced by devices that invite only consumption." What is at stake here is what Borgmann (1984, 199) terms "focal things and practices": We are enthralled by the convenience of modern technology to fulfill our every need and desire with commodities. These, however, forego the necessity of contextual effort and engagement. This inadvertently also replaces engaging elements that constitute the meaningful fabric of our lives: the commodification of warmth through central heating facilitates dispersing family life to multiple separate rooms and makes the social roles connected with heating obsolete. As a broader trend, commodification thus undermines meaningfulness: "That, according to Borgmann, is the irony of technology, it fulfills its promise of enrichment and disburdening in such a way that the disburdening it offers stands in the way of true enrichment" (Verbeek 2005, 180).

In his analysis, Borgmann makes a cultural reform proposition that involves caring for existing focal practices but also seeking out and consciously incorporating new ones into our lives. This is meant to "counter technology in its patterned pervasiveness and to guard focal things in their depth and integrity. Countering technology through a practice is to take account of our susceptibility to technological distraction" (Borgmann 1984, 210). This reform could lead to a more fulfilled and meaning-oriented life, or, at least, limit its erosion. This often implies keeping technology more at the periphery of our lives to make room for focal things and practices (Verbeek 2005, 184–185).

Unfortunately, there is no clear-cut distinction that can tell focal practices from non-focal or commodifying ones (Verbeek 2005, 184). Instead, Borgmann (1986, 203) refers to vivid testimonies of focal practices. While not *testable*, focal practices are, hence, *attestable* (Hickman 2007, 103). Because of this, Borgmann's concepts remain somewhat elusive; their explanatory power relies on whether such

testimonies and his account of the device paradigm resonate with the readers' personal experiences.

For my own argument, this implies that there will also be no hard criterion to determine in how far the introduction of LLM apps into (academic) writing may constitute, as I will contend in the next section, another example of the device paradigm. Instead, readers will have to consider my proposed depiction of reflective writing as a focal practice in the next section and see whether this resonates with their own experiences. Where this is the case, however, Borgmann's ethical conceptions of commodification and the device paradigm can be productively taken up as part of a postphenomenological analysis of those tools (cf. Section 2.3).

2.2 Reflective thinking, focal writing, and LLM-assisted writing

One premise of my argument is that some forms of writing can facilitate reflective (or critical) thinking. As a first functional definition, I will term these forms "reflective writing". What, then, is reflective *thinking*? John Dewey (1978, 182) distinguished reflective thinking from two other notions of thinking: (1) from broad conceptions of thinking in the sense of whatever comes to mind (stream of consciousness, "now I think of this, now of that"); and (2) from thinking something as opposed to actually perceiving something ("I sit in my office and think of the sound of the waves of the ocean"). Such thoughts, Dewey argues, can change on a whim.

Reflective thinking, in contrast, rests on some kind of evidence or testimony; it *commits us* to keeping formed beliefs in coherence with each other (Dewey 1978, 184–185). There is, however, a difference in the degree to which beliefs actually rest on *reflection* rather than on *pre-judgment or prejudice* (Dewey 1978, 182, 191): 'uncritical' thinking forms the negative end in the continuum of reflection, while "turning the thing over in mind" and hunting for additional evidence forms the positive end.

To remain uncritical is more convenient, however, as seemingly plausible suggestions are simply accepted. This ends the "mental uneasiness" that motivates the effort of thinking something through.

"Reflective thinking is always more or less troublesome because it involves overcoming the inertia that inclines one to accept suggestions at their face value; it involves willingness to endure a condition of mental unrest and disturbance. Reflective thinking, in short, means judgment suspended during further inquiry; and suspense is likely to be somewhat painful." (Dewey 1978, 191)

This is not simply because reflective thinking involves *effort*, but because it may involve the destruction of convictions we hold dear. Hannah Arendt (1999, 57) similarly

points toward the perils of critical thinking in that it has the potential *to undermine everything*: "there are no dangerous thoughts for the simple reason that thinking itself is such a dangerous enterprise." Hence, Dewey (1978, 191) claims we need to establish good mental habits by continuously practicing a certain *mental ethos*. This ethos consists of maintaining a state of doubt with respect to our beliefs, which in turn can motivate us to exert the necessary effort of thinking something through.

Reflective thinking can then be understood as what Kegan (1994, 231) describes as an "active demonstration of a mind that can stand enough apart from its own opinions." Such a mind is able to "keep from feeling that the whole self has been violated when its opinions, values, rules, or definitions are challenged." Regarding current debates on whether teaching intellectual virtues ('character education') or reflective, 'critical thinking' should be the main goal of education, a Deweyan answer thus takes a middle position of integrating both into a coherent whole (Axtell 2024).

The reflective part in 'reflective thinking', then, does not so much denote the idea of *self*-reflection as in certain practices of meditation or journaling. Rather, it denotes one of the most fundamental competences for academic work. What is reflected here are our initial opinions, values, or beliefs; it is those thoughts and pre-judgments that become the *thematic*¹ *object of our attention* as part of critical engagement.

What is presupposed here is that our beliefs are rendered in a fixed form. They need to be actively lifted out of the stream of our thinking processes. Making a thought the object of attention requires giving it some permanence if only for so long as to consider it and move on to the next suggestion. Here, we see why writing is so conducive to thinking: *writing suggestions down disburdens us from holding them fixed in memory*. This is crucial for my argument as it elucidates the connection between writing and reflective thinking. In a similar vein, Arendt (2003, 204–205) highlights the transformation from *lived thinking processes* to *thought rendered in fixed form* and then objectified in writing. Writing is not just the recording of a product of thinking, but an essential part of the thinking process itself; we "think on paper" (or in another medium).

It is obvious that not all instances of writing in the academic context can qualify as a focal practice. In fact, Borgmann (1984, 201) criticized contemporary academic philosophy for failing to be a haven for such practices. Today, one may similarly assess that current academic work involves many facets that are detrimental to focal practices

¹ As Husserl (1976, 62) notes, for something to become thematic involves a shift of attention to something previously "unthematic", but which was still, if only implicitly, already "there" in consciousness.

in research and teaching. Much of what is written has little to do with reflective writing or thinking. Where writing is neither reflective nor “focal”, commodification may, in fact, be quite welcome.

Still, I believe it is an uncontroversial claim that many in academia experience the painstaking effort involved in “thinking something through” as *meaningful work*, i.e., as a focal practice. Furthermore, this work is embedded within the social fabric of the academic community. As Rodgers (2002, 856, cf. Dewey 1985, 8) highlights, Dewey’s understanding of reflective thinking is not a solipsistic matter: the act of *formulation* implicitly addresses others and requires that we move outside of our own private experience and consider other points of view. This is a crucial part of reflecting our beliefs.

It is here that the introduction of generative AI tools threatens to commodify reflective writing: using such tools *can* disburden us from identifying our implicit beliefs, our prejudices, and pre-judgments. This is because they can disburden us from putting those beliefs into a temporarily fixed form by writing them down in a form that helps to consider them in relation to others’ perspectives. And it *can* disburden us from (re-)constructing argumentative connections between these beliefs and from turning them over in mind. This is true at least insofar as generative AI is taken up on its promise to produce text without the investment of skillful effort and engagement.

In these cases, writing degrades into a form of editing or re-writing of “thoughts” that originated elsewhere. This implies, however, that the thematic object of the thinking that is involved here ceases to be *reflective*. This is because the thinking stops being about *our own* implicit beliefs. If generated text can be said to contain a rendering of beliefs at all, it would likely be beliefs that are prevalent in the training data. While I may implicitly share these beliefs, it makes all the difference whether the formulation results from an *explication of our own thoughts* or whether it comes from without. In the latter situation, we lose the moment of *discovering what is implicit* as part of the explication process. Consequently, the commodification of reflective writing can indeed be seen as a potential threat to the academic ethos envisioned by Dewey.

2.3 Commodification as a normative criterion in postphenomenology

As Verbeek (2005, 186, 192) demonstrates, Borgmann’s ethical contributions can be productively adapted to complement the more descriptively focused postphenomenological analysis we will use in the remainder of the paper. This is particularly helpful since Ihde has already developed a postphenomenological discussion of historical writing

technologies. In this sense, my own analysis continues this discussion but complements it with an ethical perspective.

Verbeek identifies a conceptual problem in Borgmann’s theory, however, in that he conflates two distinct ideas regarding the loss of engagement due to the device paradigm:

“The type of engagement Borgmann sees as compensating for this loss is supposed to be regained in focal practices, which are valuable in themselves without serving a particular end, and which constitute meaningfulness ... In contrast to a technological device, a thing does not provide the most convenient path to achieve a goal, but involves its users in the realization of it. The engagement that focal things call for is of a completely different sort. Borgmann does not describe it in terms of effort and exertion, but of meaningfulness ...” (Verbeek 2005, 186)

This highlights a crucial differentiation to be made for forms of engagement: (1) those that require *skillfull effort* and (2) those that produce *meaningfulness*. Borgmann ends up blending the two ideas together: if “people give up focal practices, they do not do this because they use technological devices, but because they are entirely submerged in the consumptive attitude that the use of devices invites.” (Verbeek 2005, 187–188).

In order to counter commodification, technology therefore doesn’t necessarily have to be pushed to the sideline. Verbeek highlights that it is not so much the technological device itself to be rejected, but the *disengaging effect* that undermines meaningful involvement. This directs attention to the design properties of specific technologies, as this is where commodification “materializes”. Whether or not a certain piece of technology promotes or prevents commodification can thus become a normative criterion for making choices about using a certain technology and integrating it into our lives. Some technologies may reduce effort but still protect engagement, and other technologies may require effort but will not be engaging in meaningful ways. “Borgmann only admits a single aspect, disengagement, of the implications of technology for the involvement of human beings with their world, and systematically disregards the ability of technology to invite new forms of engagement.” (Verbeek 2005, 190).

Rosenberger (2017) takes up Verbeek’s idea of a postphenomenological technology ethics based on Borgmann’s conceptions. He points out that this introduces a new problem, however: Borgmann highlights a *pattern* in modern technological culture (which is also why his view focusses so much on the results of this pattern, the reduction of engagement). Showing, as Verbeek does, that *some* forms of technology use can also have positive and engaging effects, then, does not speak against Borgmann’s diagnosis of a more general,

problematic trend (Rosenberger 2017, 491, cf. also Borgmann 2005, where he responds similarly to Verbeek). From an ethical point of view, hence, little is gained by only showing that there may exist *some* ways to use generative AI apps that facilitate reflective writing and, thus, reflective thinking. If these ways are not how we are likely to use the technology and if it is foreseeable that commodifying forms of use will *dominate*, Borgmann's concerns remain valid and pressing. Hence, Rosenberger (2017, 491) proposes to examine for different technology designs how forms of use play out and to then assess how realistic it is that commodification or engagement will typically prevail situationally in what he calls *dominant stabilities* (cf. Rosenberger 2023, 2234).

As will become clear in the next sections, this line of thinking points us toward a postphenomenological analysis of the *affordances of writing technologies*. As a first step, however, it will be necessary to develop some of Ihde's core concepts and the role that materiality plays in them. This will allow us to return to Borgmann's ideas in Sect. 4 and comparatively assess the impact of using two generative AI apps regarding the commodification of academic writing.

3 Affordances of writing technologies

I will begin this section with a very brief introduction of Ihde's human–technology relations and his idea of multi-stability in the context of LLM apps. Both concepts will be used in Sect. 4's postphenomenological analysis of the affordances of ChatGPT and Microsoft Word Copilot. After this, I will reconstruct Ihde's history of writing technologies so as to show how the dominant stabilities of these apps can be analyzed in terms of the affordances of their specific UIs.

3.1 Ihde's relational theory of technological mediation

Postphenomenology aims at micro-scale analyses of how specific kinds of technologies *mediate* our experience of and relation to the world. It retains many aspects of phenomenological intentionality, such as the opposition to dualist conceptions of experience and their stark division of an experiencing subject from the experienced world. Instead, it presupposes a *relational unity in experience*. As opposed to phenomenology, however, it posits that today, this relational unity is influenced by the manifold technologies that surround us. Postphenomenology, thus, typically formalizes experience as an I–technology–world relationship (Rosenberger and Verbeek 2017, 11–12, 14). Ihde (1979, 6–14, 55, 1990, 97–108) distinguishes four types of these relations: embodiment relations, hermeneutic relations, alterity relations, and background relations.

Laaksoharju et al. (2023) have laid the groundwork for a postphenomenological analysis of LLM apps by going through each of the four relations. When technologies in *embodiment relations* work as they are expected, they become a kind of transparent prosthetic extension of our body through which we act and experience the world (Ihde 2002, 7, 14). Embodied relations to generative AI apps, for example, could seamlessly change a user's rambling draft to a well-formulated, concise version of what they want to say in digital conversations (Laaksoharju et al. 2023, 37).

In *hermeneutic relations*, on the other hand, technologies mediate our experience of the world by providing information or representations that are interpreted by us. When posing a question to an LLM app, its answers can be seen as a highly flexible way of providing such information. “When asking ChatGPT and Bing AI in which of Ihde's relationships they are with their users, they both lean toward describing the relationship as hermeneutic” (Laaksoharju et al. 2023, 38) – a textual explanation about itself that needs to be read and interpreted by us.

LLM apps like ChatGPT may, furthermore, become anthropomorphized “partners” in conversations, thus establishing *alterity relations*. We can *ask* them to reformulate an answer they gave and pose follow-up questions, thus leading a kind of conversation. “Ihde is clear that it is in the perception of the human, rather than a reciprocal relationship; the relationship does not require an ‘other’ but will suffice with a ‘quasi-other’” (Laaksoharju et al. 2023, 41).

Finally, *background relations* denote situations where technologies are not related to in a direct way but form contextual factors in the lifeworld. One may think of air conditioning in a room or of LLM apps that seamlessly translate what is said in a conversation to another language (Laaksoharju et al. 2023, 43; cf. Orland 2023 for an empirical example of a similar use case).

It is important to note that specifically what these types of mediation entail depends largely on the situational use case. Here, postphenomenology takes a middle ground between a variant of technological neutrality, where everything depends on how the subject wants to use a technology, and one of technological determinism, where the design of technologies prescribes their usage. Instead, Ihde refers to *multi-stabilities*, another one of its core methodological concepts:

“No technology is ‘one thing’, nor is it incapable of belonging to multiple contexts ... I argue that the very structure of technologies is multistable, with respect to uses, to cultural embeddedness, and to politics as well. Multistability is not the same as ‘neutrality’. Within multistability there lie *trajectories* - not just any trajectory, but partially determined trajectories.” (Ihde 1999, 47)

Thus, in my comparison of ChatGPT and Microsoft's Word Copilot in Sect. 4, only some of the possible uses will prove stable in the end (Rosenberger and Verbeek 2017, 26) and some of those stabilities will emerge as dominant (Rosenberger 2023, 2234). As part of this analysis, exploring the types of human–technology relations involved in the dominant stabilities will help reveal their role in commodification. Since the emergence of a technology's dominant stabilities is closely connected to its materiality, however, I will now discuss Ihde's original conception of materiality in the context of his history of writing technics.

3.2 Materiality, multistability, and writing technologies

3.2.1 Embodied perception and the materiality of writing technologies

In his essay “IT: Clouds and Cyberspace-Time”, Ihde (2010, 69–84) discusses computer “stations” as part of the technological development of writing technologies. Here, he reiterates a point often made throughout his writings, i.e., that he starts from the premise of *embodied experience*. In fact, his re-conception of phenomenological intentionality builds on Merleau-Ponty: “To put it simply, postphenomenology substitutes an embodied action for consciousness or subjectivity. Perception for postphenomenology is bodily and actional” (Ihde 2010, 70, cf. 2016, 130; Mykhailov 2020, 622–623; Aagaard and Rosenberger 2024, 8). This is important to note as it means that not only the embodiment relation can be conceptualized through the lens of embodied action, *but all four of the human–technology-relations*. This is also reflected in Ihde's (2022, 129) remarks on what he calls *material hermeneutics*, highlighting the pivotal role of *bodily perceptual* interpretation of instrument readouts in natural science research. As will be noted later-on, not all postphenomenologists follow Ihde's embodied perception stance.

Ihde (1979, xxiv; cf. 2010, 70) has often highlighted the centrality of materiality in his turn to embodied *praxis*: “only in concrete or ‘material’ shapes and motions does body-technology occur. In effect, the secret of ‘materialism’ is the notion of praxis.” The question raised by Ihde regarding writing technologies may, thus, be phrased as: *How did the material evolvement of writing technics change writing practices?* Or, since a range of writing technics may co-exist, *how do different writing technics* (from chisel and stone through styluses and clay tablet, further through pen and paper, onwards to typewriters and computerized word processors) *each shape our techniques of writing?* Here, materiality plays a crucial role in embodied use, as, for example, a Roman chisel and stone lends itself much more to straight cuts than curved ones (hence the letter U is often shaped as

a V). With the upcoming of “soft writing” technics like pen and ink, on the other hand, it became easier to write curves and circles than straight lines, requiring the writer to have ‘embodied’ the capacities and constraints of the new material medium (Ihde 2010, 69–84).

Ihde (2010, 75) goes on to discuss the change toward the use of mechanical typewriters—and the controversies in philosophical writing with writers like Nietzsche embracing the new technology while others, like Heidegger, condemned its use claiming that “the word no longer passes through the hand, but becomes mechanized as pressure on the hand with the script ‘snatched’ from the hand”. Ihde aptly comments that Heidegger obviously never mastered the skill of type-writing. This is more than a quip at Heidegger's expense; it highlights that to write competently, one must develop bodily skills that relate to the “capacities and constraints” (Ihde 2010, 77) of the material technics and be responsive to the “latent telic inclinations” (Ihde 1979, 42) that make its use elegant or at least less cumbersome. Dominant stabilities, one may conclude, thus correspond to the materiality of the technics in some form.

More pertinent to my discussion of ChatGPT and Word's Copilot, however, is Ihde's analysis of writing with a word processor on a computer: “In the immediate use, the *screen* now becomes the tablet, first in glowing green letters, then amber, now the full color range. In the composition process the screen substitutes for paper.” (Ihde 2010, 76). What the screen offers in terms of capacities and constraints is that words can be just as easily produced as erased, i.e., typical word processors allow for constant re-writing and editing of what has already been written (Ihde 2010, 78).

It is noteworthy that, here, Ihde's focus on materiality in embodied perception leads him to shift his attention to discussing *screens*, but not the writing *applications* that enable this constant re-writing and editing. It appears that ‘material technics’ primarily implies something that can be touched or manipulated, not something informational like machine code, or the mathematics behind it. This also becomes evident in Ihde's exchange with phenomenologist Andreas Kaminski: Ihde rejects Kaminski's argument that, when Husserl describes Galileo's mathematization of the lifeworld in his Crisis text, he discussed technology. Here, Ihde replies that for mathematics to become mediating technics, it would need to materialize in the form of Personal Computers and other *devices and instruments* (Ihde and Kaminski 2020, 275).

Still, Kaminski has a point in noting that we need to distinguish between different notions of materiality when it comes to digital technology (Ihde and Kaminski 2020, 281). This is especially relevant regarding the multistability of computers, which transgresses many stabilities as they allow a range of completely different uses by simply switching to another application (i.e., different informational code).

In Ihde's (2010, 78) description, word processing applications offer what he calls a *reading stability* of a screen displaying paper which can be scrolled through, and he notes that the next application may display a movie or a whole new (virtual) world in a video game. In a rather quaint sounding formulation, he notes that, in the age of the internet,

"... the computer station is not simply that of a typing station – it is a locus where human and world interact globally ... With the internet one could say the 'screen speaks out to us' just as we to the screen. It is the interactive interface where the cyberworld is mediated ... We remain situated and embodied human beings and our locus of this experience is at our *station* ... [T]he experiential locus remains the screen at the computer station which we occupy, although sometimes in our office, our home, or while away at hotel or university sub-stations." (Ihde 2010, 80–81)

Ihde's (2010, 83) larger point here is that despite our increasing interconnectedness and despite the compression of time and spatial distance through IT and the internet, humans remain *embodied and situated*. Therefore, the materiality of digital technologies continues to play an important role.

3.2.2 (Quasi-)materiality of digital writing technologies

While I share this commitment to an embodied perception stance in postphenomenology, Ihde's conception of materiality raises issues. His focus on screens and keyboards (as the material technics that afford certain multistable relations) seems dysfunctional for analyzing digital technologies such as ChatGPT. This is because ChatGPT has not changed the screens, keyboards and computing devices in front of us; it runs on the same material technics we have used for years (Gerlek and Weydner-Volkmann 2025).

Still, using LLM apps profoundly changes the writing process. This makes it implausible to claim that an analysis of the multistabilities and mediating relations should focus on the material technics. Rather, it becomes clear that we also need to account for how different writing *applications* mediate the writing process differently. Hence, we also need to analyze *how* applications present information on the screen, i.e., how certain aspects of applications have similar effects on multistability as materiality has.

One way to deal with this would be to move away from Ihde-style conceptions of materiality as Wellner (2020, 110–111, 2023) does, at least in terms of hermeneutic relations with digital technologies (cf. also Kudina 2021). While this is a possible approach, it also implies a move away from Ihde's decidedly embodied conception of intentionality (cf. Wellner 2020, 110–111). As will become evident in the next section, however, remaining committed to this conception

grounds the connection between the materiality of technics and stable uses in terms of affordances. I therefore choose to forgo Wellner's (2023) proposal to adopt a different ontological stance.

Instead, Gerlek and Weydner-Volkmann (2025) have proposed a "conceptual fix": introducing quasi-materiality as an extension to Ihde's conception of materiality can address the largely immaterial, informational User Interface (UI) of digital applications like ChatGPT. The concept of quasi-materiality denotes two core ideas: (1) that informational UIs allow embodied multistable human-technology relations in similar ways regarding embodied praxis that Ihde's materiality of technics does; and (2) that we don't mistake their informational status for actual materiality. We neither believe that our material devices have changed when an update to an app inevitably moves UI elements around; just as we don't commonly mistake a natural feeling conversation with ChatGPT for an interaction with an actual person.

This conceptual fix allows overcoming some of the limitations of an Ihde-style conception of materiality while retaining the strengths of Ihde's embodied perception stance for digital technology. To be clear: when using ChatGPT, writing *is* still mediated through a screen, keyboard etc. and we *remain* situated and embodied human beings. Quasi-material UIs are, thus, themselves mediated through the material technics we hold in our hands, sit in front of or type on with our fingers.

Quasi-materiality is not a new notion, however. At least *implicitly*, it has been assumed in previous postphenomenological studies that immaterial UI elements can be treated as if they were material aspects of digital technology. For example, when Rosenberger (2009, 178) discusses embodiment relations with a PC, he groups the mouse and keyboard with UI elements like "often-used onscreen icons or buttons". But for apps like ChatGPT, introducing the explicit notion of quasi-materiality better captures the role UIs play when comparing different writing apps on the same material device. In turn, (quasi-)materiality offers the conceptual link between a technology's affordances and the establishment of dominant stabilities. In the next section, I will discuss this link.

3.3 Connecting multistability with affordances

As mentioned above, retaining Ihde's embodied perception stance in postphenomenology has the advantage of grounding the link between multistabilities and a devices' (quasi-)material 'capacities and constraints' or 'latent telic inclinations': it is because of these that some stabilities will turn out to become dominant while others don't; they "predispose human beings to develop certain technolife forms over others" (Mitcham 2006, 30). Or, as Ihde (1979, 48–49) puts it: These inclinations act as a "center of gravity which allows

a direction to be followed from the inclined possibility structure of technics.” Aagaard (2018) has shown that an adaptation of James Gibson’s concept of affordances captures this “magnetic” characteristic of certain stabilities in human–technology interaction very well.

Ihde’s embodied perception stance also grounds the link between a technic’s (quasi-)material latent telic inclinations and the establishment of *bodily habits*. As Rosenberger (2013) argues, already established bodily habits can provide “abstract relational strategies” in dealing with the requirements of new, unfamiliar technologies. De Boer (2023) extends Aagaard’s postphenomenological adaptation of affordances further:

“According to Gibson, not only the physical environment, but also social and cultural phenomena can be understood in terms of affordances. For example, a postbox affords the possibility to post a letter to a friend, or a composition by Bach affords to be played or listened to ...” (De Boer 2023, 2270)

Hence, interpreting a specific stability in terms of affordances allows us to better take the situational context into account: Which of the manifold affordances appear relevant to us depends not only on the (quasi-)material properties of a device and application, but also on the “norms and customs constituting what would be ‘adequate action’ in this environment” (De Boer 2023, 2272). A certain use of a technology becomes stable if it is afforded and fits the normative and social requirements of the situation. Neither a device’s material properties nor the context *predetermine* which affordances solicit action; but where (quasi-)material properties of technologies optimally afford uses that are *also* socially adequate within a given situation, stabilities are likely to emerge in technological mediation (De Boer 2023, 2274–2275). Consequently, they are also much more likely to become *dominant* stabilities, as more users can be expected to engage with the technology in such a stability.

This is a crucial point for my argument. My concern was that the use of LLM-based writing apps may undermine reflective writing by promoting commodification (cf. Sects. 2.1 and 2.2). While such tools are *multistable* in that some users may also find engaging uses that constitute a focal practice, this doesn’t mean that the concern is unfounded; instead, the broader impact will depend on what stabilities will emerge as *dominant* (cf. Sect. 2.3). As we have seen in Sect. 3, this depends on the *affordances* of the writing tools. In turn, the affordances of these digital apps depend on (1) the capacities and constraints offered by the *quasi-material properties of the app’s UIs* and (2) on how socially adequate different uses are within a given *situative context*.

While affordances never predetermine technology use, an analysis of the “centers of gravity” offered by the UIs of

LLM-based writing apps should therefore reveal in how far certain stabilities are likely or unlikely to become dominant. In turn, where dominant stabilities reflect commodified writing, it is reasonable to assume that these apps undermine reflective writing. In the next section, I will compare two different writing apps that make use of the same LLM (GTP-4o) and analyze how their UIs promote commodification.

4 Comparing the affordances of ChatGPT and word co-pilot

4.1 Preliminary methodological remarks

Since “postphenomenology is committed to the anti-essentialism and non-foundationalism of American pragmatist thought, its claims cannot appeal to essences or foundations” (Rosenberger 2023, 2237). To make claims about dominant uses, one therefore needs to employ a *cross-examination* between different stabilities of using that technology (Rosenberger 2017, 491, 2023, 2237).

In the following, I will therefore start with comparing *commodifying* variants of using OpenAI’s ChatGPT with alternative, *engaging* variants of use. I will do so based on the affordances of its quasi-material UI within the context of academic writing. ChatGPT’s UI will, thus, be the “pivot point” of my analysis (Whyte 2015, 76), i.e., the aspect that remains the constant reference in my comparison; the two forms of stable uses are the “axes” (Rosenberger 2023, 2238) along which the comparison takes place. After that, I will do likewise with Microsoft’s Word Copilot. As both apps make use of the same underlying LLM (as of writing, GPT 4o), this will highlight the differences between the two apps in terms what their UIs afford. As will become clear, the two apps differ considerably in regards of affording reflective writing.

4.2 Communicative production of text: ChatGPT

ChatGPT (version October 2024) can be run as a stand-alone app, but on PCs, it is typically run through the browser. What we see in Fig. 1 on the left is the minimal UI users see when starting the app with some suggestions for using it. On the bottom of the window, we see a textbox labeled “message ChatGPT” that resembles a UI element known from various digital instant messaging apps. This design affords a *conversational* man–machine interaction: it affords natural feeling conversations with a quasi-other; and it does so by piggybacking on our *established habits* of electronic communication (Gerlek and Weydner-Volkman 2025): we are expected to “chat” with the app.

For example, asking ChatGPT to explain Borgmann’s concept of commodification (Fig. 1, right) causes the app

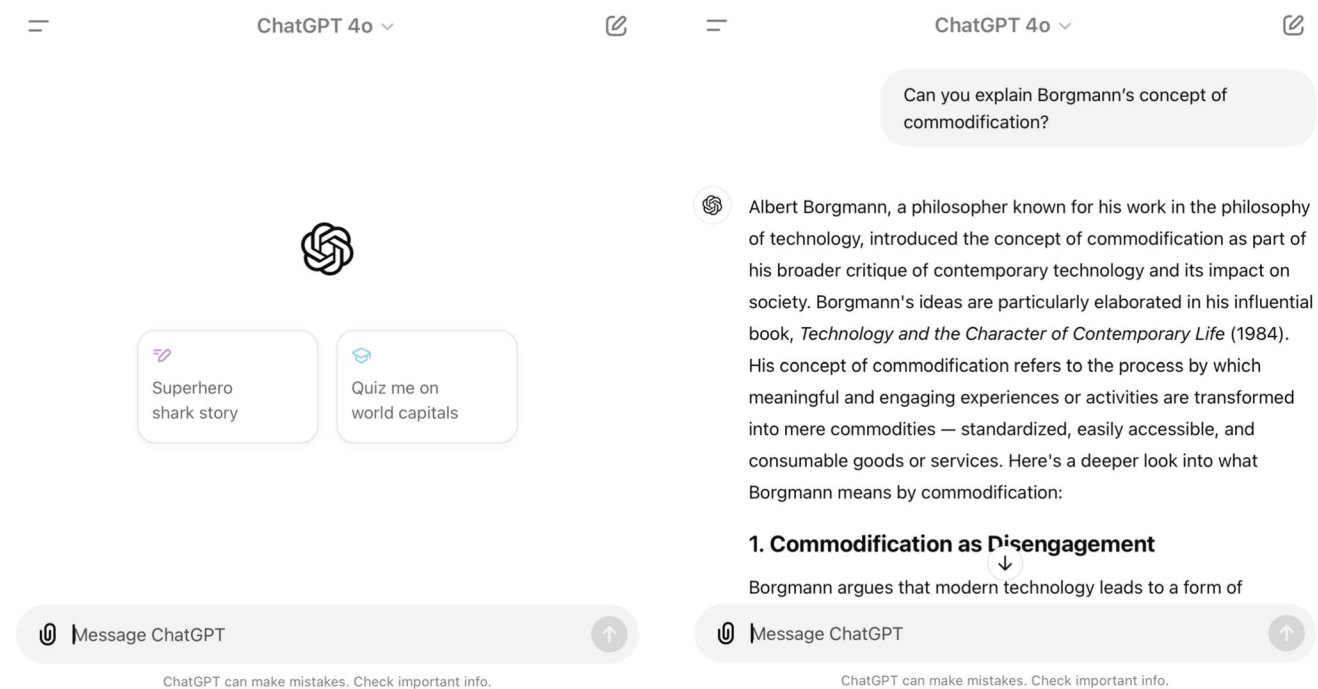


Fig. 1 ChatGPT's minimal user interface (left) and an example interaction (right)

to generate a corresponding answer. In follow-up questions, one can continue the conversation. As is well-known, ChatGPT can generate false statements, which is made explicit below the chat box. Still, in this stability, ChatGPT's UI affords an *alterity relation* that enables, among other things, an academic conversation in natural language with a (somewhat unreliable) quasi-other.

This can be put to productive use in academic writing. For example, Szücs (2023) suggests that using ChatGPT as a *conversational partner* may help academic writers to clarify thoughts and offer them new forms of expression. What is afforded through ChatGPT's UI as part of this stability is a *conversational process* that can involve *formulating one's beliefs* on a certain topic. As mentioned above, this is a crucial step in reflective thinking as envisioned in Dewey's academic ethos. Here, the user formulates *as if* they would write a colleague via Signal or a similar electronic messenger. While one "only" writes to a quasi-other, the conversational frame can help with the sometimes "painful" process of formulating one's beliefs. While not a perfect match for academic writing, it is striking that in a meta-study on the impact of ChatGPT in education, conversational forms of use are typically mentioned in studies that report improved student engagement, also regarding constructs for critical thinking (Lo et al. 2024, 2, 9).

While the specific habits of students in ChatGPT use "remain inadequately addressed" in current research, negative impact on student engagement (including constructs for critical thinking) is strongly connected with a different

form of use that in the educational context is associated with laziness, cheating and plagiarism, i.e., "copying and pasting text generated by ChatGPT" (Lo et al. 2024, 9–11). In academic writing, such well-afforded stabilities involve asking ChatGPT to *generate* a possible structure or even to *write a first draft* of an argument. Such interactions lose their conversational character, however, and resemble more traditional forms of human–computer interaction, such as typing a *command*. While one can use natural language, the output can be improved by carefully tuning the request ("prompt engineering"). Here, elements of an alterity relation are clearly retained, but the interaction strongly gains characteristics of a hermeneutic relation, as textual output is read and interpreted by us to learn something in relation to my request.

Irrespective of the quality of the resulting output, this constitutes a commodified form of text production: ChatGPT disburdens us not only from the skillful effort of writing clearly and coherently, but also from formulating our beliefs. Hence, the generated text doesn't resemble *our own* pre-judgments or prejudices, which is why this stability forgoes a meaningful engagement with them and relegates the writer to editing *another's writing* (cf. Sect. 2.2). Therefore, such writing ceases to constitute *reflective writing* as envisioned in Dewey's academic ethos.

At least in education, studies prominently report this form of use (Lo et al. 2024, 9). Here, commodified text production seems to have become a dominant stability. On closer inspection, however, it seems not what ChatGPT

primarily was designed to afford. The primary form of interaction is geared toward leading a natural feeling conversation via messaging. Hence, my typing in the chat box that “I am currently writing a new philosophical article” leads to the reply “That’s great! What topic are you exploring in your philosophical article? I’d be happy to assist with ideas, structuring, research, or even refining your arguments.” – an invitation to the user to play along and interact with ChatGPT as a quasi-other. It therefore seems plausible to assume that forms of engaging interaction for the purpose of reflective writing are another dominant stability afforded through the app’s quasi-material UI.

As mentioned in Sect. 3.3, affordances relate to the situative context as well. In academic writing, it is well-known that commodified text generation conflicts with certain expectations around academic integrity and authorship (cf. the association with plagiarism in education). At the same time, however, norms of academic *productivity* (the “publish or perish” culture) give incentives to take ChatGPT up on its friendly offer to disburden us from the effort of writing. Since reflective thinking is by its very nature *unsettling*, this pressure is compounded. Lastly, since ChatGPT is mimicking not just any quasi-other by default, but a *helpful assistant*, it becomes clear that engaging forms of use must be chosen very deliberately. While well-afforded, it is a form of use that constantly needs to resist the situational lure of the device paradigm and its ensuing commodification.

4.3 Automated document production: Word Copilot

I now turn toward Microsoft’s Word Copilot (version 16.88). Currently, the LLM functionalities must be enabled separately, incurring extra costs. Once it has been enabled, the blinking cursor is amended in the UI by a Copilot symbol to the left for any new paragraph and whenever existing text is selected; new documents present an invitation message to click this icon. This opens a dialog box (cf. Fig. 2, left). Here, users are asked to enter what they want to write about so that Copilot can create a draft “to help you get started”. For example, declaring that “I want to write an academic article on Albert Borgmann’s device paradigm and the use of Copilot in Word” the app drafts a structured argument straight into the document. Once this task has completed, the Copilot dialog offers to automatically change the generated text, suggesting to, “for example ‘make it formal’” (cf. Fig. 2, right) or to keep the draft.

The way Microsoft Word Copilot’s UI primarily affords use thus centers around *automated document production*. The resulting text does not need to be selectively copied and pasted into a draft document; instead, a full draft awaits the user to make edits directly within the word processor. The second dialog box and the icon remind users that Copilot can do parts of the editing automatically: highlighting any section in the document lets users choose to automatically “rewrite” this section. Inserting a new paragraph in an existing document allows, for example, to automatically “add a short paragraph on Borgmann’s life”.

Irrespective of the (often questionable) quality of the generated drafts, what the app’s UI affords is a highly

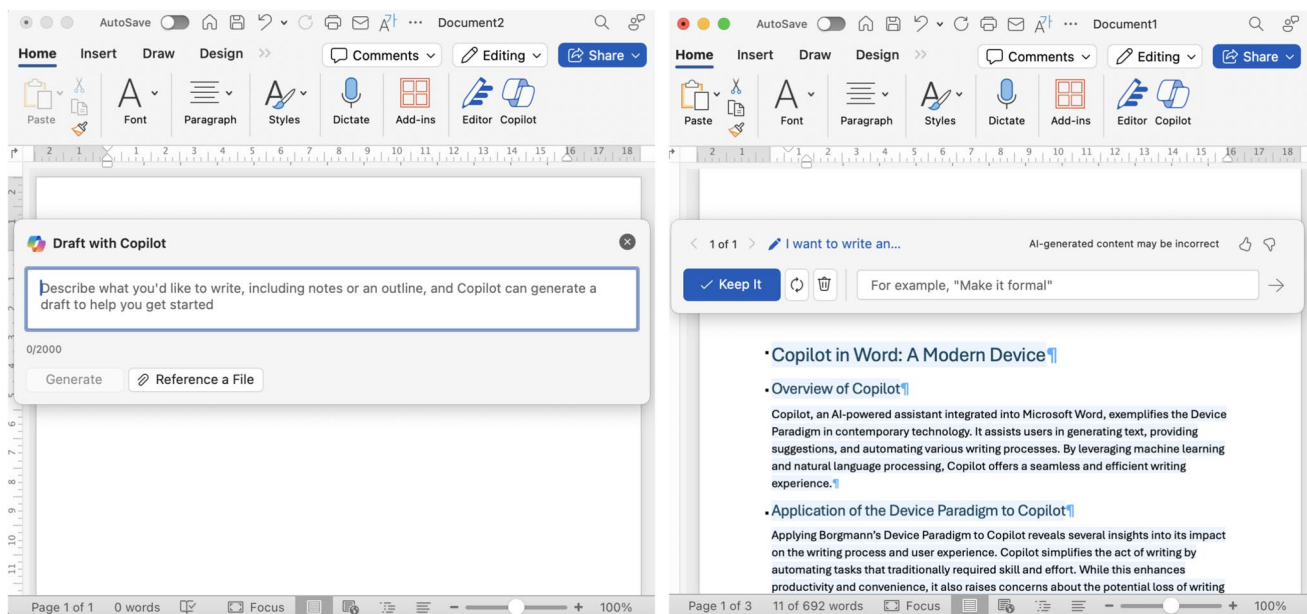


Fig. 2 Word Copilot’s drafting interface (left) and sample of a user interaction (right)

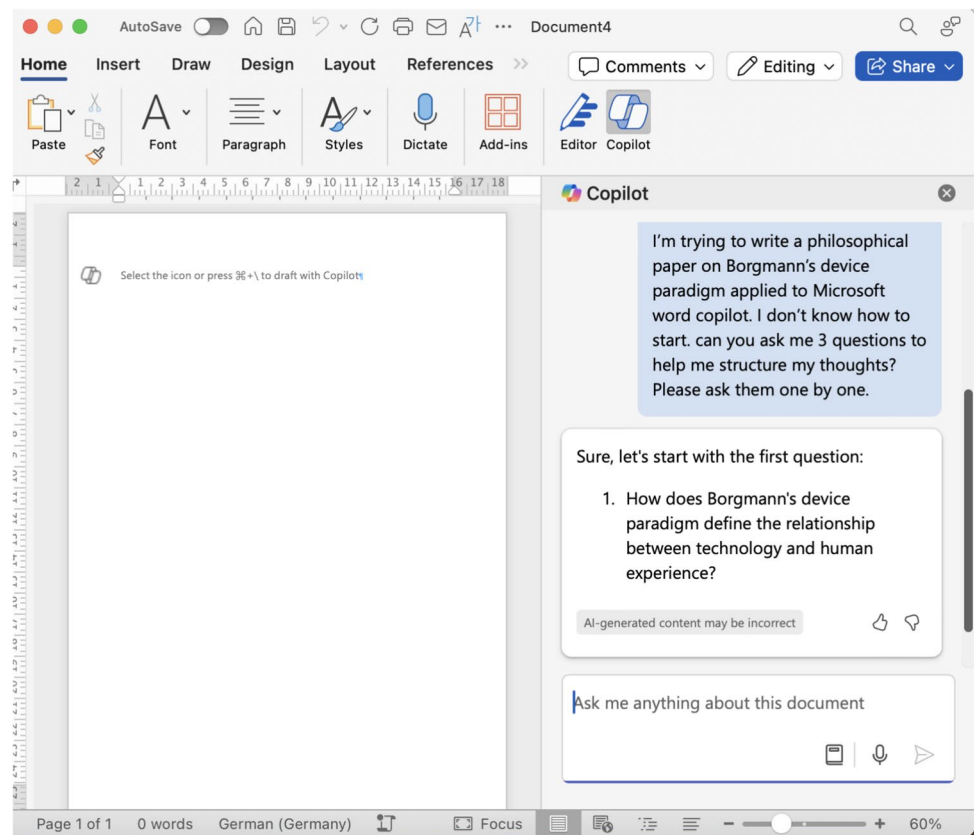
commodified form of writing. It is also important to note the subtle difference between ChatGPT's requirement to copy text into a document opened in another word processor and Word Copilot's generation of a fully formatted, "complete" draft document. While the former affords selective copying, the latter requires active deletion of those passages the users may want to write themselves or find unfitting.

The relegation of the users' role into one of editing is, thus, considerably more pronounced in Word Copilot. In terms of capacities and constraints of the quasi-material UI, the interaction hardly invokes the users' established habits of electronic communication and their respective relational strategies. The interaction has fewer characteristics of an alterity relation, where the user would constitute Word Copilot as a conversational partner. Instead, the interaction is strongly geared toward writing commands ('prompts') and it seems forced to understand the produced document as a 'reply' that is part of a natural conversation. Rather, it appears as textual output that is then read, interpreted and edited, inclining the users toward a hermeneutic relation. Overall, we can observe that the dominant stability for using Word Copilot largely mediates writing in similar ways as "asking" ChatGPT for a draft: it affords a commodified writing process that ceases to constitute *reflective writing* as envisioned in Dewey's academic ethos as it disengages us from formulating our own suggestions.

Apart from the drafting interface of Word Copilot, a chat pane can be opened on the right-hand side of the app window via clicking on the Copilot icon in Word's "ribbon" interface (cf. Fig. 3). This reveals a chat function, where users are informed that they can ask Copilot "anything about this document". Through this part of the UI, the user is inclined to use Word Copilot in a similar communicative way, as described above for ChatGPT, i.e., leading natural feeling conversations with a quasi-other in an alterity relation. For example, users can task Copilot with posing questions that help structuring an outline and trying similar prompts as above for ChatGPT leads to similar results. Here, information can be selectively copied and pasted into the document. Through this pane, Word Copilot's quasi-material UI therefore affords a stability for potentially *engaging* interactions that facilitate reflective writing.

However, it is also clear that this is not the primary and intended use case: the users are invited to "ask questions about the document", implying that a draft document already exists, and that the conversational interface is primarily used to assist in editing or re-writing. While it is *possible* to use the chat pane in isolation from an existing draft by activating it in a blank document, the out of center positioning in the UI and the small writing incline the user to perceive this as a mere "aside" that complements the "main" interaction described earlier. Furthermore, once

Fig. 3 Word Copilot's chat pane



a document is drafted, Word Copilot uses the content as additional context for generating responses in the chat pane. Thus, when I asked it to summarize *my own* answers about a possible structure that I entered in the chat pane, Word Copilot mixed in bits of content from the document that it had previously generated automatically.

Given that the app continues to highlight the automated drafting function, an engaging use of the app seems like an uphill battle. The latent telic inclinations present in its quasi-material UI require a highly deliberate resistance to the lure of the device paradigm: the user would need to fully focus on the communicative “aside” function to an otherwise empty document. This, of course, is exacerbated by the contextual factors of academic writing outlined above, especially regarding the publish or perish culture and its pressure to produce “academic output”. Therefore, it seems unlikely that deliberately using Word Copilot’s communicative interface to facilitate reflective writing will turn into a viable stability for many users and, hence, turn into a dominant stability.

4.4 Comparing ChatGPT and Word Copilot

As outlined above, the primary use afforded by ChatGPT is an open conversational interaction with a quasi-other. This stability may become dominant *if users interact deliberately with it and resist the lure of the device paradigm*. After all, transitioning to a stability of commodified text production is always just one interaction away.

While a commodifying use presents one of ChatGPT’s dominant stabilities, the capacities and the constraints of its UI hardly undermine a user’s deliberate choice to use it differently, i.e., in an engaging manner (even though its “eagerness” to assist must sometimes be resisted). The fact that ChatGPT’s output, but especially the user’s input needs to be (selectively) copied into another app creates a level of friction that underscores the qualitative differences regarding commodification to Word Copilots automatic document production.

While Word Copilot, in principle, allows a similar engaging use through its chat pane, the way the UI is designed makes this stability not well-afforded and disincline the user from conversational interaction. Functions of automated document generation and even certain editing tasks are actively put in the center of the app window and advertised frequently. Even though both apps use the same underlying LLM, this makes it implausible to assume that engaging practices of reflective writing become a dominant stability with Word Copilot. Hence, with Copilot activated, reflective writing tasks requires users to resist to a considerably higher degree the lure toward commodified writing.

5 Conclusions

Generative AI apps have the potential to negatively affect reflective thinking tasks by undermining reflective writing. This is because what makes writing so effective in facilitating reflective thinking is the latter’s need to lift our beliefs regarding a certain topic, our pre-judgments and prejudices, out of the stream of our thinking process and make them the thematic object of our attention. Writing these down disburdens us from holding them in a fixed state in memory. At the same time, however, it leaves the burden of *formulation*, of finding the right words, on the author. This is a crucial part in engaging with these suggestions as outlined in Dewey’s academic ethos. However, generative AI tools promise to lift this burden from us as well, effectively relegating the users into the role of editing an existing draft.

As shown in Sect. 2, this can be interpreted as part of a larger societal pattern, where technical devices displace activities that require effort but also give meaning by offering mere commodities. Thus, LLM-based writing tools promise to make our life easier by disburdening us from the time-consuming effort of formulating our beliefs. Ironically, however, by relegating users to an editing role, this disburdening stands in the way of engaging with what is meaningful in reflective writing, i.e., our own opinions, values, beliefs, or conceptions.

Based on a postphenomenological analysis of two LLM-based tools that can be used in similar ways for academic writing, I have shown, that the prevalent focus on the technical functionalities of LLMs fails to make important distinctions. Both, ChatGPT and Microsoft Word Copilot use the same underlying LLM, but they mediate text production differently due to how the UI structures the user interactions, and this also changes the likely dominance of commodifying stabilities. As part of the argument, three methodological revisions of Borgmann’s device paradigm and Ihde’s postphenomenology were necessary:

- (1) Verbeek’s critique of Borgmann highlighted the necessity to take alternative, engaging stabilities into account, and, as Rosenberger argued, to analyze how likely it is that these stabilities become a dominant form of use.
- (2) To answer this question, one must take contextual factors and UI design into account. Ihde has often mentioned how technologies offer ‘latent telic inclinations’ or ‘centers of gravity’. Based on the works of Aagaard, De Boer and Rosenberger, I have made use of a postphenomenological adaptation of Gibson’s affordances to prepare my comparative analysis of the two LLM-based apps. This adaptation allows identifying contex-

tual factors (situative norms of adequacy) as well as material factors in technology design to explain *why* certain stabilities become viable or even dominant and why others don't.

- (3) However, Ihde's embodied perception stance poses problems for dealing with digital technologies: Ihde's focus on the *materiality of technics* poses conceptual issues in regard of analyzing LLM-based apps that run on the same material devices we have used since long before ChatGPT became public. Following Gerlek and Weydner-Volkman (2025), Ihde's concept of materiality needs to be extended with the notion of quasi-materiality. This captures how mostly immaterial, informational UI elements further shape the affordances of technology use, allowing for a cross-comparison of the affordances of different applications.

What can be taken away from this cross-comparison is that concerns of a substantially negative impact of LLM-based writing tools on academic work are well-founded whenever those tools are used for reflective writing tasks. Both, situative norms of academic productivity as well as technology's promise to disburden us from the effort and discomfort of formulating our own beliefs clearly incline writers toward commodifying forms of use, something that is well-afforded by both of the analyzed apps.

But I also showed that the UI design and its implementation of generative AI functionality has a significant impact on the relevant affordances. ChatGPT's primary way of interaction affords "chatting" with a quasi-other. This can, alternatively, assist users in the crucial step of putting their premises, pre-judgments and prejudices *into their own words* and finding a way of expression as part of a conversational interaction. While Microsoft's Word Copilot can *in principle* be used in a similar fashion, its affordances incline users toward commodifying forms of automated document production and make engaging conversations with a quasi-other unlikely to become a dominant stability.

These implications for academic writing are part of a broader discussion on how the use of Big Data and AI technologies impact academic research (cf. Leonelli 2020). As I have shown, however, the discussion falls short when it is limited to whether generative AI should or shouldn't be used in academic writing. But given that Word is one of the most prevalent writing tools in academic work, we can see clearly that *choosing a writing app* has ceased to be a matter of personal preferences. Instead, in light of Dewey's academic ethos, it has become necessary to thoroughly reflect how our writing apps mediate reflective writing and thinking and choose accordingly.

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