

## **Introduction: The Ethics and Narratives of Non-Knowledge: Literature, Science, and the Limits of Knowledge**

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In his 2022 publication *If Science is to Save Us*, former president of the Royal Society, Martin Rees, lists “three interlinked mega-challenges” which “humanity” will face in the very near future:

1. Providing food and energy for a rising and more demanding population, while avoiding depletion of the biosphere and dangerous climate change.
2. Coping with the ethical and security challenges posed by ever-advancing biotechnology while harnessing its benefits for health and agriculture.
3. Enabling artificial intelligence, the cybernet and social media to transform our economy and our society, despite vulnerability to malfunctions (natural or malicious) that could cascade globally (11-12).

Clearly, the observation of mega-challenges ensues a need to cope with uncertainty. Although not explicitly noted in each case, all three challenges are tied to ethical conundrums or questions with implications for commission or omission of human activity: how to produce more food but not harm the environment; how to reap the results of biotechnological and AI research but not endanger human life. The knowledge which has been gathered in these areas and the corresponding call to action is thus debated in immediate proximity to the lack of knowledge on these issues, at times even a necessary non-knowledge and an indispensable inaction.

In the face of such enormous challenges to the existence of human and non-human life due to – man-made but arguably beyond human control – environmental crises, mass extinction, viral epidemics, and technological dependencies, the question of what is and can be known and what is or should remain unknown has become increasingly relevant. This has brought to the fore a renewed and reinvigorated multidisciplinary debate about uncertainty, the limits of knowledge, and definitions of non-knowledge. Whereas political and sociological debates have postulated the ideal of a knowledge society, emphasising competitive advantages associated with sharing, circulating, and capitalising on scientific knowledge,<sup>1</sup> an increase in knowledge has come to be seen as inextricably linked to an increase in non-knowledge and uncertainty. This can be observed both in present-day debates, such as those surrounding the Covid-19 pandemic, and as a historically specific characteristic of the twentieth century or even modernity more broadly (see Middleton).

In this introduction and throughout the contributions of this special issue, we highlight two observations arising from Rees’ list of challenges. Firstly, these challenges are frequently framed within the overarching imperative of following the science, as suggested by the rhetorical question of Rees’s title, *If Science Is to Save Us*, which predisposes audiences to seek prescriptive answers. Secondly, and less often acknowledged, each of these challenges simultaneously places demands on science itself – requiring not expansion in every possible direction, but a critical reflection on its own epistemic limits at all times, or by all means. In light of the high stakes involved in current debates on research ethics and the role of science in responding to crises shaped by non-knowledge – ranging from geo-engineering to stem-cell research and

artificial intelligence – we propose a closer analysis of how (non-)knowledge and (in)action are related in narratives of uncertain futures, in practices of attributing non-knowledge, and in changing configurations of epistemic authority.

To provide another example, in recent debates on the Anthropocene, questions of knowledge and non-knowledge play a huge role but often a similar general baseline remains: science will provide the answers. In recent discussions of man-made climate change and in dialogue with Earth System theory, the term of the planetary has been introduced in distinction from the global – which often suggests human-centred economic and political systems – in order to refer to the Earth as an interconnected, complex, and fragile system. At the same time, the terms of discussion often remain, perhaps understandably, reductive, but also clearly positioned. In a similar line of argumentation to Rees' laying out of mega-challenges for humanity and pronouncing science as the mitigator, Nobel Prize laureate Paul Crutzen cautions that "[u]nless there is a global catastrophe – a meteorite impact, a world war or a pandemic – mankind will remain a major environmental force for many millennia" (23). He then explicitly places agency in the hands of science: "A daunting task lies ahead for scientists and engineers to guide society towards environmentally sustainable management during the era of the Anthropocene" (Crutzen 23). The process of mitigation, however, goes hand in hand with a reintroduction of the concepts of Earth as *terra incognita* – a planet which has once again become known as unfamiliar and unpredictable, but also in need of exploration by a knowing subject. In the face of mega-challenges, contemporary scientific discourse thus risks recreating asymmetrical power relations and implicit constructions of the unknown. The term *incognita*, or unknown, highlights the difficulty scientific and political frameworks face in grasping the full complexity of these changes. At the same time, this mode of framing does not merely describe an unknown; it actively produces it, generating subjects of knowledge and objects of non-knowledge. In the face of mega-challenges, contemporary scientific discourse thus risks recreating asymmetrical power relations and implicit constructions of an unknown.

In the same year in which Rees laid out both the need to understand and face mega-challenges as well as the need for a cautionary strive to knowledge and action, the editors and contributors to this special issue first met to answer a call by the Volkswagen Foundation as part of its thematic symposium week on "Ethics of Science: Current Challenges, Opportunities and Limitations". Curious to see what we could add to the debate as literary scholars but not wanting to presume the ability of solving other disciplines' problems, we had invited speakers from a range of disciplinary backgrounds – medical sciences, biology and the ethics of science, archaeology, and linguistics – in addition to scholars from literary and cultural studies. While the contributions in this special issue cannot reproduce the full interdisciplinary range of the 2022 Hannover symposium, they are shaped throughout by its intellectual atmosphere and its sustained interrogation of non-knowledge across fields. Rather than claiming privileged insight into the ethical or epistemic limits of the sciences, the contributors examine the (self-imposed) boundaries of scientific knowledge production and explore how literary genres – narrative, poetry, drama – intervene in these debates, whether affirmatively or critically, by offering distinct ways of knowing. The literary tradition of crafting cautionary tales exemplifies this engagement with uncertainty and limitation, highlighting the importance of textual representations for understanding how non-knowledge is articulated and communicated.

Through analyses of literary writing alongside texts from other discursive fields – such as narratives produced prior to the differentiation between the literary and the

non-literary, juxtapositions of fictional and non-fictional texts, and close readings of popular scientific writing – the contributions to this special issue demonstrate that questions of non-knowledge cannot be addressed from a single disciplinary perspective alone. Instead, they require sustained attention to the regulations, limits, and conditions under which knowledge is produced, negotiated, and communicated across academic, political, and public domains. In this sense, the volume aligns with the ScienceHumanities' understanding of transdisciplinarity as an ongoing, historically situated practice that foregrounds not only the content of different disciplines but also their mediations, contingencies, and shared epistemic constraints:

Transdisciplinarity therefore holds in productive balance the fact that knowledge-making not only requires the content of more than one discipline but also an awareness of the limitations, mediations, contingencies, and shared practices of those disciplines. In other words, to explore the intersections between the sciences and the humanities, we need to think across and beyond disciplinarity; we need to embrace the fuzzier areas that are both in-between and on the far horizon. Rather than suggesting this is a one-off process, we need to do this regularly and historically. (Willis, "ScienceHumanities" 9)

At the same time, it is important to emphasise that statements by figures such as Rees or Crutzen are themselves embedded in specific genres – most notably popular science and science communication – and must be read as such. Our aim is therefore not to adjudicate what scientists do or do not know, nor to engage in a two-cultures debate. Rather, we approach science in its broadest sense as an institutionalised field of (non-)knowledge production that encompasses natural and human sciences as well as their public discourses. As Martin Willis has argued, public understandings – and misunderstandings – of science are not external to science but constitutive of it ("Le Fanu" 111-12).

From this perspective, what literary and cultural scholarship contributes is not an ancillary viewpoint designed to complete an epistemic whole, but a critical practice that renders the constructedness, cultural specificity, and positionality of both knowledge and non-knowledge visible. By attending to narrative in its broadest sense, the contributions assembled here foreground how epistemic authority is produced, contested, and destabilised across historical and contemporary contexts.

### **Non-Knowledge and the Functions of Literature**

Especially in debates on climate and artificial intelligence, the future becomes an area of non-knowledge, often reflected by anxieties and a collective sense of unease and impending disaster. The task of imagining possible scenarios has often fallen on, or has been taken up by literary writing and other forms of cultural production. Accredited with the power to caution and critique by giving voice to a cast of subject positions, pluralising perspectives, and opening up into dialogue, literature-at-its-best is seen as non-didactic, non-partisan, non-authoritarian. In the light of such narratives engaging with non-knowledge, Pieter Vermeulen characterises the role of literature as a kind of early warning system: "Literature and the study of literature are two vital resources for learning to inhabit the present" (9). If contemporary literary ethics has a defining feature at all, scholars often locate it in an ethos of ambivalence and uncertainty, a stance shaped by the Anthropocene's destabilisation of familiar ethical categories, in which even "the terms of our ethical vocabulary [...] are no longer self-evident" (Vermeulen 10-11).

From its beginnings in the eighteenth century, the novel has had a pole position as a site of parallel world-building, testing and examining the effects of pursuing knowledge from the position of hindsight (in historical fiction), extrapolating from current social and technological context (in speculative or science fiction), or taking a state-of-the-art realist mode. Contemporary fiction continues this tradition across climate and technoscientific imaginaries. In climate fiction, works such as Ian McEwan's *What We Can Know* (2025), Jeanette Winterson's *The Stone Gods* (2007), Sarah Hall's *The Carhullan Army* (2007), Stephen Baxter's *Flood* (2008), or Adam Roberts' *The Thing Itself* (2015) probe ecological unpredictability and the epistemic limits of modelling the future. AI narratives – from Kazuo Ishiguro's *Klara and the Sun* (2021) and Ian McEwan's *Machines Like Me* (2019) to Ted Chiang's *The Lifecycle of Software Objects* (2010) or Nick Harkaway's *Gnomon* (2017) – stage experiments in artificial cognition, moral delegation, and machine learning, foregrounding forms of knowledge that exceed or unsettle human reasoning. Together, these narratives position the novel as a privileged laboratory for exploring speculative futures and articulating the uncertainties that govern both human and nonhuman agencies. In addition, film and TV-series have assumed this position to some degree with their own media-specific take on risk narratives and precautionary tales.

More often than not, however, literary and cultural texts adopt ambivalent stances in this debate, simultaneously reproducing dominant narratives while also becoming both the imaginative and the reflective space to negotiate possible scenarios and debates. The publication and reception of Michael Crichton's *State of Fear* (2004) is an often-cited example of literary reproduction of climate sceptic arguments and even a fuelling of such sentiments. At least a dual role can be observed in contemporary speculative films and series such as *Snowpiercer* (South Korea/USA/France/Czech Republic, 2013, based on the French climate fiction graphic novel *Le Transperceneige* by Jacques Lob, Benjamin Legrand, and Jean-Marc Rochette), which critiques the failures of modern society while portraying dire climate-induced realities; *The Leftovers* (USA, 2014-2017), which focuses on non-knowledge and uncertainty after a global event that inexplicably causes 2% of the world's population to disappear; *Years and Years* (UK, 2019), a miniseries centring around the lives of a family in a politically and ecologically increasingly unstable UK following a nuclear strike and a global pandemic; and *Black Mirror* (UK, 2011-present), particularly episodes like "Hated in the Nation," which voices anxieties of government surveillance and technology in the shape of Autonomous Drone Insects deployed to replace near-extinct bees. Conversely, films like *Ex Machina* (UK, 2015) and *I'm Your Man* (Germany, 2021) invite reflection on human-machine-interaction and autonomous agency amid the advancement of Artificial Intelligence.

Literary and cultural works thus hold an important role in not just mirroring but shaping public debate about scientific knowledge and limits thereof, as studies from the *Fiction Meets Science* network (Farzin et al.) and others have shown (Kley and Merten; Schneider-Meyerson et al.). Instead of understanding this as an essential characteristic of literary writing, however, and in analogy to our wide concept of science, the contributions at hand take a very broad understanding of literature which includes (1) fictional and non-fictional narrative, poems, plays, as well as its discursive conditions, i.e. (2) the debate and the participants involved in the discussion of literature, including literary scholarship. Hence, the contributions do not only assume that literary and cultural representations are valuable for understanding how they shape and are shaped by society but also aim at probing the task of literary studies and the numerous roles and interests in literary communication.

A discussion of what differentiates knowledge from non-knowledge, with regard to its factual or fictional status, can be said to have been at the forefront of the differentiation between academic (scientific but also historiographic) writing and the kind of writing that has come to be subsumed under the term literature. In literary studies, for a long time, at least, epistemological questions have lagged behind discussions of aesthetics, and have surfaced only with the cultural turn and the focus on texts within context. Indeed, the question of what and how literature knows has been central to the field of literature and science since the 1980s (Willis, "Introduction", Whitworth). Over the last decade, studies of what literature knows or what literary forms know have been particularly virulent (Kley and Merten; Funk et al.). Some have even taken a more radical outlook on the future of literary studies and the necessity to collaborate in projects with the goal of knowledge production (Hanlon). Even more recently, though perhaps less comprehensively, some research has been dedicated to the question of non-knowledge and uncertainty as a crucial characteristic element of literary discourse (Bennett) as well as what literature can contribute to an understanding of non-knowledge (Gamper and Bies; Auguscik and Broders).

In this special issue, which has evolved from and expanded upon our symposium for the Ethics of Science thematic week, we want to focus and strengthen a debate on the specific functions of literature in this context, namely its capacity not only to render visible constellations of knowledge and non-knowledge, but also to mitigate their tensions by providing a space for reflection and negotiation inside and outside the text. Literature operates as both primary source and secondary discourse and in aggregate does not merely reproduce knowledge, but stages and interrogates its limits, thereby offering an added dimension to the ongoing public debate on questions of the ethics of science and the limits of scientific knowledge. Methodologically, we want to engage with the discursive conditions of non-knowledge and the ways in which such ethical considerations are voiced and evaluated. The first and foremost difficulty we face in this process is how to talk about non-knowledge in a way that translates into practical analytical tools within literary studies but negotiates non-knowledge in a way that is both theoretical/aesthetical and ethical, yet does not rely exclusively on the taxonomies which frame non-knowledge in the context of other disciplines.

### **Non-Knowledge as Object of Study**

Evidently the distinction between knowledge and non-knowledge in connection to action and inaction has been crucial to scientific and popular scientific discourse. In philosophy, as well as in more recent academic disciplines from economics to linguistics, from sociology to psychology the question has been equally constitutive. Studying non-knowledge harks back to a variety of influential publications in sociology, such as by Ulrich Beck, Matthias Gross, and, above all, Niklas Luhmann.<sup>2</sup> As early as in 1992, Luhmann talked about an "Ecology of Non-Knowledge", defining non-knowledge as a social construction. Thus, creating productive discussions of non-knowledge in literary and cultural studies is always essentially a transdisciplinary endeavour. With Luhmann, we need to look at the ways in which non-knowledge is communicated in societies. He suggests we arrive at a communication without moralising, or trying to convert others. One can see that such discussions are highly charged emotionally, but that the ethics of responsibility is not necessarily applied to oneself. Luhmann argues that it is difficult to reach mutual understanding if both sides are convinced of their position being based on knowledge, rendering unbiased communication impossible (196-7). Therefore, inclusive communication has to do what

seems like a paradox at first glance, increase uncertainty and cultivate common non-knowledge.

Recent scholarship has addressed conceptualizations and representations of non-knowledge from the perspectives of various disciplines, such as the "Social Theories of Ignorance" proposed by Michael J. Smithson, or the typology ranging from ignorance to "extended knowledge" postulated by Matthias Gross.<sup>3</sup> Roy Dilley and Thomas G. Kirsch offer an ethnographic perspective on non-knowledge in *Regimes of Ignorance* (2015), assessing the ontological status attributed to non-knowledge in a particular social or cultural setting, such as "lack of knowledge", which denies non-knowledge any ontological status in its own right, "secrecy", which implies the deliberate exclusion of a group from knowledge and thus a process of constructing reality around a particular kind of secret knowledge, or an antagonism of "knowledge vs. ignorance", as illustrated by Plato's Cave Allegory (Dilley and Kirsch 4). Especially in the field of history, scholars analyse non-knowledge diachronically, exploring consistencies and discontinuities in the treatment of non-knowledge as well as epistemological shifts from medieval culture to the Enlightenment. Cornel Zwierlein's 2016 study, *The Dark Side of Knowledge*, distinguishes "nescience", an unconscious absence of knowledge, which can only be seen from an outside perspective, from "ignorance", which requires a process in which actors define what they do not know about something (2-3).

Indeed, historians also divide discourses of non-knowledge into differing phases relying on diverging perceptions and aesthetics of ignorance, such as the medieval phase, the early Enlightenment, and the post-Lockean phase. Following historians of science Robert Proctor's and Londa Schiebinger's work on non-knowledge, it may also be appropriate to speak of the current trend towards the academic analysis of ignorance as the 'agnotological phase'. Proctor and Schiebinger have coined the term "agnotology" to denote not merely "the study of ignorance", but also "the historicity and artifactuality of non-knowing and the non-known – and the potential fruitfulness of studying such things" (27). They argue that more often than not, "non-knowledge" is perceived as a "native state" (Proctor 3), that is, we tend to assume that ignorance is something to be overcome by development and intellectual effort, for instance, from the simple tools of the caveman over the development of the Spinning Jenny and the steam engine towards modern technology. Their analysis shows, however, that non-knowledge can also be a conscious or unconscious "choice", or a "strategic ploy" (Proctor 3), organising misinformation, such as the tobacco industry's organization of doubt with regard to the hazards of smoking (Proctor 11).

Whereas all taxonomies from sociology, history, philosophy, and related disciplines are conclusive and provide suitable tools for the objects of analysis in their respective field, it is neither feasible to translate them 1:1 into a terminology of agnotology for literary studies, nor is it desirable, as across disciplines, ignorance and non-knowledge are defined in divergent, even contradictory ways. For instance, Proctor and Schiebinger use non-knowledge and ignorance synonymously, emphasising its functions as a discourse. Whereas Dilley and Kirsch's "secrecy" may apply to Proctor and Schiebinger's concept of "ignorance as strategic ploy" (3), it is nonetheless viewed from the perspective of the ontological status of ignorance rather than its discursive implications. Sociologist Gross distinguishes non-knowledge as the unknown we plan with (see Gross 751), when simultaneously, the historian Zwierlein's idea of "nescience" is an unconscious one, which is only visible from an external perspective. Rather than adopting these taxonomies wholesale, this special issue seeks to translate their insights into disciplinary-specific conceptual metaphors attuned to literary and

cultural analysis. Instead of imposing fixed definitions, we develop heuristic frameworks that accommodate the figurative, image-based, and processual modes through which literature engages with non-knowledge, allowing analytical categories to emerge from the textual material itself.

Literary and cultural studies is yet to establish its own agnological tradition. One notable exception can be found in Andrew Bennett's work. Bennett suggests to reframe non-knowledge "as part of the narrative [...] force of literature, part of its performativity" (1), and, simultaneously, "as a necessary ethical and political ideal [...]" and with the acknowledgement of epistemological fallibility – our own and that of others – as the foundation of the ethical" (2). Thus, the acknowledgement of the fallibility of knowledge can be regarded as one of the founding principles of democracy, which, unlike autocratic and totalitarian systems, is not based on the belief that the political leading figures are infallible and therefore in possession of superior, perfected knowledge (233-4). As Bennett argues, the process of reading begins in narrative ignorance of 'what the narrative is about', however, readers "may be said to seek out, to desire, the enigma without resolution, the conundrum without revelation, [...] desiring not (or not only) knowledge, enlightenment, meaning, understanding, but also in the end nescience" (36). Contemporary fiction, with its narrative strategies of vagueness and ambiguity, particularly lends itself to such an approach, as it constitutes an experimental space in which different constructions of non-knowledge and coping strategies can be negotiated.

In their introduction to *Literatur und Nicht-Wissen [Literature and Non-Knowledge]*, Michael Gamper and Michael Bies conceptualise non-knowledge not as a mere absence of knowledge but as a constitutive and dynamically productive element within modern epistemic regimes (14). They trace how Enlightenment attempts to demarcate knowledge from forms of *Meinen, Glauben* [thinking, believing] and other modes of assent regarded as insufficient already reveal the porous and historically contingent boundary between knowing and not-knowing (9). Non-knowledge, they argue, appears in multiple forms – ranging from ignorance, *Uninformiertheit* [lack of information], and structural unknowability to reducible and irreducible, conscious and unconscious variants – and must therefore be understood through a differentiated taxonomy rather than a single definition (11). Crucially, the interplay between knowledge and non-knowledge is historically mobile: each expansion of knowledge simultaneously generates new zones of uncertainty, while distinctions between current, obsolete, and future knowledge introduce a temporal dimension to epistemic limits (13). Literature, they maintain, occupies a privileged position in this field, since it engages directly with these shifting thresholds by giving narrative form to uncertainty, probing areas where scientific knowledge cannot reach, and transforming epistemic boundaries into productive aesthetic thresholds (14-15). In this sense, non-knowledge functions not as the negation of knowledge but as a historically produced and pragmatically maintained domain whose irritations and ambiguities drive epistemic, cultural, and aesthetic innovation.

While these interdisciplinary typologies illuminate the breadth of ways in which non-knowledge has been conceptualised, they also expose the difficulty of transferring ready-made taxonomies into literary and cultural analysis. What they do offer, however, is a set of methodological cues – attention to terminologies, discursive positions, and the institutional settings in which epistemic boundaries are drawn – that proves instructive for our own approach. Building on these insights, we propose a twofold perspective: first, a discourse-analytical focus on how terms of (non-)knowledge circulate within specific constellations of speakers and contexts; and second, a heuristic

distinction we term codex and cabinet, which may help readers identify recurring emphases across the contributions. Although the contributions themselves were written prior to the development of these concepts, we suggest that applying them retrospectively can enrich the interpretive possibilities opened by this special issue. The aim of developing a terminology of non-knowledge specifically tailored for analysis from the perspective of literary and cultural studies is therefore to reflect both Locke's epistemology of limits and Bennett's ethical dimension of non-knowledge as core aspects of tracing how non-knowledge is represented in literary texts focusing on scientific aspects such as Rees' mega-challenge. It needs to avoid the potential pitfalls created by duplicate meanings, overlaps, or ambivalences of borrowing terminology from related disciplines, yet at the same time benefit from transdisciplinarity and expand upon existing research on non-knowledge. To this end, we draw upon the practice of visualising an abstract concept by an extended metaphor. Aleida Assmann has demonstrated the productiveness of such an approach in coining the metaphors of canon, the cultural working memory, and archive, the cultural reference memory (97-108).

### **A Genealogy of Gaps: The Codex and the Cabinet**

A new taxonomy of non-knowledge designed for literary and cultural studies should aim at an understanding of the ways narratives engage with knowledge and ignorance rather than merely cataloguing them, linking literary analysis to debates on ethical responsibility in their representation. To arrive at a classification which resonates within literary studies while offering valuable insights informed by interdisciplinary theories, we have drawn upon what may be regarded as the most relevant historical moment for this discussion – the Enlightenment. Philosophers like John Locke, frequently considered “the most influential philosopher of modern times [...] [whose] influence in the history of thought, on the way we think about ourselves and our relation to the world we live in, to God, nature and society, has been immense” (Aarsleff 252), were deeply concerned with the boundaries of human knowledge. He argues that recognising our own intellectual limits is crucial to understanding the human mind.

For John Locke, ignorance is the natural state of human beings. At birth, the human mind is a *tabula rasa* – all ideas are formed through experience. Human understanding comprises therefore everything we gather up in our lives via the senses. Locke describes the mind as a “cabinet”, or a dark room, which holds little objects called “ideas”:

The senses at first let in particular ideas, and furnish the yet empty cabinet, and the mind by degrees growing familiar with some of them, they are lodged in the memory, and names got to them. Afterwards, the mind proceeding further, abstracts them, and by degrees learns the use of general names. In this manner the mind comes to be furnished with ideas and language, the materials about which to exercise its discursive faculty. And the use of reason becomes daily more visible, as these materials that give it employment increase (I.ii § 15, 23).

According to Sean Silver, Locke's theory of mind parallels his bibliophilia, “the mind is a cool deliberator, that presides over its ideas, in much the same way that a librarian presides over his books, or a collector over [his or her] collection” (Silver n. pag.). Emerging from the curiosity cabinets and *Wunderkammern* of seventeenth-century *virtuosi*, collecting as a cultural practice is increasingly systematised and professionalised in the Long Eighteenth Century by individuals such as Sir Hans

Sloane, whose collection forms the basis of the British Museum, or Sarah Sophia Banks, whose collection of ephemera does not only shed light on traditions and social hierarchies in Georgian England, but also on practices of preservation and the archive. Collecting does not only extend the "geographical and temporal reach" of individuals (Kusukawa 539), but becomes an essential practice of eighteenth-century scholarship to deal with the new and the unknown. As Locke emphasises that what makes an individual is the sum of his or her ideas gathered by experience, both material and metaphorical collections in the form of knowledge relate to identity (Macdonald 85). It is the empty spaces in this collection, the darkness of the cabinet, the inability to collect a certain item for an illusorily complete set, in short, the epistemic category of non-knowledge, that is re-evaluated during the Enlightenment era. For Locke, it is of vital importance to know the extent of our comprehension and thus also the limits of knowledge:

If by this inquiry into the nature of the understanding, I can discover the powers thereof; how far they reach; to what things they are in any degree proportionate; and where they fail us, I suppose it may be of use to prevail with the busy mind of man [...] to sit down in a quiet ignorance of those things which, upon examination, are found to be beyond the reach of our capacities. [...] If we can find out how far the understanding can extend its view; how far it has faculties to attain certainty; and in what cases it can only judge and guess, we may learn to content ourselves with what is attainable by us in this state (I.i § 4, 14-15).

The paradox of *docta ignorantia*, learned ignorance, refers to "man's imperfect knowledge and cognition, as opposed to the omniscience of God" (Zwierlein 33). Although, as Schuurmann observes, Locke never uses the term *docta ignorantia* (63) in the sense of the Socratic paradox "I know that I know nothing", he considers the examination of one's non-knowledge and the acknowledgement of the limits of one's intellectual faculties crucial to understanding the workings of the human mind: "Our knowledge being so narrow [...] it will, perhaps, give us some Light into the present State of our minds, if we look a little into the dark side, and take a view of our own Ignorance [...] He that knows anything, knows this in the first place, that he need not seek long for Instances of his Ignorance" (IV.iii § 22, 354).

Greg Forster claims that Locke's philosophy initiates an empiricist shift in the discussion of non-knowledge: Locke "constructs an epistemology of limits, in that he emphasises understanding the limits of the human mind, and therefore the topics on which our beliefs are unavoidably tainted with a degree of uncertainty" (9). The focus therefore now lies in different kinds of ignorance, theories of cognition, and the progress of reason.

Furthermore, raising awareness of ignorance reveals power relations, as in the distinction of what is knowable and what is not, in excluding groups or individuals from knowledge, or marginalising some forms of knowledge as "inferior" or "local" (Verburgt and Burke 3). There is, however, also ample productive and aesthetic potential in non-knowledge, to be used strategically. Verburgt and Burke recognise this potential by claiming that "[i]t might perhaps even be possible to rethink humanism [...] and later the Scientific Revolution in terms of a part of society collectively becoming aware of what is not known, thereby propelling the major processes known under those names" (16).

Locke's idea of the cabinet as a metaphor for non-knowledge implies both the idea of an empty space and the impossibility of filling every gap, thus the need to personally acknowledge the limits of one's own knowledge. As a private space of collection closely tied to the identity of the collector, the cabinet figures gaps in knowledge through its empty spaces, framing non-knowledge as a subjective experience marked by the limits of individual cognition. It serves as a metaphor for identity construction based on what one knows and does not know, highlighting the ethical responsibility to confront and reflect upon these gaps within one's own understanding

We juxtapose to the cabinet the concept of the codex. Originally referring to manuscript books of the ancient world, the term codex simultaneously evokes the idea of knowledge as a "lost realm" as suggested by Proctor in his example of the Mayan codices almost entirely destroyed by Spanish conquerors (8), and the modern notion of a codex as a set of rules and conventions valid for a certain community, thus capturing the idea of how groups and societies collectively deal with non-knowledge. Nonetheless, the metaphor of the codex already implies a resistance to cohesion, as early codices often collected multiple types of content by various authors – such as texts, images, musical scores, obituaries, scribes' notes, or *probationes calami* – within one physical volume, rendering them rather the ancestor of the modern library than the modern book (Andrist and Maniaci 370-1). In contrast to the highly eclectic and idiosyncratic criteria of selection and arrangement of the cabinet, the codex provides some system of organisation and navigation of the gaps in communal knowledge. Thus, the codex symbolises both structured frameworks of knowledge which are missing or lost, and established rules or guidelines of dealing with the unknown or of pursuing knowledge in a given community, taking the potential for absence to inform current understanding into account.

This organisation is not merely practical; it raises ethical questions concerning what knowledge is pursued and prioritised in scientific research and its representation. In literature, the interplay of these two metaphors invites questions about the ethical dimensions of knowledge acquisition and representation. The cabinet reflects a personal responsibility toward acknowledging and owning gaps in one's understanding. Conversely, the codex highlights the collective ethics of knowledge, questioning the ramifications of pursuing certain forms of knowledge that may exclude, misrepresent, or harm marginalised voices and historical narratives. At this point, these metaphors are introduced as orienting heuristics rather than as a fully developed taxonomy; a more systematic elaboration will be pursued in subsequent work.

### **From Conceptual Framework to Case Studies: Orientations and Perspectives**

By asserting the necessity of recognising the limits of knowledge and investigating them through an ethical lens, we invite a broader conversation about responsibility in literary representation and critique. The special issue at hand explores what and how literary and cultural perspectives on the limits of knowledge and knowledge-production can contribute to public and scientific debates about the ethics of research. Patterns of these debates are recurring and – as narratives, metaphors, rhetorical figures – lend themselves to textual analysis. In addition, literary and cultural works explore those limits and thus participate in producing such narratives. They are not just mirroring but shaping public debate about scientific knowledge by negotiating the ethical limits imposed on – and transgressed by – scholarly research.

This special issue showcases the research of numerous scholars from literary and cultural studies. It includes not only representations of science in performance and

poetry, but also contributions on cross-disciplinary communication from the vantage point of a university of applied sciences, and the use of narratives in non-fiction to convey scientific debates, both in current ethical debates on AI and from historical perspectives, with regard to non-mainstream narratives on natural phenomena in early astronomy. These perspectives are complemented by contributions from international scholars with an interdisciplinary focus functioning as transits to fields as diverse as philosophy, physics, and mathematics. Taken together, and complemented by international and interdisciplinary perspectives, the contributions show how reading literary narratives alongside those shaping public and scientific debate sharpens our understanding of both.

In the first part of this special issue, contributors focus on theoretical and historical approaches to the correlation of non-knowledge and research ethics. In her contribution "The blazing Stars': Constellations of (Non-)Knowledge in the Changing Perception of Comets at the Turn of the Eighteenth Century", Marleen Waffler focuses on the evolution of knowledge based on the reactions, theories and findings regarding the comet, or "blazing star", of 1680. Contrary to the teleological notion that the Age of Enlightenment marked a paradigm shift from pre-scientific, religious interpretations of comets as harbingers of divine wrath to a scientific observation and measurement of astronomical phenomena, she argues that both systems of knowledge and their discourses co-existed and were to some degree intertwined. Vivasvan Soni's contribution "Judgement and the Limits of Knowledge: Distinguishing the Humanities from the Sciences Using Two Concepts of Causation" challenges the dominant view of efficient causation in modern science, arguing that final causes can still play a role in our understanding of the world. Through Shaftesbury's example of the watch, the author reveals that the purpose of the watch is not a type of knowledge, but rather a fiction that opens up the world of judgment and practice, highlighting the essential role of judgment in an individual's understanding of the world. Anton Kirchhofer joins Proctor and Schiebinger in their rejection of a quantitative conception of non-knowledge in favour of a structural and strategic conception in his contribution entitled "Narrating Non-Knowledge: The Novel and the Sciences of the Human Subject". He theorises this distinction by engaging what he calls Foucault's "agnotological gaze" which renders visible (a) the historically specific construction of objects and subjects of non-knowledge about the human produced by the "sciences of the human" after 1800, and (b) the modern novel's performance and critical reflection of such constellations of non-knowledge on the example of nineteenth-century literary genres (comparing and juxtaposing social commentary in a periodical with a Dickens novel) and literary discourse (from 20<sup>th</sup> century theories of the novel to 21<sup>st</sup> century writing manuals). The contribution "Transreading the Resonance between Science, Philosophy, and Poetry" by Huiwen Helen Zhang charts the chain reactions modern science set in motion in literature from a unique transdisciplinary perspective. Zhang's methodology of "transreading" integrates attentive reading, transdisciplinary translation, transcultural hermeneutics, and creative expression, thus offering insights into the unobservable and the unknown drawing from disciplines ranging from Chinese Daoist philosophy and ancient Greek manuscripts via T.S. Eliot's poetry to modern mathematics and physics.

In the second part, case studies from literary and cultural studies demonstrate how specific narratives – whether in popular science, theatre, or the novel – stage, negotiate, and critically reflect the dynamics of non-knowledge in today's cultural imagination. Jürgen Meyer's "The Rhetoric of Non-Knowledge in Popularizations of Artificial Intelligence: Harari's *Homo Deus* and Tegmark's *Life 3.0*" offers a close

reading of two works of contemporary perspectives in popular science on AI, elucidating the diverging strategies to fill different types of knowledge gaps in Yuval Noah Harari's *Homo Deus* and Max Tegmark's *Life 3.0*, and opening up an engaging "epistemic dialogue" with regard to the progress of AI for future human generations. Through a close analysis of two recent stage plays, *Anatomy of a Suicide* by Alice Birch and *Hibernation* by Finegan Kruckemeyer, Rebecca Rohleder's contribution "(Not) Knowing Where It Ends: Performing Non-Knowledge on Stage in Plays by Alice Birch and Finegan Kruckemeyer" illustrates how uncertainty emerges as a major theme in contemporary British drama. She argues that in each play, acting against non-knowledge of the future results in a refusal or multiple refusals to act, shedding light on the failure of collective discourses to address climate change accurately and act ethically within the limits of knowledge. Finally, Nicole Brandstetter's contribution "Beyond Knowledge: Self-Alienation and Collapse in an AI Society" analyses Raphaela Edelbauer's novel *Dave* and uses its presentation of the process of an AI gaining, and struggling with, consciousness and knowledge as a metaphor for knowledge in a digitalised knowledge society. Focusing on the simultaneous existence of not-knowing of one's own self and the full knowledge of one's own self, Brandstetter implies an understanding of non-knowledge as subjective experience. Her reading foregrounds the inherent paradoxes of the unknown and the unknowable in a knowledge society: the presence of the self in multiple timelines in the past, present, and future, and its entrapment in a vicious circle of knowledge and non-knowledge.

Taken together, these contributions demonstrate how literary and cultural studies can illuminate the forms, functions, and consequences of non-knowledge across a wide spectrum of literary texts. They also point toward a growing need for frameworks that articulate how such narratives operate within broader cultural debates, bridging scientific, ethical, and aesthetic questions. It is our hope that this special issue not only brings these perspectives into conversation, but also encourages further work at these intersections.

## Acknowledgements

This endeavour would not have been possible without the Volkswagen Foundation for their generous support of our symposium and the subsequent publication, which has been instrumental in rendering this project a reality. We extend our deepest gratitude to Martin Willis and the editorial board for providing us with the opportunity to guest-edit an open-access special issue of *JLS* to not only secure the results of the symposium, but to expand the transdisciplinary reach of the research on non-knowledge beyond an audience chiefly concerned with literary and cultural studies. We are equally indebted to all contributors whose insightful research and dedication have enriched this special issue, as well as to the peer-reviewers, whose meticulous evaluations and thoughtful feedback has ensured a spirited transdisciplinary discussion in the process of production. Special thanks are due to Anton Kirchhofer and Gerold Sedlmayr, who beyond intellectual support have lent actual space for exchanging our ideas on non-knowledge in their respective research colloquiums. Finally, we warmly acknowledge the hard work and dedication of our student assistants, Christine Zaveta and Michael Gerhäuser, whose behind-the-scenes efforts have been indispensable.

## Notes

1. UNESCO emphasises the benefits of sharing knowledge in their world report on knowledge societies (Bindé 5). Critical voices *in* the debate deplore both the unequal distribution of knowledge and the utilitarian stance behind the idea of knowledge societies, see Belwe and Castel Franchi (Italian National Research Council).

2. See Luhmann (esp. 194-220), Short and Lee, Japp. For socio-economic perspectives on non-knowledge, see Priddat and Kabalak, Svetlova and van Elst.

3. Gross ("The Unknown" 751) proposes the following taxonomy for the field of sociology: 1) Ignorance: knowledge about the limits of knowledge in a certain area, increases with every state of new knowledge (the better telescopes become, the more stars appear), 2) Non-Knowledge: Knowledge about what is not known but still taken into account for future planning, 3) Negative Knowledge: Knowledge about what is not known but considered unimportant or even dangerous, 4) Extended Knowledge: based on planning with non-knowledge, 5) Nescience: lack of any knowledge, total surprise without anticipation.

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