



Conversation: What, How, Where, and Why is Speculation?

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A working definition for speculation: (n.) *the cognitive or artistic act of approaching or exploring the possibilities inherent in an unknown or uncertain area or phenomenon through the playful or strategic use of imagination, as modified by one's own perspective and the known circumstances (e.g. for the purposes of speculative storytelling, research, or planning for the future)*

Fafnir is an academic journal focusing on research of speculative fiction, a popular spectrum of genres that has absolutely nothing to do with financial speculation, speculative philosophy, or speculative computing – or does it? Although speculative works, practices, and moods have popped up in numerous different domains for a long time, finding a proper definition for ‘speculation’ – what it is and how it works in each domain – remains difficult. Let us speculate: what if things were different? Could speculation, more carefully observed and defined, emerge as a useful methodological tool for humanist research and beyond?

We are four postdoctoral researchers with varied backgrounds in literary, narrative and media studies, cognitive research, philosophy, and cultural anthropology, yet united by our common interest in the workings of speculation and imagination. After exchanging ideas in various seminars and workshops in 2021–2023, we decided to continue our discussion in writing. The result is the following chain-letter, in the course of which we do our best to pinpoint *what* we talk about when we talk about speculation. Is it a natural human capacity of perceiving possibilities, or a trainable creative skill? *How* does it relate to imagination and make use of other cognitive, linguistic, and

social resources? *Where* – or in which domains – is speculation useful or harmful? And finally: *why* should we speculate and develop our understanding of speculative works and practices?

Our discussion meanders around different modes of storytelling, sense-making, and creating, and delves into the evolutionary, adaptive, and sociocultural roots of speculation. We hope the reader is able to find some points of contact and relevance between our thoughts and their own work, whether they work in research, education, or creative industries. In order to stay true to the open-ended nature of speculation, we do not wish to provide too firm conclusions or chain speculation to too definite frameworks, ends, or definitions. Instead, we extend an open invitation to participate in this conversation and embark on a shared exploration of as-of-yet-speculated potentials of speculation.

Hanna

I have often likened speculation to exploration, because it is freer and less goal-oriented than forecasts or predictions. However, speculation does not lack purpose. When it comes to works of fiction, that purpose is often summarized as the reason behind the act of someone asking someone else to engage in a thought experiment, beginning with “imagine if” (see e.g. Scholes, Landon). Imagine if gender was defined in non-binary terms, as it is in Ursula K. Le Guin’s classic *The Left Hand of Darkness* (1969). Or imagine if enchanted silver bars, manifesting the meaning lost in translation, were used to fuel colonial networks of power, as they are in R. F. Kuang’s *Babel, or the Necessity of Violence* (2022). In cases like these, speculation is directed towards imagining something as *otherwise* (McHale); it’s an act of exposing something in the present, of adopting a different perspective to something familiar, of making things appear by introducing a new context.

While the effect of estrangement – the artistic technique of making objects “unfamiliar” and forms difficult (e.g. Shklovsky) – is not restricted only to fiction, speculative fiction is unique in the way it makes use of estrangement as a means of communicating ideas. Although strange, wondrous, and fanciful worlds are crucial for speculative fiction in this regard, I maintain that the interplay is not simply situated between the “real world” and an “imagined world”, but between “what is” and “why that is” or “how it might be otherwise” – or between models for making different truths (Kraatila). In other words, both as a playful and strategic use of imagination, speculation can enable us to reconsider the ways in which we maintain our understanding of *what is* through engaging with imaginings of *what is not*.

Elise

I like the direction you suggest here, towards considering speculation a primarily epistemological rather than an ontological matter: a strategy (or play) for gaining knowledge about our reality and its present circumstances as well as potential futures. As such, speculation could be regarded as a practice of consolidating uncertain knowledge, potentially facilitating improved comprehension of things that cannot be perceived directly or known for certain – like future developments, or the “more-than-human” aspects of reality. It is, in short, an attempt to render something unknowable knowable. This formulation has the benefit of avoiding the implication that phenomena

explored in this manner are (at least as of yet) nonexistent or not “real”. This makes speculation a much more versatile analytical tool for discussing the ways in which literary speculation can engage with real-world phenomena. For example, speculation can be a means for extending our perception of the world into areas that remain mostly hidden in our ordinary, human-scale lives, such as planetary-scale changes in the climate or ecosystems, or human activity on species-level (cf. Raipola, Caracciolo). Such areas involve a lot of aspects that are unknown or uncertain (and perhaps even unknowable), but they are still very much real and existent at this moment, not mere possibilities.

Considering speculation in epistemic terms also amounts to a counterproposal to various generic definitions of speculative fiction that equate “speculativeness” with anti-mimeticism or opposition to reality, which, in effect, constitutes an ontological separation between those wondrous, fanciful worlds built by such fiction and the concerns of our own reality. It might also be a starting point for rethinking the term for the purposes of fields like futures studies, where speculation often gets fairly bad rap, connoting lazy, poorly founded, or unjustified beliefs about the future, unbacked by rigorous scientific thought. Instead, speculation could perhaps be considered a perfectly legitimate form of constructing and communicating knowledge, as long as the heuristic and tentative quality of that knowledge is duly acknowledged (cf. Bergman et al., Grishakova et al.).

Sarah

I also like this direction! The separation between real and unreal often acts as an ontological troublemaker, particularly when we are trying to define the concept of speculation. Why should my thinking be considered less real than my actions? Just because I speculate about the existence of dragons does not mean that dragons roam the earth in flesh and blood. Instead, I have made them explicit and tangible in my thinking – they exist in a unique cognitive realm. What truly matters is the impact of this speculation: Thomas and Thomas’ theorem hit the nail on the head in suggesting that when people define situations as real they become real in their consequences.

Consider children who speculate about the whereabouts of dragons or trolls; they instinctively avoid these supposed locations. While some may argue for ontological realism, we run into epistemological traps anyway. We never perceive the same, and our framing is always shaped by history. Just recently, when a colleague gave a lecture, I could not help noticing that he was *not* wearing his glasses. Is that a real perception? Perception extends beyond the physical, and it involves recognizing not only what is present but also what is absent. Likewise, speculation seems to be intricately coupled with perception, as it revolves around what we desire or imagine could be there (Nagy & Neff).

My problem with speculation is that it has a mechanical ring to it, especially when it is discussed within the realm of cognitive science. When speculation is treated as a cognitive activity similar to problem-solving, where known pieces are put together to venture intelligently into the unknown, the cognitive subject’s immediate situation and the environment in which they are embedded are often ignored. Furthermore, when we explore the cognitive mechanisms underlying speculation, we sometimes lose touch with embodied sensitivities – those palpable tensions that surface when one attempts to “grasp” something and make it tangible in their own experience. These tensions

possibly arise from dialectic or interactive processes between being situated in and having *the experience of* being decoupled from the world.

From the point of view of embodied cognition, I have little to say about the distinction between speculation and imagination. I think vivid mental images, epiphanies, and open-ended thinking can emerge and be traced to embodied tensions in both activities. In a similar vein, Ingold's perspective on imagination aligns with this notion of "material engagement that is always holding us back". In a public lecture he articulated:

"[T]his is a particular tension that humans experience. Any artist will agree on that [...] Imagine you are a composer, and the music is shooting ahead in your imagination, and you are struggling with this pen and paper, trying to notate it down on manuscript paper. And a really hard work of composition is holding it there – the imagination – so you can get it down. And there is a constant anxiety that it will all [be slipping] away from you before you manage to catch it. And I think that is really the root of human life – the imagination."
(Ingold)

Thus, the question is not only how speculation is different from imagination – if there's any difference at all. Instead, it behooves us to contemplate whether any cognitive processes are entirely devoid of speculation. While speculation certainly extends perception, as Elise suggests, humans always read more into the world than what is there (like me noticing my colleague not wearing his glasses). Perhaps it would be worth getting a bit more immersed into the phenomenology of speculation? How do embodied tensions manifest and vary across different situations? Can we explore the nuances of speculation, considering not just its activation but also its quality and intensity?

Essi

Sounds like you're all associating speculation with fantastical worlds or creatures on the one hand, and with knowledge production on the other hand. On the first blush, that sounds very counterintuitive. But if we approach speculation in more practical terms, I think we find it's an unlikely lovechild of imagination and experimentation – indeed, of actively reaching for something that's not immediately here by probing and engaging with something that is.

So, unlike Sarah, I think there is a distinction between speculation and imagination. Like Hanna points out, speculative imagining should be differentiated from more free-flowing modes of imagining, such as daydreaming or mind-wandering, because it's usually structured by some goals or parameters – questions like "what if?", "what would happen if?", or "why would this happen?". As someone who has undertaken all kinds of creative projects all my life, I find these cognitive patterns familiar: they allow you to plan what you want to investigate and how, even if you don't quite know what it is you are doing yet (cf. e.g. Cain 18 on drawing and Gaiman 452 on writing). In other words, they allow you to start experimenting in a way that moves you, no matter how haltingly, towards the thing you want to understand. Of course, it depends on the "what" and the "how" – the aim and the methods – whether these experiments are more artistic or academic in nature. But what all experiments have in common is that they start with something familiar – a skill, an experience, material, or data – and steer you, by the way of an extremely

uncertain and unpredictable terrain, towards something new – a new understanding, a new combination, or a new artifact perhaps. In this sense, there's no need to ask whether we should use speculation as a research method; I think we are already doing so, although usually quite unknowingly.

Moreover, since experiments start with questions and grope their way through uncertainty, it's hardly surprising they pair well with imagination. Imagination is, after all, still something of an unknown terrain in and of itself – one that still holds mysteries to experts across all fields of arts and sciences. In other words, while the experimental “methodology” of speculation can be explained or even broken down to a flowchart, its imaginative sub-processes cannot; they are more of a black box.

I've found that speculative fiction authors are very fond of describing imagination through all sorts of natural and organic metaphors: it's something that sprouts or grows or ferments, seemingly on its own (see Varis “Kuinka kirjailija spekuloi?”, Varis “The Skeleton”). That is to say, not even professional speculators, like writers, claim to be able to fully control imagination. On the contrary, they can tend and nourish it, but beyond that, seem to be quite at its mercy. This is why I don't think speculation should be equated with a “mere” thought experiment or problem-solving either; the imagination at the core of it makes it something a bit more strange and volatile. It involves the kind of procedural knowledge and pre-conscious processing – including the embodied sensitivities and tensions Sarah mentions – that you cannot fully put into words (cf. Varela et al. 147–148).

Elise

Speaking of experimenting, tending and nourishing, I think we also need to consider what it would mean to discuss speculation as a practice – that is, as an intentional and at least loosely structured activity that requires certain cognitive, epistemic, and rhetorical resources. For my part, I like this outlook because it helps us to further distance speculation from mere daydreaming and imagination, both of which could be considered resources for speculation, but neither of which amounts to speculative practice in themselves. Understanding speculation as a practice manages this distinction without suggesting that it would have to be a particularly goal-oriented or deadly serious practice – instead, it emphasizes the process itself in all its volatile and unpredictable glory. I think this approach, therefore, creates a lot of room for considering the playful and strategic modes of speculation that Hanna brought up; they could both be regarded as epistemic resources involved in the speculative practice, the entanglement of which facilitates speculation's characteristic tension between the open-endedness and instrumentality. It is interesting how the gleefully autotelic and more goal-oriented forms of speculation can intertwine in, say, climate fiction, where much of the rhetorical impact derives from the tension between considering the speculative scenario as an urgent warning about a possible future and engaging with it as immersive and emotionally charged play.

Conceiving speculation as a practice, furthermore, seems to necessarily suggest that it requires some specific skill set. It is fashionable these days in literary and narrative studies to talk about different kinds of literacies – media literacy, climate literacy (Oziewicz), futures literacy (Liveley et al.), and so on – that people need in order to navigate the contemporary media environment and

partake in society from a well-informed position. So, what about speculation literacy? What kinds of skills do we need to recognize the prompts for speculative thinking in different texts, or to carry out thought experiments or experimental imagination in a constructive, interesting, responsible, and safe manner?

These questions interest me, because lately, I have been thinking a lot about the proliferation of speculative stories, “what if?” propositions, and contingent future predictions in narrative journalism. In this type of journalism, speculation tends to be used as a rhetorical resource for consolidating uncertain futures, from the possible escalation of the Russian invasion into Ukraine and potential new pandemics to the increases in mortgage rates and the price of electricity. A lot of it is just fear-mongering clickbait rather than good-faith epistemic practice, obviously. But that is exactly the point: employing speculation as a vehicle for clickbait seems to call for a certain literacy, a certain skill to assess the epistemic value and intentions of different speculative texts, and a skill to engage with such texts with the appropriate degree of criticism.

I have a hunch, or perhaps a hope, that this kind of skill set could be trained by reading speculative fiction, which can facilitate mindful speculation in a “safely” imaginary and remote context (cf. Emmi Itäranta’s comments in Varis “Kuinka kirjailija spekuloi?”). Then again, is it reasonable to assume that speculation as a literary, artistic, or readerly practice could truly correspond with the speculative practices required in nonfictional contexts? Are they really similar practices, when it comes to epistemic resources, approaches or aims, or even rhetorics? I would actually like to hear your thoughts about this. More broadly speaking: how does speculation, as a practice, relate to storytelling on the one hand, and fiction-making on the other hand?

Essi

Your idea of speculation literacy reminds me of Ursula Le Guin’s statement that imagination should be trained and disciplined just as much as rational intelligence, because a well-cultivated imagination is, in and of itself, a valuable resource for both delight and insight (*Language of the Night* 41–43).

I would claim that some speculative skills must already be baked into the literacies that *are* taught in schools. Karin Kukkonen, for instance, has highlighted the role that predictive processing plays in the act of reading all kinds of narratives. Also, even if the Author has been declared dead decades before, could we really recognize the contexts and purposes of *any* texts without speculating about their creators and their intentions to some, however brief and unconscious degree?

To reiterate what Sarah says, perhaps speculation, much like perception, is somehow inherent in most cognitive activities. It’s just the other, darker, smudgier side of the coin: we perceive what we can, and what we cannot perceive, we must either imagine, ignore – or, if we do get more intentional and methodical about it, speculate about. Perhaps this basic duality is the ground zero where all our thought and action stems from?

So, some could be more skilled in the conscious, elaborated practice of speculation than others – sure. The imaginative experimentation I described above could be such a skill, learned and developed through repeated creative activities. But on a more fundamental level, I believe speculation is a human

impulse that cannot be stopped or avoided. Le Guin says this about imagination, too: whether it's cultivated or suppressed, it "will out", if not in its healthy and flourishing form, then in some stunted and twisted form (*Language of the Night* 41–43). The outcome depends on the imaginer's interactions with their environment.

In the framework of 4E cognitive theories, the "resources" of speculation that Elise talks about would boil down to affordances, the action potentials arising between cognitive subjects and their surroundings (Gibson, Varela et al.). As such, they are like complicated equations or chemical reactions. On the one hand, you have the conscious speculator with their capabilities and dispositions: their propensity to imaginative and counterfactual thinking; their abilities of mental simulation, theory of mind, and self-reflection; a certain sensitivity to uncertainty; a certain degree of openness to novelty; cognitive habits; memories and affects attached to them; and possibly a desire, an intention, and the skills to understand or create something new. On the other hand, you have the lifeworld where the subject is embedded: the perceivable and knowable facts and circumstances; the feedback from others; mark-making tools that allow meta-cognition through writing or drawing; and the innumerable, collectively shared texts, images, and myths enveloping individual imaginations in their interwoven layers. When you bring these two complex amalgamations – an imaginative subject and an average human environment – together, some sort of speculation will almost certainly emerge from the cracks. It just depends on the ingredients whether it'll be a probable projection, a bout of wishful thinking, an anxious worst-case scenario, a conspiracy theory, or a tellable narrative.

Even if speculations deal with the unseen and the unknown, they cannot exist in a vacuum any more than any other type of cognitive activity can. So, for me, Elise's questions about speculative literacy depend on how we, individually and collectively, are able to manage these resources of speculation and, consequently, the action potentials they entail.

Sarah

I resonate strongly with this idea that imagination constantly resides in the background, persistently lurking and ready to "get out". I like the idea that speculation is an inherent aspect of what we do, because we never fully grasp the world as fixed or complete. It perpetually evolves, and our influence on its evolution is intertwined with our perceptions of what we think our next moments will, can, and should be like.

But if speculation is part and parcel of our daily activities, how could we establish speculative practices that purposefully bring this capacity to the forefront of our endeavors? I believe this can be achieved by directing our attention explicitly, yet in open-ended ways, towards this very process. Consequently, it is not a matter of identifying when or if speculation is present, or where it can be integrated into our practices; it is about making speculation itself the locus of interest, in ways that enrich its quality and phenomenological depth.

Because imagination is an enduring human feature that is always present (in the background), we do not choose to enact or suppress it – but we can choose to make it a primary practice. That is, we can engage our speculative processes directly by making it a task-oriented practice. Alternatively, we could

intermesh speculative practices with other engagements, which would allow us to manage the tensions that arise when speculation intersects with other tasks, as in the cases of speculative literacy, speculative reading, or speculative design (see Dunne & Raby).

So, for me – and building on the points you’ve all made – speculation is an ever-present facet of our existence. We can choose to establish it as a task-based practice by training our attention on how we interact with possible futures within and beyond any other practice. Just as we can create and organize tasks around other activities, we can do the same with speculation, and in doing so, bring it to the fore by opening up and exploiting the tensions that emerge from the interplay of knowing and not-knowing. Developing one’s speculative practice largely entails learning to engage with and endure these tensions.

Finally, I think we need external criteria to judge the quality of speculation. In other words, establishing speculation as a practice requires some way of discerning between mere conjecture and guesswork, and genuine expert speculation.

Hanna

I’d like to circle back to Elise’s idea of speculation literacy and the question of whether the skill set needed to assess different speculative texts can be trained by reading speculative fiction. I am usually quite wary of approaching literature as a “training ground” for any purpose (cf. Kidd and Castano; Mar and Oatley). But since fiction writers could, indeed, be called experts in the field of speculation – following Essi’s and Sarah’s suggestions of professional and expert speculation – perhaps turning to them could help us become better speculators. We would then need to specify what exactly they are experts on. Essi points out that speculation is usually structured by some kind of goals and parameters, so maybe we could start from the presumption that expert speculators are particularly skilled in working with such structures.

However, reading speculations written by experts does not guarantee that we learn to assess or criticize the texts. It is conceivable, for instance, that we just become familiar with the structure and are, therefore, more than happy to see it used in clickbait journalism and conspiracy theories in the same way we enjoy serial fiction and drama recycling conventional, sometimes harmful formulae. The more familiar we are with such formulae, the more natural it becomes for us to immediately and affectively react to them on various digital platforms where both clickbait and conspiracies flourish. What if, in turning to speculative fiction, we “train” ourselves with conventional speculative exercises that follow stereotyped or otherwise narrow lines of thinking and imagining? This is one of the reasons why I have wanted to emphasize *the how* of speculation in addition to *the what* of speculation (to paraphrase the age-old distinction between the what and the how of narrative, see e.g. Phelan). In other words, instead of looking solely at the “results” of a speculative exercise – such as a speculative scenario set in the future – we also need to analyze the premise onto which that exercise is built – the very starting point that limits and guides what is seen as possible or impossible, and as the unknown that is being approached (see also Roine “Speculative Strategies”). After all, speculation is modified by one’s own perspective and the known circumstances.

So, although speculative experiments might steer us towards something new, not all of them accomplish this, or the structures that steer us might be based on problematic premises. When it comes to scientific processes and speculations, we – as the experts! – know how to criticize such premises. But how could we disseminate such critical speculative practices elsewhere? I have no answers (yet), but would like to consider communality and dialogue as possible resources of speculation, in addition to all the other resources mentioned above. There is evidence, for instance, that while reading literature can increase the wellbeing of individuals, participation, community, and taking part in reading groups or other such environments, where one is heard and can connect with others, are even more beneficial (e.g. Kosonen). So, perhaps such communities and groups would be a useful resource for both creating and trying out speculative experiments as well as engaging in and analyzing such experiments?

Essi

I might be able to gather all the valid concerns Hanna is raising here under one word: awareness. If we want to start building practices of expert speculation, one of the building blocks should be self-reflective awareness – or mindfulness: mindfulness of the premises and goals of the speculations; mindfulness of the ways and purposes by which they can and should be communicated to others; and of course, mindfulness of the often blurry lines between fact and speculation. If we are not self-critical and intellectually vigilant enough, we always run the risk of basing our worldviews, or even our research, on premises and frameworks that might be mixtures of knowns and unknowns, rather than the firm bedrocks of fact we assume them to be. It should be evident to all researchers by now that ideologies like patriarchy or capitalism can become so normalized they are practically treated as facts – the supposedly only way that things can be. In these cases, speculation could act as something of a litmus test, or a 21st century version of the Socratic method: we should always, *always* ask ourselves if things could be different. This, and only this, can help us differentiate between premises that really are laws of nature, and premises that are actually matters of choice, habit, or context.

Speaking of context, that's another variable expert speculators should remain highly aware of. I think we have already agreed that speculation is useful, or even unavoidable, in many domains of human life – it's like a special spyglass that can give us a slightly wider view of almost any terrain (cf. Varis "Strange Tools and Dark Materials"). But of course, the tensions between the known and the unknown, which Sarah is talking about, should be managed differently in different domains. In art, we can – or might even want to – reside within those tensions. Art doesn't necessarily have to resolve or even claim anything; on the contrary, it can give us space where we can just be, feeling whatever we feel and experiencing whatever we experience (cf. Varis "Hitaiden kuvien äärellä"). This kind of approach is very generative of speculation, because it doesn't necessarily conclude or instrumentalize it. Fiction and art can and should speculate just for the sake of speculating. That in and of itself likely trains the imagination, as it were – *and* it's fun! But in research, at least some of the cognitive openings afforded by speculations are usually limited or seized in some way. The exploration is expected to lead to a discovery, so one must move from the tension between the known and the unknown towards some new

certainty, probability, or at least a better inventory of what exactly is known and unknown.

Understanding this continuum of speculative strategies extending between arts and sciences could, perhaps, help us rethink the relationship between artistic and scientific practices as a whole. This, in turn, might prove crucial if we want research – especially humanist research – to progress beyond positivism and grasp human experience in a more holistic manner (cf. Leavy 256). The sustained speculative tensions and the experientiality of art could have much to offer to researchers who are trying to get past the classic empirical, structuralist, and cognitivist models, towards more phenomenological, embodied, enactive, and posthuman understanding. But lots of methodological bridges still need to be built. A more systematic and aware approach to speculation could form one such bridge, since it's already something that both sides utilize in one way or another.

But of course, arts and sciences aren't the only areas of speculation. If there's one thing we speculate about incessantly, it's surely the thoughts, intentions and feelings of other people! We may call it "mind-reading", but of course, there's no such thing. "Theory of mind" is a more apt term, because it's really about hypothesizing and speculation, even if it is so automatized we barely notice it. Many literary researchers have suggested that the social speculations invited by narratives, especially literary narratives, could make us a bit more aware of these speculations and, hence, also a bit more skillful at them (Kidd and Castano, Mar and Oatley, Zunshine). So, if reading fiction can make us, if not measurably better, at least more mindful of our social speculations, why would the same not hold true with other kinds of speculations as well? It's not an automatic or straightforward process of learning and transference, of course, but engaging mindfully with fiction and art could make us more mindful of the ways we engage with the rest of our reality as well.

Sarah

I want to advocate for the dialogical nature of speculation, because, like Essi said before, speculation never emerges in isolation. Per Linell highlights the dialogical nature of human sense-making, and argues that we are always saturated by previous social interactions. These interactions significantly shape our present actions, and we are held accountable for them in future social encounters. Our minds thus emerge as dialogical and multi-scalar entities.

Literary speculation is not only tied directly to cognitive processes; it also hinges on the speculator's habitual linguistic actions. This allows conceiving ideas as cognitive processes which (re-)enact parts of an individual's life experience within their encultured social activity. Therefore, at its core, speculation is traced to social processes that can sculpt the course of future events.

The conventional approach that confines speculation within the individual, leads not only to a computational understanding of cognition but also of language. This viewpoint prioritizes the syntactic functions of a language system and, consequently, fails to shed light on how language relates to human forms of life. By contrast, a dialogical perspective on speculation puts emphasis on the *dia*-logics inherent in an individual's speculative processes. A dialogical perspective thus allows us to understand how human thinking and language are intricately linked to specific forms of cultural practices.

Emergent speculation can involve multiple voices that often intermesh. Linell emphasizes how “others”, whether implicitly or explicitly present in the situation, saturate local action-perception. For instance, the voices emerging during speculation can refer to broader societal influences, such as norms, values, and beliefs that are dominant within a particular socio-cultural practice.

The connection between language and speculation is thus pivotal. If the speculator’s linguistic and cognitive couplings with their environment sculpt cultural niches, then language is a diachronic phenomenon. This means that language experience consistently influences how we perceive the world and how we are trained to attend to our cognitive processes, including textual elements and speculative practices in general.

The dialogical backbone of speculation challenges any notions of speculative processes as purely mental, autonomous, and locally derived. Instead, this perspective prompts discussions about the value of cultivating and shaping speculative processes within dialogical contexts. It also highlights the multiple timescales that constrain how we engage and attend. The “who” of speculation is not singular but plural, and the “where” of speculation is not simply a matter of localization; the multi-scalar nature of dialogical speculation introduces temporal complexity and distribution into the equation.

Hanna

I definitely subscribe to this idea of speculation, its processes, and its settings being plural and distributed, instead of singular and isolated! Literary studies habitually take the singular perspective and often focus on, for instance, the works of a single author or reading as a private meeting between a reader and a text. One of the reasons for this is that the current concepts of textual analysis are limited when it comes to distributed and multi-scalar phenomena. The concept of author is based on an idea of a single human-like actor and their “experience” (see Roine & Piippo, “Authorship vs. Assemblage”), and even the analyses of complex phenomena, such as the emergence of story-like content on digital platforms, emphasize human action and perception (see e.g. analyses of popular hashtags as representative of the “story logic” of social media, Dawson & Mäkelä; “viral storytelling”, Mäkelä et al.; users “storying their lives”, Georgakopoulou; or sharing their beliefs and values as “shared stories”, Page).

As such, these suggestions for a dialogical and distributed framework of speculation come close to my research: I have examined speculation as a tool for analyzing the entanglement of humans and computational media. This is a context where, in my view, speculation is especially pronounced – but often still goes unnoticed, because the ways in which computational media and algorithmic actors affect, guide, and shape our ability to imagine are mostly opaque to human scrutiny. While computers’ ability to model complex scenarios and their possible outcomes has been known for a long time, it is now urgent to recognize the full extent of the ways in which human cognitive processes are externalized to computational systems (Hayles) and the ways in which our central social and cultural practices – such as reading and writing! – are fast becoming digital processes. Furthermore, these processes rely on platforms owned by private corporations – such as Alphabet, Meta, Amazon, Apple, and Microsoft – and on these platforms, the content that users can perceive through their interfaces is (re)formed, (re)organized, and updated by

a meshwork of procedural and unfolding agencies (see Roine & Piippo, “Social Networking Sites”).

With regard to our engagement with the possible, it must be kept in mind that speculation does not simply expand our views, but also participates in producing the possible by drawing it into the present. In other words, it narrows infinite possibilities down to a more manageable scenario. From the birth of finance capital in the 18th century, such possibility-oriented thinking has been routinely tied to normative goals, such as profit and loss (see uncertain commons). Current computational, algorithmic actors follow similarly instrumental models of speculation, which can significantly affect our understanding of the spectrum of the possible. As algorithmic operations are designed to gather, process, and classify data in order to bring forth comprehensive patterns in the world, they increasingly participate in making certain – often highly normative – forms matter. The self-reflective awareness that Essi called for is thus crucial when speculating in digital contexts, as in the digital, networked age, speculations of both hopeful and apocalyptic scenarios are used across platforms to affect not only our understanding of ourselves as human beings within our lifeworld but also our social and political decisions.

Elise

What I find interesting and troubling about normative future narratives, in corporate storytelling for example, is that they tend to cast the described futures not as speculations but as visions: brave new worlds where Meta or some other corporation leads the way. Of course, such corporate storytelling is not really a matter of any honest pursuit of knowledge but of money, power, and influence; they are not trying to scope out possible futures but selling their own particular flavor of it. This constitutes an interesting antithesis to the kind of autotelic and freeform speculation that is, occasional didacticism aside, usually afforded by speculative fiction. The key difference between these types of storytelling is not how speculative they are, but how open the respective storytellers are about being speculative, about their epistemic aims and limitations, and about the contingencies hidden in their truth claims.

Therefore, I definitely subscribe to the call for self-reflective awareness of speculative thinking. In this world full of storytellers trying to pass off their speculations as much more certain knowledge, being able to recognize both when someone else engages in speculative thinking and when we do it ourselves is, indeed, crucial. That’s also what I was getting at with my earlier point about speculation literacy – or perhaps metaliteracy, the ability to “stay with” and reflect on our own speculations, and those of others, as interpretive practices. This entails being more cognizant of the epistemic limitations of our perception of the world, and some sense of how large a part of what we think of as “reality” is actually built of speculative matter. As Essi noted, other people’s interiority falls quite inescapably into this realm of speculation – and so do all nonhuman experiences, future developments, and much of the past, both on personal and world-historical scales. Then there are what Timothy Morton calls hyperobjects, phenomena that are so all-encompassing and alien to human experience that they cannot be perceived or empirically described in their entirety, but only in their localized manifestations – climate change being the example *par excellence*.

Strictly speaking, then, it could be said that most of the universe consists of things that are unknown, unknowable, unnarratable (Raipola), or irrepresentable, at least if we reject the naïvely positivist view that only scientifically observable phenomena constitute meaningful facets of our reality. We scope out these other facets of reality via models, theories, scenarios, calculations, narratives, and other heuristic “good enough for now” approximations of all kinds in both arts and sciences. These are flawed but essential attempts to grasp, construct, and share with others something like what Kathryn Hume famously named “consensus reality.”

I’m inclined to think that in order to become better, more mindful speculators, we need to start by orienting ourselves towards our shared reality as something that is mutable and flexible, rather than fixed and pre-given. Similar outlooks have been expressed by speculative authors like N. K. Jemisin, who stated in her Hugo Award acceptance speech in 2018 that “we creators are the engineers of possibility” (Cunningham), and Emmi Itäranta, whose latest novel, *The Moonday Letters*, gives us the gnomic utterance: “Sometimes imagination is more important than the truth. Not because it covers the truth, but because it expands it and makes its potential bigger” (78). According to such outlooks, our world is something we build for ourselves and each other, rather than something we merely perceive. All this world-making probably shouldn’t be called speculative, but speculations are certainly an inescapable part of knowing the world and sharing it with others.

So, perhaps this is another crucial part of that awareness we need to develop around our own speculations: some knowledge may only be true contingently or potentially or hypothetically, but that does not necessarily make it useless or illegitimate. On the flip-side, just because we are used to taking some things – like Essi’s earlier examples of capitalism and patriarchy – for granted, or seeing them as necessarily true interpretations of reality, it does not make them any less debatable or more legitimate. I hesitate to argue for a position that “reality” is fully a matter of interpretation (let alone speculation), because such a viewpoint would carry a certain whiff of “post-truth” politics, science denialism, and paranoid conspiracy theory. However, I do not think that defaulting to naïve scientism helps with any of that either. Famously, fact-checking rarely works, because facts have little impact on how people actually experience the world.

Instead, maybe it would be more helpful to treat speculations as potentially meaningful contributions to our shared reality – and to get a little more comfortable with the idea that this reality is not fixed. Like Essi, I have also argued in previous publications that art can create room for autotelic speculation where we can simply stay with our thoughts and feelings for a while (Kraatila). As such, it can perhaps be of some help in learning to tolerate epistemic uncertainties and entertain contingent ideas. If we got comfortable with that manner of being in the world, maybe there would be more room for recognizing and evaluating speculative knowledge creation in other, more instrumentally oriented contexts as well.

Sarah

I’d like to build on your ideas that embracing speculation could open doors to new perspectives and increase the tolerance of uncertainty, and connect them to the current challenges our planet faces. We are witnessing a series of

interconnected crises, both ecological and psychological. In this context, speculation takes on a dual role: it is a factor contributing to our predicament, *and* a potential solution to it. While speculation plays a significant role in commodity markets, it also has a crucial role in philosophy and literary studies, where it serves as a tool for pushing boundaries, provoking new thinking, and exploring the seemingly impossible. Understanding this dual nature of speculation is essential as we seek new ways to address and overcome the ongoing crises.

As we've already discussed, speculation enables us to extend our perception, granting us the capacity to eventually comprehend and grasp what is not immediately visible. We could think of it as a forward-facing torch that illuminates a cross-section of the unknown, dark territory ahead. As we wield this torch, we have the freedom to direct it in various directions, but we can only glimpse one slice at a time. If we want to make the partial picture whole, we need informed speculation. This entails probing how our windows into our immediate surroundings connect with the broader global landscape and understanding the long-term repercussions of our actions. Speculation thus assumes a temporal extension. To harness its full potential and to ensure its quality, we must direct the torch in multiple directions, exploring various slices of what the world is and what it can be.

Speculation can help us move beyond ego-centric and even anthropocentric perspectives, and adopt, instead, a multi-perspectival lens. Literature operates according to these speculative logics. Through writing, speculation becomes a way of engaging, one sentence at a time, with what eventually turns into a narrative composed of various parts. These narrative components can be put together in diverse ways, contingent upon the direction of the torch. Notably, not all narrative configurations are equally compelling.

Speculation also liberates us from feeling tethered to the present moment by drawing on timescales that extend beyond it. In writing down possible futures, individual experiences become shared, and they can thus serve as a substrate for further speculation. The social and accumulative nature of speculation is crucial: collective speculation within a community enables comparison of different slices of possible futures. That is to say, literature serves as a sublime resource for coordinating speculative thinking on societal scales.

Hanna

I think the paradox that speculation is both a contributor to our current problems and a key to solving them is a crucial observation. In their manifesto *Speculate This!*, a collective of writers dubbed "uncertain commons" argues that the future is increasingly "imported into the present, bundled up, sold off, instrumentalized. Some eagerly buy into these futures markets, placing their bets; others imagine things differently. All in all, nothing more than speculation and nothing less." (n.pag.) This sheds light on some highly powerful ways speculation is used today. We could even say that we are living in the world shaped by speculation, or at least by strategies and methods close to it. In addition to commodity markets, there are all sorts of probabilistic sciences (e.g. risk analysis, predictive genomics), anticipatory techniques (e.g. technological forecasting), and various powerful forward-looking institutions (e.g. the Intergovernmental Panel on Climate Change).

Furthermore, digital technologies are steadily occupying more and more space in our culture and society. It is crucial to keep in mind that the design goal driving the development of these technologies boils down to the ideal of not only being able to predict all stable processes but also being able to eventually control all the unstable ones. This is yet another use of speculation, a form of imaginative thinking – “a process for envisioning possible futures and bringing them into greater possibility through implementation”, as Ed Finn (185) puts it. In this sense, algorithmic technologies, with their goal of anticipating our needs and desires, seek to end our explorative search for meaning and direction and, instead, (pre-)determine them for us. This affects the futurity of our thinking, our capacity to imagine what is possible for us, both as individuals and as societies. To use the form of speculative experiment myself: if this goes on, how narrow might the space for open-ended, free speculation become? This is one of the reasons why we need to understand speculation and other forms of imaginative thinking better; we must try to understand their differences and structures, and where they might lead to.

Importantly, speculation – in the sense we have been sketching out in this dialogue – is very different from what contemporary digital technologies, such as OpenAI’s ChatGPT and other large language models are doing. In his recent *The New Yorker* essay, science fiction author Ted Chiang describes ChatGPT as “a blurry JPG of all the text on the Web”. In other words, ChatGPT effectively “rephrases the Web”: it interpolates and estimates what should come next or what is missing, by looking at what is on either side of the gap. Chiang’s illustrative example of this is what ChatGPT does when it is asked to combine two different kinds of texts, such as generating a description of losing a sock in the dryer in the style of the Declaration of Independence: “it is taking two points in ‘lexical space’ and generating the text that would occupy the location between them”. As our dialogue has made clear, speculation is not about interpolating or estimating; rather, it attempts to extend our understanding and come up with something new or unexpected.

Thus, maybe we should not attempt to make more and more use of speculation in our culture and society but to increase our understanding of it and its uses. Perhaps, we can find uses for speculation that do not contribute to selling off our futures or add to our current crises in an unsustainable way. The writers of *Speculate This!* manifesto suggest abandoning firmative speculations, which cling tightly to the unsustainable petroculture, and instead, devoting our time to what they call affirmative speculations. This would mean imagining futures and alternatives while “refusing the foreclosure of potentialities”; holding on “to the spectrum of possibilities while remaining open to multiple futures whose context of actualization can never be fully anticipated”. For uncertain commons, affirmative speculation “embraces way of *living in common*”. This is certainly a form of imaginative thinking that literature can also participate in.

Elise

“Affirmative speculations” appear quite similar conceptually to what Genevieve Liveley and her co-writers have taken to calling “futures literacy”. A crucial part of it is the ability and inclination to think about future as a set of open possibilities, rather than as something singular that can be captured into a neat narrative, packaged, and sold. These days (and maybe to a greater extent than

before?), it is a common practice in marketing, politics, and journalism alike to build scenarios and present intricate visions that seek to consolidate a particular version of the future. Companies like Meta and Apple offer exhaustingly long and involved techno-utopian visions in their recent promotion videos, in which they are not only claiming to be in the process of building the futures they present to us but also inviting the audiences to “participate” in that journey, whatever that is supposed to mean. Political parties from left to right paint their own pictures of the future, competing with the visions of others and selling themselves as either the builders of a utopian future or (more often, perhaps) as the only ones truly committed to preventing a dystopian one. Meanwhile, journalism, especially after the pandemic, frequently engages in those epistemically suspect clickbait speculations I mentioned earlier. All these future speculations are, in effect, attempts to sell a certain version of reality that is – inescapably – in and of the present. All of them are also engaging in a decidedly “firmative” speculation that doesn’t leave much space for the audience to do their own imaginative work. Nor does this type of speculation encourage critical reflection on its epistemic value or motivations – that is to say, it doesn’t promote audiences’ futures literacy or skillful future-oriented thinking.

I would say that this kind of speculation is, in essence, covert, inclined to downplay its speculativeness. “Abandoning” it would entail replacing it with more overt speculation, the kind of speculation that is more reflective and transparent about its own epistemic limitations and geared towards encouraging readers’ agency in making their own interpretations or even imagining their own alternatives. This is the kind of co-constructive speculation that, arguably, speculative fiction excels in (Kraatila). However, I wonder what moving from covert to overt speculation would entail in practice – and, most importantly, who are the nebulous “we” who should make the switch? Would a shift from firmative speculations to more open and affirmative and playful ones ever be in the interests of the actors who are currently making money and gaining influence from covert and firmative speculations?

It seems, at any rate, that we are coming back again to the importance of reflection, awareness, and mindfulness when it comes to speculations, whether our own or those of others. So, rather than it being a matter of “us” abandoning harmful forms of speculation for more sustainable ones, maybe the road towards better speculative practices entails promoting more critical recognition of, assessment around, and engagement in speculative thinking from audiences constantly bombarded by speculative narratives. This, of course, would require the kind of nuanced understanding of speculation as a practice – an epistemic, rhetorical, and cognitive practice – that we are aiming to grasp here, and then popularizing that understanding in some way.

Essi

So, to sum up: speculation offers itself as a more open-ended, flexible, explorative, and creative ally to positivist thinking, whose narrow definitions, near-mathematical operationalizations, and drive for final, indisputable knowledge reflect the kind of ideologies that are becoming increasingly obsolete in the course of our millennium. In science as well as in society, we are starting to understand that the world is a much messier place than exact and orderly measurements and taxonomies can ever hope to describe. Human perception

is not limitless, our brains are not computers, and we live in the midst of constantly changing spectrums, entanglements, and complexities we cannot control. What is more, we are coming to realize that hubris-driven attempts at such control can do more harm than good. If we say that we want to understand something completely, are we really any better than all the colonial, patriarchal, and anthropocentric instances seeking to have mastery and, thus, power over the Other, negating its right to agency and change? If we believe that the sole purpose of all research is to finally arrive somewhere, to produce something, to be useful, or even monetizable to someone – are we not parroting the logics of internalized capitalism?

Speculation, ultimately, is about creating a space of spectral, multifarious possibilities – a space where we can recognize the narratives born of such ideologies, imagine possible consequences for them, and also – crucially – come up with entirely new alternatives, the kind of affirmative speculations Hanna mentions. In this sense, speculation is also an alternative to reactivity: it is not about committing to a single viewpoint or ideology. It's about stopping to examine a whole constellation of them – so that we could commit to the most suitable one with true conviction and understanding (cf. Varis "Strange Tools and Dark Materials"). In my humble opinion, this, and only this, is the true meaning of choice. If we want our opinions, responses, and views of the world not to be manufactured by habit, tradition, markets, or algorithms, we must have the awareness and the imagination to speculate, not only about the future but also about the paths not taken. It is in that space of open, curious non-commitment that individuals can reclaim their agency and true democracy becomes possible.

It's surely no coincidence that we keep bringing up literature here, because speculative fiction have always known this: Ursula Le Guin notes that "dictators are always afraid of poets" (*Conversations* 86) because, as Neil Gaiman says, "[o]nce you've visited other worlds, like those who ate fairy fruit, you can never be entirely content with the world you grew up in" (8). He adds that being discontent is actually a good thing: "people can modify and improve their worlds, leave them better, leave them different, if they're discontented" (*ibid.*) – *and*, I would add, if they have the ability of imagine their way toward those changes.

To me, the best way to do that is, specifically, speculation, because successful speculation marries the very best qualities of rational and imaginative thinking: it is based on some logic and fact and is deeply engaged with reality – but in a way that also holds space and remains open to everything that *isn't* reality, at least not yet. The fact of the matter is that humankind will always have to grapple with the unknown, whether it be the future, the minds of our fellow creatures, the undisclosed logics of the algorithms and stock markets, or the depths and mysteries of the universe. No amount of science or belief will ever fully get rid of all the unknowns. And so, the real question becomes: how do we face the unknown? Reacting out of fear and terror; disappointed or in denial of the limits of our systems of understanding; or open to its untold possibilities?

Let the conversation continue!

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