ARTIFICIAL INTELLIGENCE AND THE TRANSFORMATION OF ACADEMIC COMMUNICATION

Dr. Ruhan GÜÇLÜ

paradigma akademi

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ENDORSEMENTS

AI changed the academic world almost instantly on every level of our functioning and interaction both peer-to-peer and vertically student to teacher. Dr. Ruhan GÜÇLÜ is among the first who instantly responded with an insightful and multilayered treatise on the novelties in academic communication. The book tackles the topic from both specialized perspective and general psychological approach. It provides practical insight for active transformation of our academic routine.

Prof. Dr. Russana BEYLERI

Full Professor, Department of General Indo-European and Balkan Linguistics, Faculty of Slavic Studies, University of Sofia St. Kliment Ohridski, Bulgaria

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This work is an innovative contribution to the study of academic discourse in an era increasingly shaped by generative AI. Dr. Güçlü offers a coherent and sophisticated examination of how large language models transform the rhetorical, linguistic, and epistemic conditions of scholarly writing. Drawing on discourse analysis, metadiscourse theory, and emerging AI research, this book provides readers with a framework that is at once theoretically nuanced and accessible.

Dr. Güçlü's book will be valuable reference for discourse analysts, applied linguists, and anyone seeking to understand the profound linguistic and rhetorical shifts introduced by generative AI. It not only diagnoses emerging patterns in AI-generated academic texts but also raises essential questions about

authorship, integrity, interaction, and the nature and future of scholarly voice.

"Artificial Intelligence and the Transformation of Academic Communication" stands out as a thought-provoking, field-advancing monograph that will hopefully contribute greatly to research and conversations across disciplines.

Prof. Dr. Thomas Wulstan CHRISTIANSEN

Full Professor, English Language, Linguistics and Translation, Department of Humanities, University of Salento, Italy

⁂

It is my pleasure to strongly endorse the book "ARTIFICIAL INTELLIGENCE AND THE TRANSFORMATION OF ACADEMIC COMMUNICATION" by Dr. Ruhan Güçlü and to express my wholehearted congratulations on this insightful and informative work on the influence of AI in transforming academic communication.

In this book, the author approaches artificial intelligence from a discourse perspective, drawing attention to how linguistic mechanisms are interpreted and used in academic discourse. These issues are addressed carefully and coherently from chapter one to chapter seven, enabling readers to understand the evolving nature of academic discourse in the new era. This approach highlights the importance of writer–reader interaction and authorial voice. The author draws attention to how AI-generated discourse transforms voice, hedging and reader engagement, which are crucial in academic communication.

Throughout the book, readers, educators, and academicians will find useful examples, ideas, and actionable insights that can be applied across diverse teaching contexts. It encourages them to embrace change in order to empower the learners.

As a specialist in Education, Methodology, Applied Linguistics and AI in education, I strongly recommend this book to educators, researchers, academicians and anyone that is passionate about shaping the future of education.

Prof. Dr. Shpresa DELIJA

Full Professor, Faculty of Foreign Languages, Tirana University, Albania

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Dr. Güçlü's very interesting and timely book Artificial Intelligence and the Transformation of Academic Communication provides a timely and in-depth examination of the intersection of artificial intelligence and academic communication. Covering a wide range of topics, among others, AI's influence on knowledge production, the digital transformation of academic discourse, and the implications for authorial voice and academic integrity, it offers a comprehensive exploration of the field.

Dr. Güçlü tackles pressing questions about the role of AI in shaping academic discourse, from the redefinition of authorial voice to the emergence of new forms of metadiscourse. By examining AI's impact on the construction of scholarly knowledge, the book sheds light on the future of academic communication.

What needs to be especially emphasized is Dr. Güçlü's expertise in navigating complex technological matters, such as algorithms and digital transformation, which is evident throughout the chapters. The author is especially to be commended for the impressive array of topics covered, offering a nuanced understanding of AI's multifaceted influence on academia.

It is indisputable that Dr. Güçlü's book will contribute significantly to ongoing conversations about AI's role in shaping

the future of academia. Its thought-provoking chapters will likely resonate with anyone interested in the intersections of technology, language, and knowledge. The author is highly commended for her remarkable courage, boundless energy and unwavering dedication in bringing the transformative impact of AI on scholarly communication to the forefront.

The multidisciplinary approach of Dr. Güçlü's book Artificial Intelligence and the Transformation of Academic Communication will undoubtedly appeal not only to academics and researchers, but also to students seeking to understand the evolving landscape of scholarly communication in the AI era. Its insights will be particularly valuable for those navigating the shifting boundaries of academic writing, research practices, and digital literacy.

Prof. Dr. Shykrane GERMIZAJ

Full Professor, Department of English Language and Literature, Faculty of Philology , University of Prishtina, Kosovo

⁂

Dr. Ruhan Güçlü's book Artificial Intelligence and the Transformation of Academic Communication deals with a very engaging, challening, current topic. This work offers a brilliant analysis of how generative tools are redefining how knowledge is constructed in academic communities and how writer–reader interaction and autorial voice are established, among other arguments. By balancing technical insight with academic rigor, it captures the true essence of our digital evolution. A must-read for the modern scholar.

Prof. Dr. Francisco Javier JUEZ GÁLVEZ

Full Professor, University Complutense at Madrid, Spain, correspondent member ot the Croatian (former: Yugoslav) Academy of Sciences and Arts

⁂

At a time when artificial intelligence is raising important questions and uncertainties across academia, Dr. Ruhan Güçlü's Artificial Intelligence and the Transformation of Academic Communication offers a thoughtful and timely perspective. In a clear and accessible way, the author examines how these rapid developments are reshaping academic communication, highlighting the linguistic and rhetorical processes through which knowledge is created and shared.

What I find particularly valuable in this book is the argument that artificial intelligence should not be seen only as a tool, but as an emerging participant in scholarly communication. Drawing on discourse analysis and metadiscourse theory, Dr. Güçlü provides a nuanced discussion of AI-generated language and its relationship to traditional academic writing. The reflections on authorship, reader engagement, and rhetorical choices are especially insightful and raise important questions for today's academic community.

Written with both clarity and depth, this book makes a meaningful contribution to current discussions on artificial intelligence in higher education. It will be of interest to scholars, teachers, and students alike, encouraging readers to reflect not only on the future of academic writing, but also on what it means to write – and think – in an increasingly AI-influenced world.

Assoc. Prof. Dr. Blagojka ZDRAVKOVSKA ADAMOVA

South East European University, North Macedonia

PREFACE

In recent years, developments in artificial intelligence have begun to influence many aspects of academic life. In particular, generative artifical intelligence (GenAI) systems and large language models are increasingly used in research and higher education. These technologies can summarize articles, generate paragraphs, and assist in drafting academic texts. As a result, artificial intelligence is no longer discussed only as a technological innovation; rather, it has become part of the communicative environment in which academic discourse is produced. Indeed, the presence of AI in writing practices invites us to reconsider how scholarly communication itself operates.

At this point, we may ask a simple but important question: what happens when systems that do not belong to academic communities begin to participate in the production of academic discourse? Academic writing has traditionally been understood as a communicative practice through which scholars construct arguments, evaluate evidence, and guide readers through complex reasoning. In other words, writing is not merely the presentation of information; it is also a rhetorical process through which writers position themselves and interact with readers.

Previous studies in academic discourse have shown that scholarly texts rely heavily on metadiscourse resources that organize arguments and manage writer–reader interaction. For example, writers use transitions to signal relationships between ideas, hedges to express caution, engagement markers to address readers directly, and self-mention to project authorial presence. As Hyland (2005) argues, these features allow writers not only to structure their texts but also to construct a

communicative relationship with their audience. Importantly, this interactional dimension plays a central role in how academic arguments are interpreted and evaluated.

The emergence of GenAI invites us to reconsider how these rhetorical dynamics operate when discourse is produced with the assistance of algorithmic systems. AI-generated texts are often capable of reproducing many structural features of academic writing. They can organize information clearly and generate sentences that resemble scholarly prose. However, this similarity leads us to an important question: when these linguistic signals appear in AI-generated discourse, do they perform the same communicative functions that they perform in human academic writing?

The idea for this book partly emerged from my earlier research on AI-generated academic writing. In a previous study titled *"Does ChatGPT argue through structure or stance? A metadiscourse analysis of English argumentative essays across topics"* (Güçlü, 2025a), I examined how AI-generated texts organize arguments and guide readers through discourse using metadiscourse resources. The findings suggested that generative systems are capable of reproducing many structural signals associated with academic discourse, particularly those related to textual organization. However, the study also raised a broader question concerning the communicative motivations that typically underlie these signals in human writing.

Human writers employ metadiscoursal resources not only to organize discourse but also to involve readers, negotiate claims, and project a recognizable scholarly voice. GenAI systems, however, do not possess identities in the sense that human writers do. They do not participate in disciplinary communities, nor do they assume responsibility for the claims expressed in the texts they generate. Therefore, the rhetorical impulses that motivate interactional metadiscourse in human

writing may not operate in the same way in AI-generated discourse.

This difference may help explain a perception that readers often report when encountering AI-generated writing. Many readers describe AI-produced academic language as mechanical, impersonal, or rhetorically thin. Perhaps, one possible explanation lies in the interactional structure of discourse. When rhetorical devices that normally sustain writer–reader communication are limited, or when they appear without fully realizing their communicative functions, the resulting discourse may appear structurally coherent but interactionally distant. In other words, the text may reproduce the linguistic signals of academic writing while lacking some of the rhetorical dynamics that typically animate scholarly argumentation.

In this book, I approach artificial intelligence from a discourse perspective. More specifically, I argue that understanding AI-assisted writing requires close attention to the linguistic mechanisms through which academic discourse is organized and interpreted. Chapter 1 situates AI within the changing landscape of academic discourse. Chapter 2 then focuses on how knowledge is constructed in academic communities and how writer–reader interaction and authorial voice are established. In Chapter 3, metadiscourse is discussed as an established framework in the literature for analyzing how texts are organized and how writers engage with readers. Chapters 4 and 5 extend this framework to AI, examining how AI-generated discourse reproduces or transforms key rhetorical features such as voice, hedging, and reader engagement. Finally, Chapters 6 and 7 address ethical issues and reflect on the future of academic writing in increasingly AI-mediated contexts.

By bringing together insights from discourse analysis, metadiscourse research, and studies of AI-assisted writing, this

book seeks to contribute to ongoing discussions about the future of scholarly communication. Ultimately, the following chapters invite readers to reflect on a broader question: what does it mean to write academically in an age when machines are increasingly capable of generating academic language?

On this occasion, I would like to extend my heartfelt gratitude to the esteemed reviewers. Their generous time, invaluable feedback, and scholarly guidance have significantly enhanced this book. I feel not only honored, but also privileged to have benefited from their valuable insights and support throughout the development of this work.

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Chapter 1

Artificial Intelligence and the Changing Landscape of Academic Discourse

In early 2023, a group of researchers conducted a simple experiment. They asked a generative artifical intelligence (GenAI) system to produce several academic abstracts in the style of scholarly articles. These abstracts were then presented to experienced researchers and reviewers. Surprisingly, many readers found it difficult to determine whether the texts had been written by a human author or generated by an AI system (Else, 2023; Gao et al., 2023).

This small experiment illustrates a larger transformation that is currently taking place in academic communication. For the first time in the history of scholarly writing, machines are capable of producing extended academic language that closely resembles human discourse. As a result, an intriguing question emerges: if machines can write academically, what happens to the traditional role of the academic writer?

In recent years, artificial intelligence has moved from being a relatively specialized technological field to becoming a visible part of everyday academic life. Researchers, students, and educators increasingly encounter systems that can summarize articles, generate text, suggest references, or assist with organizing ideas. As a result, artificial intelligence is no longer discussed only within computer science. It has gradually become a topic that concerns many disciplines, including education, linguistics, and academic writing. In other words, AI has moved from the margins of technological research into the center of scholarly communication.

A particularly significant moment occurred in November 2022, when OpenAI released ChatGPT to the public, marking a major turning point in the accessibility of generative AI tools (OpenAI, 2023; Thorp, 2023). Within a remarkably short period of time, the platform attracted global attention. In fact, more than one million users registered within the first five days of its release, making it one of the fastest-growing digital applications in history (Dwivedi et al., 2023). To put this into perspective, widely known digital platforms such as Instagram required several months to reach the same number of users. This unusually rapid adoption suggests that GenAI entered public and academic life with extraordinary speed. Such rapid adoption was not merely a technological curiosity. Universities around the world immediately began discussing how this new technology might influence teaching, assessment, and research practices. Some institutions temporarily restricted the use of AI writing tools, while others began exploring how these technologies might be integrated into academic work. In a remarkably short period of time, GenAI became a topic of discussion in faculty meetings, academic conferences, and editorial boards.

At this point, it may be useful to pause and reflect on why this development attracted so much attention within universities and research institutions. After all, artificial intelligence itself is not new. Researchers have been working on AI technologies for several decades, and many earlier systems were already capable of performing complex computational tasks. However, most of those systems were designed to analyze data, recognize patterns, or make predictions. They supported research activities, but they rarely participated directly in the production of academic writing.

GenAI represents an important shift in this respect. These systems are capable of producing language that resembles human writing. They can generate paragraphs, summarize research findings, answer questions, and assist in drafting

academic texts. In other words, artificial intelligence is no longer limited to processing information; it can also participate in the production of discourse. This development naturally raises an intriguing question: what happens when machines begin to contribute to the writing of academic texts?

This question lies at the heart of the present book. Academic discourse has long been understood as a human practice shaped by intellectual judgment, disciplinary norms, and rhetorical choices. However, the emergence of GenAI invites us to reconsider this assumption. If machines can participate in the production of academic language, how might this development reshape the ways in which scholars construct arguments, express their stance, and engage with readers?

You may already have encountered this situation yourself. Perhaps you have experimented with an AI system while drafting a paper, summarizing an article, or searching for possible ways to express a complex idea. If so, your experience reflects a broader shift that is currently taking place across higher education. Many students and researchers now use AI tools at different stages of the writing process. Some rely on them to organize ideas, while others use them to revise sentences or explore alternative ways of presenting arguments.

Reflection

If a machine produces a paragraph in an academic style, who is the author of that argument?

Is authorship determined by the origin of the words, the interpretation of the ideas, or the responsibility for the claims that are made?

Questions such as these illustrate why the relationship between artificial intelligence and academic discourse deserves careful examination.

It is therefore reasonable to ask whether academic writing itself is beginning to change. Writing has always been a central component of scholarly activity. Through writing, researchers develop arguments, evaluate evidence, and communicate their findings to others. Academic texts do not simply present information; they also guide readers through complex reasoning. Consequently, any technology that influences writing practices may also influence the way knowledge is constructed and communicated.

From this perspective, artificial intelligence becomes more than a technical innovation. It becomes part of the communicative environment in which academic discourse takes shape. As Hyland (2005) reminds us, academic writing involves interaction between writers and readers. Writers use linguistic resources such as hedges, engagement markers, and self-mention to guide readers and express their stance toward claims. If artificial intelligence contributes to the production of academic texts, it may also influence these interactional features of discourse. For this reason, examining artificial intelligence in relation to academic discourse is not simply a technological question. It is also a linguistic and rhetorical one. Understanding how AI influences the structure of texts, the expression of authorial stance, and the interaction between writers and readers can help us better understand the broader transformation of scholarly communication.

This book explores that transformation. More specifically, it examines how GenAI may influence the language and structure of academic writing. Rather than focusing only on technological developments, the discussion places particular emphasis on discourse features such as metadiscourse, authorial stance, and reader engagement. By examining these features, we can begin to understand how artificial intelligence interacts with the communicative practices that shape academic knowledge.

1.1. Artificial Intelligence and the Transformation of Knowledge Production

Artificial intelligence is often presented as a recent technological revolution. Notably, the idea of machines performing intelligent tasks has a much longer history. Early discussions of artificial intelligence appeared in the mid-twentieth century, when researchers began asking whether computers could simulate aspects of human reasoning and language use. These early questions eventually led to the development of computational models capable of performing tasks such as pattern recognition, problem solving, and natural language processing.

Over the following decades, advances in computing power and data availability significantly expanded the capabilities of AI systems. However, these earlier technologies remained largely invisible within everyday academic writing practices. Researchers used computers to store data, perform statistical analyses, and search digital databases, but machines rarely participated in the act of writing itself. Writing was still understood as a fundamentally human activity associated with intellectual reflection and scholarly creativity.

This situation began to change with the development of large language models. These systems are trained on vast collections of digital texts and learn statistical patterns of language through machine learning algorithms. As a result, they can generate responses that resemble human discourse in structure and style. Systems such as ChatGPT are able to produce paragraphs, summarize information, translate texts, and respond to complex prompts in ways that often appear coherent and contextually appropriate.

Before the emergence of large language models, computational approaches to language had evolved through several important stages. Early systems were largely rule-based and depended on manually designed linguistic instructions.

Later developments in statistical modeling and neural network architectures enabled machines to learn patterns from increasingly large textual datasets. The introduction of transformer-based models marked a particularly significant turning point, as it allowed systems to generate extended and contextually coherent text with far greater fluency than earlier language technologies.

Large language models are trained on enormous collections of digital texts, including books, articles, and websites. Through machine learning processes, these systems identify statistical patterns of language and learn how words and phrases typically appear together. As a result, they can generate responses that resemble human discourse without actually understanding the content in a human sense (Bender et al., 2021). This characteristic raises important questions about the nature of language production in AI systems and about how such systems might influence academic writing practices.

At this stage, we might ask a simple but important question: why does this development matter for academic writing?

The answer becomes clearer when we consider the role of writing in scholarly work. Writing is not merely a way of recording knowledge after it has been produced. Rather, writing itself is part of the thinking process. Scholars develop arguments, evaluate evidence, and refine theoretical ideas through the act of writing. In other words, writing functions as both a cognitive and communicative practice.

If artificial intelligence begins to influence writing practices, it may also influence knowledge production more broadly. This possibility explains why GenAI has attracted so much attention within higher education. Some scholars emphasize the potential benefits of these technologies, particularly for multilingual writers who may face challenges when writing in English or other academic languages. Others

express concern about academic integrity, originality, and the potential homogenization of academic writing styles. Both perspectives highlight an important point: artificial intelligence is now part of the environment in which academic discourse is produced. Understanding its influence therefore requires careful attention to the linguistic features of scholarly communication.

1.2. The Digital Transformation of Scholarly Communication

To understand why artificial intelligence has attracted such intense attention in academic contexts, it is helpful to place it within a longer history of technological change in scholarly communication. Academic knowledge has never been completely independent from the technologies through which it is produced and shared. On the contrary, developments in communication technologies have repeatedly reshaped how scholars access information, exchange ideas, and publish research. For this reason, artificial intelligence should not be viewed as an isolated innovation. Rather, it can be understood as the latest stage in a long process of transformation in academic communication.

Let us begin with a brief historical perspective. The modern system of academic publishing is often traced back to the seventeenth century. In 1665, the *Philosophical Transactions of the Royal Society* began publication in England and is widely considered one of the first scientific journals. Around the same time, the *Journal des Sçavans* appeared in France, serving a similar function in the early scientific community. These journals created a new mechanism through which scholars could share discoveries, comment on each other's work, and gradually build a collective body of knowledge.

Over time, the academic journal became a central institution in scholarly life. Researchers used journals to communicate findings, establish intellectual priority, and participate in disciplinary debates. Gradually, systems of editorial review and peer evaluation emerged in order to assess the quality of submitted manuscripts. Although the peer-review process took different forms across disciplines, it eventually became one of the defining features of modern academic publishing (Fyfe et al., 2017). For many centuries, however, scholarly communication remained closely tied to printed media. Books and journals circulated physically through libraries and academic institutions. Access to knowledge was therefore often limited by geographical location and institutional resources. Scholars depended on local libraries, personal networks, and printed catalogues in order to locate relevant research.

This situation began to change dramatically during the late twentieth century with the emergence of digital technologies. The development of the internet, electronic databases, and digital libraries transformed how scholars search for and access academic literature. Instead of consulting printed indexes, researchers could now locate articles through online search engines and academic databases within seconds. In other words, the digital environment dramatically accelerated the circulation of scholarly information. Another important development during this period was the rise of open access publishing. Traditionally, many academic journals required expensive subscriptions, which limited access to readers affiliated with well-funded institutions. Open access initiatives sought to remove these barriers by making research freely available online. As Suber (2012) notes, open access significantly increased the visibility and accessibility of academic knowledge, allowing research to circulate more widely across national and institutional boundaries.

At this point, we may begin to see a pattern. Each technological change, from the printing press to digital publishing, has gradually reshaped the ways in which knowledge is produced and shared. Nevertheless, most of these earlier technologies primarily influenced the distribution and accessibility of academic texts. They helped scholars find and circulate information, but they did not fundamentally change how academic texts themselves were written.

Artificial intelligence introduces a new dimension into this historical trajectory. Unlike earlier technologies, AI systems interact directly with language. They can generate summaries, produce paragraphs, suggest revisions, and respond to complex prompts. In other words, artificial intelligence does not merely support access to information; it participates in the production of academic discourse itself. This distinction is crucial. If AI becomes integrated into writing practices, it may influence not only how research is communicated but also how arguments are structured and how scholars position themselves within academic conversations. For scholars interested in discourse analysis, this development raises a particularly interesting question: how might the linguistic features of academic writing change when AI-assisted writing becomes more common?

Another transformation has also shaped the contemporary landscape of scholarly communication: the growing role of digital metrics. Citation counts, journal impact factors, and algorithmically generated rankings increasingly influence how research is evaluated and disseminated. As Borgman (2007) observes, digital infrastructures not only distribute knowledge but also shape how scholarly value is measured. In such an environment, technologies that interact directly with language, such as GenAI, may have far-reaching implications for the ways in which academic texts are produced and circulated.

In order to address the questions above, we need to examine academic discourse more closely. What exactly

characterizes academic writing? How do writers guide readers through complex arguments? And how do scholars express their stance while maintaining the conventions of academic communication? These issues will be explored in the next chapter, which examines the nature of academic discourse and the communicative practices through which scholarly knowledge is constructed.

1.3. Academic Writing in the Age of Artificial Intelligence

The emergence of GenAI has introduced a new stage in the history of academic writing. For centuries, scholarly texts were produced exclusively by human authors who relied on their own intellectual resources, research skills, and linguistic abilities. Today, however, many writers interact with AI systems at different stages of the writing process. Researchers may use these systems to summarize articles, generate outlines, or revise drafts. Students, similarly, often experiment with AI tools while preparing essays, reports, or literature reviews. As a result, writing practices within higher education are gradually evolving.

At this point, it may be helpful to consider how quickly this shift has occurred. Only a few years ago, most academic discussions about writing technologies focused on tools such as grammar checkers, plagiarism detection software, or reference management systems. These tools certainly influenced writing practices, but their role was largely supportive. They helped writers correct mistakes or manage sources, still they did not produce extended pieces of text. GenAI has changed this situation in a rather striking way. Systems based on large language models are capable of generating paragraphs that resemble human writing and responding to prompts with surprisingly coherent explanations.

You may already have encountered this phenomenon yourself. Perhaps you have asked an AI system to summarize an article, suggest a research question, or explain a complex concept. If so, you have experienced a practice that is rapidly spreading across universities around the world. Indeed, recent studies indicate that many students and researchers have begun experimenting with AI tools as part of their academic work (Kasneci et al., 2023). Some use these tools to organize ideas, while others rely on them to refine language or explore alternative ways of expressing arguments.

However, the increasing use of AI in academic writing has also raised important questions. One frequently discussed issue concerns academic integrity. Some educators worry that students may rely excessively on AI systems to produce assignments without engaging deeply in the writing process. Others point out that GenAI systems are capable of producing essays, solving programming tasks, and even answering standardized test questions. These developments naturally provoke concerns about plagiarism, authorship, and the assessment of student learning. At the same time, it would be misleading to view AI technologies only as a threat to academic writing. Many scholars emphasize the potential benefits of these tools, particularly for writers who work in a second language. Academic writing often requires a high level of linguistic precision, and multilingual scholars may spend considerable time revising sentences in order to meet disciplinary expectations. In such cases, AI systems may provide valuable support by suggesting alternative formulations or helping writers clarify their arguments.

This situation highlights an important point. Writing technologies have always influenced how academic texts are produced. The introduction of word processors, for example, transformed writing by making revision easier and more flexible. Digital databases similarly changed how researchers locate and integrate sources. Artificial intelligence may

therefore represent another step in this ongoing evolution of writing practices rather than a complete rupture with the past. Nevertheless, GenAI differs from earlier technologies in one crucial respect: it interacts directly with language. This means that it may influence not only the efficiency of writing but also the linguistic features of academic discourse itself. If AI systems contribute to drafting texts, they may shape how arguments are structured, how claims are expressed, and how writers guide readers through their reasoning.

Some researchers have even suggested that GenAI may contribute to the standardization of academic language (ref). Because these systems are trained on large corpora of published texts, they tend to reproduce highly conventional forms of academic expression. While this feature can help writers produce linguistically acceptable texts, it may also encourage stylistic uniformity across academic writing (Johansson et al., 2024). If such tendencies become widespread, future academic discourse may gradually display more standardized rhetorical patterns. Is it good or bad news?

For scholars interested in discourse analysis, this possibility is particularly intriguing. Academic writing involves a range of linguistic strategies that help writers interact with readers. As Hyland (2005) explains, writers use metadiscourse resources such as hedging, engagement markers, and self-mention in order to present arguments persuasively and position themselves within disciplinary conversations. If AI systems participate in the production of academic texts, we may reasonably ask whether these interactional patterns will remain the same. Will AI-generated writing display similar patterns of authorial stance? Will it guide readers in the same ways that human writers do? Or might it introduce new conventions into academic discourse?

These questions are still open, and researchers are only beginning to explore them. However, they point toward an

important conclusion. Artificial intelligence is not merely a tool that assists writing; it is becoming part of the communicative environment in which academic discourse is produced. For this reason, understanding AI-assisted writing requires more than technological analysis. It also requires careful attention to the linguistic and rhetorical structures of academic texts. The following sections of this chapter therefore consider how artificial intelligence interacts with scholarly communication and why examining academic discourse is essential for understanding this transformation.

1.4. Artificial Intelligence as a New Actor in Academic Communication

Until very recently, academic communication involved a relatively stable set of participants. Scholars produced research, journal editors managed publication processes, reviewers evaluated manuscripts, and readers engaged with published work. This system, although complex, operated through interactions between human actors. Academic discourse emerged through dialogue among researchers who responded to each other's ideas through articles, books, and conference presentations. For a long time, technology supported this system but did not participate directly in it. However, the emergence of GenAI invites us to reconsider this traditional picture. AI systems increasingly interact with academic texts at multiple stages of the research and writing process. Authors may use them while drafting manuscripts, summarizing literature, or revising arguments. Editors and reviewers may rely on automated tools to screen submissions or detect potential problems in manuscripts. Readers, in turn, may use AI systems to summarize articles or explore large collections of research literature.

In this regard, it becomes reasonable to ask whether artificial intelligence should still be viewed simply as a tool. Tools usually assist human activity without significantly

altering the structure of communication itself. GenAI, however, appears to interact with language in a more active way. When an AI system generates text, suggests revisions, or summarizes complex arguments, it participates in shaping how discourse is produced and interpreted. In other words, AI may begin to function as a new element within the ecosystem of scholarly communication. In this sense, artificial intelligence may be compared to a mirror trained on centuries of academic language. By learning patterns from vast collections of scholarly texts, AI systems reflect the conventions, styles, and rhetorical tendencies of academic discourse. However, a mirror does not create knowledge; it only reflects what it has seen. This distinction reminds us that the intellectual responsibility for scholarly claims remains with human authors.

To clarify this point, it may be useful to think about the roles traditionally involved in academic discourse. Authors construct arguments and present findings. Reviewers evaluate the quality and originality of research. Editors coordinate the publication process and ensure that disciplinary standards are maintained. Readers interpret texts and integrate new knowledge into their own research. Each of these roles contributes to the circulation of scholarly ideas.

Now consider how artificial intelligence enters this environment. When researchers use AI systems to generate outlines, suggest formulations, or summarize literature, these systems influence how arguments are developed. When AI tools assist reviewers by identifying linguistic issues or summarizing manuscripts, they may shape the evaluation process. Even readers may rely on AI systems to navigate large volumes of research. As a result, AI increasingly interacts with the communicative processes through which academic knowledge circulates. This development does not necessarily mean that artificial intelligence replaces human participation in scholarly communication. Rather, it suggests that AI becomes integrated into existing practices in ways that may subtly

reshape them. Human authors still construct arguments, interpret evidence, and make intellectual decisions. Nonetheless, the presence of AI systems may influence how these tasks are performed.

For scholars interested in discourse analysis, this situation raises an intriguing possibility. If artificial intelligence becomes part of the communicative environment of academia, it may also influence the linguistic patterns that characterize academic discourse. Academic writing relies on various strategies that help writers guide readers and express their stance toward claims. As Hyland (2005) demonstrates, these strategies include features such as hedging, engagement markers, and self-mention. One might therefore ask whether AI-assisted texts reproduce these patterns in similar ways. Do AI-generated passages display the same cautious tone that scholars often use when presenting claims? Do they guide readers through arguments using similar organizational cues? Or might AI systems introduce different stylistic tendencies into academic writing?

At present, researchers are only beginning to explore these questions. Nevertheless, the increasing presence of AI systems in academic communication suggests that such questions are becoming increasingly relevant. Artificial intelligence may not replace scholars, but it is clearly becoming part of the environment in which scholarly discourse develops. For this reason, understanding the role of artificial intelligence in academic writing requires attention not only to technological capabilities but also to linguistic and rhetorical practices. By examining how AI interacts with academic discourse, we can gain a clearer picture of how scholarly communication may evolve in the coming years.

1.5. Why AI Must Be Examined from a Discourse Perspective

Given the rapid spread of GenAI in higher education, it is understandable that researchers from different disciplines have begun to examine its implications. Much of the existing discussion, however, has focused primarily on technological capabilities or ethical concerns. Scholars have asked whether AI-generated texts can be detected, whether students might misuse these technologies, and how institutions should respond to the presence of AI in education. These are certainly important questions, and they deserve careful consideration. Despite this, they represent only one part of a much broader transformation that is currently taking place in academic communication.

At this point, it may be helpful to consider what often receives less attention in these discussions. While technological and ethical perspectives are essential, they do not fully explain how artificial intelligence interacts with the language of academic writing itself. Academic texts are not simply collections of information. They are carefully structured forms of discourse through which writers present arguments, guide readers, and position themselves within scholarly communities. In other words, academic writing involves complex linguistic and rhetorical practices that shape how knowledge is communicated.

From this perspective, examining artificial intelligence through the lens of academic discourse becomes particularly important. If AI systems participate in the production of academic texts, they may influence the linguistic patterns through which arguments are organized and interpreted. For example, AI-assisted writing may affect how writers signal relationships between ideas, how they express uncertainty or confidence, and how they engage with readers. These elements

are central to the functioning of academic discourse, however they are rarely examined in discussions about AI technologies.

One useful framework for exploring these interactional features is the concept of metadiscourse. As Hyland (2005) explains, metadiscourse refers to the linguistic resources that writers use to organize their texts and interact with readers. These resources include elements such as transitions, hedges, engagement markers, and self-mention. Through these features, writers guide readers through their arguments while simultaneously expressing their stance toward the claims they present.

If artificial intelligence contributes to the production of academic texts, it may also influence how these metadiscourse features appear. For instance, AI-generated writing may reproduce certain patterns of hedging or engagement that reflect the statistical tendencies of the texts on which these systems were trained. Alternatively, AI systems may produce discourse that appears grammatically correct but lacks the subtle interactional cues that human writers typically use. Understanding these possibilities requires a closer examination of the linguistic characteristics of AI-assisted writing.

Another reason to examine artificial intelligence from a discourse perspective relates to the broader evolution of scholarly communication. Academic discourse has always been shaped by technological developments. The printing press expanded the circulation of knowledge, digital databases transformed literature searches, and online publishing accelerated the dissemination of research. Artificial intelligence represents the latest stage in this long process of change. However, unlike earlier technologies, AI interacts directly with language, which makes its influence on discourse particularly significant. For this reason, the present book approaches artificial intelligence as both a technological and a linguistic phenomenon. Rather than focusing solely on the

mechanics of AI systems, the discussion explores how these technologies intersect with the communicative practices of academic writing. By examining the interaction between AI and academic discourse, we can begin to understand how scholarly communication may evolve in the coming years.

Ultimately, this perspective invites us to reconsider a broader question: how do new technologies reshape the ways in which scholars construct and communicate knowledge? The chapters that follow aim to explore this question by bringing together insights from discourse analysis, metadiscourse research, and studies of academic writing. The question is no longer whether artificial intelligence can produce academic language. Increasingly, the more important question may be whether scholars will continue to understand what it means to write academically in an age when machines can generate scholarly discourse.

1.6. Aim and Scope of the Book

At this point, it may be useful to clarify the main aim of this book and the perspective from which the topic will be examined. As we have seen so far, discussions about artificial intelligence in higher education often focus on technological capabilities or ethical concerns. While these discussions are certainly important, they do not always address the linguistic and communicative dimensions of AI-assisted writing. The present book therefore takes a somewhat different approach. Rather than concentrating only on the technology itself, it examines how artificial intelligence interacts with the language and structure of academic discourse. More specifically, this book aims to explore how GenAI may influence the production of academic texts. As we know, academic writing is not merely a means of presenting information. Writers also guide readers through arguments, clarify relationships between ideas, and express their stance toward the claims they make. These communicative functions are realized through a variety of

linguistic resources that shape the structure of academic discourse. If AI technologies become involved in writing practices, they may also influence how these linguistic features appear in academic texts.

To investigate this issue, the book adopts a discourse-oriented perspective. In particular, it focuses on the interactional features of academic writing that help writers organize their arguments and engage with readers. Concepts such as metadiscourse, authorial stance, and reader engagement provide useful tools for examining how academic communication functions. By analyzing these features, we can gain a clearer understanding of how AI-assisted writing may affect the communicative structure of scholarly texts. It is important to emphasize that the purpose of this book is not to determine whether artificial intelligence should or should not be used in academic writing. Debates about the ethical and pedagogical implications of AI are already taking place in many educational contexts. Instead, the aim here is to understand how AI interacts with the linguistic practices that shape academic discourse. In other words, the goal is to explore how the presence of AI may influence the ways in which arguments are constructed, ideas are organized, and writers position themselves within scholarly communities.

At the same time, this book does not assume that artificial intelligence will completely transform academic writing. Technological innovations often generate strong reactions when they first appear, and it can sometimes be difficult to distinguish long-term changes from short-term trends. For this reason, the discussion adopts a cautious perspective. Rather than making definitive predictions, the chapters that follow examine the relationship between AI technologies and academic discourse in order to better understand the possibilities and limitations of AI-assisted writing.

Ultimately, the scope of this book lies at the intersection of three areas of research: artificial intelligence, academic writing, and discourse analysis. By bringing these perspectives together, the book aims to contribute to ongoing discussions about how new technologies influence scholarly communication. At the same time, it invites readers to reflect on a broader question: how might the presence of artificial intelligence reshape the linguistic practices through which academic knowledge is produced and shared?

1.7. Organization of the Book

Having outlined the context and motivation for examining artificial intelligence in relation to academic discourse, it may now be helpful to briefly explain how the remainder of this book is organized. The chapters that follow gradually move from broader discussions of academic communication to more focused analyses of how artificial intelligence interacts with academic writing. In this sense, the structure of the book reflects a deliberate progression from general concepts to more specific issues. By following this path, we can better understand how technological developments intersect with the linguistic practices that shape scholarly communication.

The next chapter examines the nature of academic discourse and the communicative practices through which knowledge is constructed in scholarly communities. Academic writing, as we know, is not simply a neutral medium for presenting information. Writers guide readers through arguments, organize complex ideas, and position themselves within disciplinary conversations. Chapter 2 therefore explores the characteristics of academic discourse, the role of writer–reader interaction, and the ways in which scholars construct authorial identity through language.

Chapter 3 then draws on the concept of metadiscourse as a well-established framework for analyzing interaction in

academic writing. As previous research has shown, writers use metadiscourse resources to organize texts and engage readers while presenting their arguments (Hyland, 2005). This chapter discusses the theoretical foundations of metadiscourse and explains how features such as hedging, engagement markers, and self-mention contribute to the interpersonal dimension of academic discourse.

Building on this theoretical background, Chapter 4 turns to the development of artificial intelligence technologies and their relationship with writing practices. Rather than focusing solely on technical details, the chapter considers how large language models and GenAI systems interact with written discourse. In doing so, it explores how AI tools are currently used in academic contexts and how these technologies may influence writing practices.

Chapter 5 moves further into the central theme of the book by examining how artificial intelligence may contribute to the transformation of academic discourse. In particular, it investigates how AI-assisted writing may influence the organization of academic texts, the expression of authorial stance, and the interaction between writers and readers. From a discourse perspective, these issues are especially important because they relate directly to how knowledge is communicated within scholarly communities.

Chapter 6 addresses ethical considerations surrounding the use of artificial intelligence in academic writing. As AI tools become more widely used, questions about authorship, transparency, and academic integrity inevitably arise. This chapter therefore discusses some of the challenges that institutions, educators, and researchers currently face as they attempt to integrate AI technologies into academic environments.

Finally, Chapter 7 reflects on the broader implications of artificial intelligence for the future of academic

communication. Rather than offering definitive predictions, the chapter considers possible directions in which academic writing practices may evolve. It also highlights areas where further research may help us better understand the relationship between artificial intelligence and scholarly discourse.

Overall, the chapters of this book aim to provide a comprehensive perspective on the interaction between artificial intelligence and academic writing. By examining both technological developments and linguistic practices, the discussion seeks to shed light on how new forms of technology may influence the ways in which scholars construct and communicate knowledge. In this sense, the book examines how artificial intelligence may reshape the rhetorical structure of academic discourse.

Key Points

• Artificial intelligence has moved from a specialized technological field into the everyday environment of academic communication.

• The emergence of GenAI marks a turning point, as machines can now produce extended academic language that resembles human writing.

• Unlike earlier technologies, AI does not only support research processes but also participates in the production of academic discourse.

• Writing is both a cognitive and communicative practice; therefore, changes in writing practices may influence how knowledge is constructed.

• AI is becoming a new actor in academic communication, interacting with authors, reviewers, and readers.

• The increasing use of AI raises important questions about authorship, responsibility, and academic integrity.

• Understanding this transformation requires examining the linguistic and rhetorical features of academic discourse, particularly through a discourse perspective.

Chapter 2

Academic Discourse and the Construction of Scholarly Knowledge

2.1. The Nature of Academic Discourse

Reflection
Imagine that you are reading a research article in your field. The topic is directly relevant to your work, so you begin with interest. However, after a few paragraphs, you suddenly decide to stop reading.
Why might this happen?
Perhaps the author was not able to convince you to continue reading.
This situation invites us to think about an important question: in academic writing, is it only *what* is said that matters, or also *how* the reader is guided through the text?

Before examining how artificial intelligence interacts with academic writing, it may be useful to take a step back and consider a more fundamental question: what exactly is academic discourse? The term appears frequently in discussions of scholarly communication; notwithstanding this, it is not always defined with precision. At first glance, academic discourse may seem to refer simply to the language used in universities or research publications. However, a closer look suggests that it involves much more than specialized vocabulary or formal style. Academic discourse is, in fact, a complex communicative practice through which scholars construct, negotiate, and share knowledge.

To understand this point more clearly, we should remember that academic texts do not exist in isolation. Research articles, conference papers, and academic books are part of ongoing conversations within disciplinary communities. Scholars write in response to earlier studies, evaluate existing arguments, and propose new interpretations. In this sense, academic writing is not merely a way of presenting information; it is also a means of participating in a collective intellectual dialogue.

As Swales (1990) famously argued, academic discourse emerges within what he calls “discourse communities,” groups of scholars who share common goals, conventions, and communicative practices. In this regard, you may begin to notice that academic writing often performs several functions at the same time. On the one hand, writers must present research findings and explain complex ideas clearly. On the other hand, they must also position their work within existing scholarship and persuade readers of the value of their contributions. This dual function explains why academic texts are often carefully structured and rhetorically organized. Writers guide readers through their arguments step by step, signaling how each part of the text contributes to the overall claim.

Another important aspect of academic discourse concerns the relationship between writers and readers. Although academic writing is often described as objective and impersonal, it still involves interaction between the author and the audience. Writers anticipate possible questions, clarify meanings, and highlight important points in order to help readers follow their reasoning. As Hyland (2005) observes, academic texts contain numerous linguistic features that allow writers to guide readers through arguments while expressing their stance toward claims. In other words, academic discourse is both informational and interpersonal. It communicates knowledge, but it also constructs relationships between writers and readers. This interaction becomes visible through various

linguistic strategies, such as signaling the organization of the text, indicating degrees of certainty, or directly addressing readers' expectations. For scholars interested in discourse analysis, these features provide valuable insight into how academic communication actually works.

Understanding the nature of academic discourse is particularly important for the present study. If artificial intelligence becomes involved in the production of academic texts, it may influence not only the efficiency of writing but also the interactional patterns that characterize scholarly communication. Examining these patterns therefore provides an important starting point for exploring how AI technologies might shape the future of academic discourse. Academic discourse may therefore be viewed as an *epistemic ecosystem* in which ideas circulate, evolve, and compete for recognition. Scholars introduce new claims, other researchers evaluate them, and disciplinary communities gradually decide which ideas become influential. In this sense, academic texts do not simply communicate knowledge; they participate in the processes through which knowledge itself is negotiated and stabilized within scholarly communities.

Figure 1

Academic Discourse as a Knowledge Ecosystem

Source: Author's conceptual illustration generated with the assistance of ChatGPT (OpenAI, 2026).

The figure illustrates the dynamic character of academic discourse. Research questions initiate scholarly inquiry, but they gain visibility only when articulated through academic writing. Once published, these texts enter an ongoing disciplinary conversation in which ideas are examined, debated, and reinterpreted by other scholars. Through this process, academic discourse functions not simply as a medium for transmitting knowledge but as a space in which knowledge is continuously negotiated and refined.

2.2. Knowledge Construction in Academic Communities

To understand academic discourse more fully, it is helpful to consider how knowledge itself is constructed within academic communities. At first glance, it may seem that research simply produces new information which is then communicated through articles or books. However, the process is usually much more dynamic than this simplified picture suggests. Academic knowledge develops through continuous discussion, critique, and reinterpretation of previous work. In other words, scholars rarely start from a completely empty space; they build their arguments in relation to what others have already written.

This observation leads us to an important point. Academic writing is fundamentally intertextual. When researchers write a paper or a book chapter, they almost always refer to earlier studies in order to situate their work within an existing body of literature. These references are not merely formal requirements of academic style. Rather, they serve important communicative functions. By citing previous research, writers acknowledge earlier contributions, indicate theoretical influences, and show readers how their work relates to ongoing scholarly conversations.

At this stage, you may notice how central citation practices are to academic communication. A reference list at the end of an article is not simply a technical detail; it reflects the intellectual network within which the research is located. Citations help readers trace the development of ideas and understand how different studies connect to one another. In this sense, academic writing functions as part of a larger dialogue that extends across time and across disciplines. As Bazerman (1988) observes, scholarly texts continually respond to earlier texts while simultaneously inviting further responses from future researchers.

In recent years, some scholars have also described citation practices as part of a broader *citation economy.* In this perspective, references do not only acknowledge earlier work but also contribute to systems of scholarly visibility and academic reputation. Citation counts influence hiring decisions, funding opportunities, and journal rankings. As a result, citation practices operate simultaneously as intellectual connections and as indicators of academic impact (Larivière & Sugimoto, 2018). From my perspective, the dialogic nature of academic discourse is one of its most interesting characteristics. When scholars write, they are not only presenting new information but also positioning themselves within a community of researchers. Writers must show that they are aware of existing literature, that they understand the relevant debates, and that their work contributes something meaningful to those discussions. This is why academic introductions and literature reviews often devote considerable attention to previous studies.

At the same time, the construction of knowledge within academic communities is not always a straightforward process. Different scholars may interpret evidence in different ways, propose alternative theoretical explanations, or challenge earlier assumptions. These disagreements are not necessarily a weakness of academic discourse. On the contrary, they are

often a sign that a field is actively developing. Through debate and critique, researchers refine concepts, test arguments, and gradually build a more nuanced understanding of complex issues.

It is therefore important to recognize that academic knowledge is not static. Rather, it evolves through ongoing interaction among scholars who examine, question, and expand each other's work. If we think about academic writing in this way, we begin to see that every research article or book chapter participates in a broader intellectual conversation. Writers contribute their voices to this conversation, and readers evaluate and interpret those contributions. This perspective becomes particularly relevant when we begin to consider the role of artificial intelligence in academic writing. If AI systems assist in generating texts or summarizing research, they may also influence how scholars interact with existing literature. For example, AI tools might help writers identify relevant studies more quickly or synthesize large bodies of research more efficiently. At the same time, we might ask whether such tools could affect how scholars engage critically with earlier work.

These questions do not yet have simple answers. Nevertheless, they highlight an important issue: the relationship between technology and the processes through which academic knowledge is constructed. As we continue our discussion, it therefore becomes necessary to look more closely at the interaction between writers and readers in academic discourse.

2.3. Writer–Reader Interaction in Academic Texts

Having discussed how knowledge develops within academic communities, we can now turn to another important dimension of scholarly communication: the interaction between writers and readers. Academic texts are often

described as objective and impersonal, nevertheless such descriptions can be misleading. In practice, academic writing involves a continuous effort to guide readers through arguments and explanations.

Writers must organize ideas clearly, signal the relevance of their claims, and help readers understand why the discussion matters. For this reason, academic discourse can be seen not merely as the presentation of information but as a form of structured communication between authors and their audiences. At this point, it may be useful to consider a familiar experience from academic reading. Imagine that you discover an article whose title appears highly relevant to your research interests. The topic seems closely connected to your field, and you begin reading the introduction with genuine curiosity. However, after a few paragraphs, you suddenly realize that your attention is fading and that you are no longer motivated to continue reading. The question that naturally arises is this: why does this happen?

The answer is not always related to the topic itself. In many cases, the subject of the article may still be directly relevant to the reader's research. However something in the way the argument is presented fails to sustain interest. Perhaps the discussion does not clearly explain why the research is important, or the writer does not guide the reader effectively through the argument. When this happens, readers may gradually disengage from the text, even though the topic initially seemed promising. This experience highlights an important characteristic of academic discourse. Writing does not simply communicate information; it must also persuade readers that the discussion deserves their attention. Academic writers therefore need to construct arguments in ways that encourage readers to continue reading and to consider the significance of the ideas presented. As Swales (1990) observes, academic texts often perform a rhetorical function by positioning research within ongoing scholarly conversations.

Writers must show not only what they have studied but also why their work contributes to the development of knowledge.

Studies in academic discourse analysis repeatedly demonstrate that readers rarely approach texts as passive recipients of information. Instead, they actively interpret arguments, evaluate claims, and compare new findings with their existing knowledge. This interactive dimension of academic writing explains why rhetorical clarity plays such an important role in scholarly communication. A well-structured argument allows readers to follow the reasoning process and assess the credibility of the claims being made (Hyland, 2018). Accordingly, rhetoric becomes central to academic communication. The term rhetoric here does not refer to decorative language or stylistic exaggeration. Rather, it refers to the strategic choices writers make in order to structure arguments, highlight key ideas, and engage readers in the discussion. These choices influence how readers interpret the text and how convincing the argument appears. As Hyland (2018) explains, academic writing operates as part of an ongoing scholarly dialogue in which writers present claims while simultaneously guiding readers through their reasoning.

Another important aspect of this interaction concerns the expectations that readers bring to academic texts. Readers do not approach scholarly writing as neutral observers. Instead, they interpret arguments through the lens of disciplinary knowledge, previous research, and established conventions within their field. Writers therefore need to anticipate these expectations and structure their texts accordingly. Flowerdew and Peacock (2001) note that academic discourse reflects shared communicative practices that allow members of a discipline to recognize and evaluate scholarly contributions. Seen from this perspective, academic writing can be understood as a form of guided interpretation. Writers present claims, provide evidence, and organize their arguments in ways that help readers follow the discussion. Readers, in turn,

evaluate these claims, connect them with their own knowledge, and sometimes respond by producing new research. Through this ongoing interaction, academic knowledge develops and evolves.

Recognizing this interactional dimension is particularly important for the present study. If artificial intelligence begins to participate in the production of academic texts, it may also influence how writers guide readers and how readers interpret arguments. AI systems may help generate clear sentences or summarize information efficiently, but it remains uncertain whether they can reproduce the subtle rhetorical strategies that experienced academic writers employ. Exploring this possibility requires a closer examination of how writers express their presence and position themselves within academic discourse.

A useful question, therefore, emerges: if effective academic writing depends on guiding readers through complex reasoning, can AI-generated texts reproduce this subtle interaction between author and audience?

2.4. Authorial Voice and Academic Identity

Several dimensions of identity and context may affect how writers position themselves in academic texts. Disciplinary background represents one important factor. Different academic fields display distinct conventions regarding argumentation, evaluation, and authorial presence. Research in disciplinary discourse has shown that scholars adopt different rhetorical strategies depending on the epistemological traditions of their fields. Hyland (2002) demonstrates that writers in different disciplines vary considerably in the extent to which they make their presence visible in research articles. Similar disciplinary variation has also been documented in studies of academic genres and disciplinary discourse communities (Hyland, 2005; Swales, 1990).

Cultural background also plays an important role, since rhetorical preferences and expectations differ across academic traditions. Research in contrastive rhetoric indicates that writers from different cultural contexts may organize arguments differently and adopt distinct strategies of authorial positioning. Connor (2011) highlights how rhetorical patterns in academic writing are closely related to cultural and educational traditions, while other studies have shown that cultural norms may influence the degree of directness, evaluation, and authorial visibility in scholarly texts (Duszak, 1994; Mauranen, 1993).

Similarly, language background may influence how scholars construct their voice, particularly when writing in a second language. Studies of L2 academic writing suggest that multilingual writers often negotiate between the rhetorical conventions of their first language and the expectations of the target academic discourse community. Mur-Dueñas (2007) demonstrates that L2 scholars may employ different patterns of self-mention and stance when writing research articles in English. Other research has also documented differences in metadiscourse use between native and non-native writers (Ädel, 2006; Martínez, 2005). Evidence from Turkish academic discourse supports this observation as well. Güçlü (2025b) demonstrates that authors writing Turkish research articles employ both explicit and implicit forms of self-mention to construct their authorial identities, and that the distribution of these forms may differ between native and non-native writers. These findings suggest that authorial visibility is shaped not only by disciplinary conventions but also by linguistic and cultural contexts. Another factor influencing authorial voice concerns the academic community within which writers operate. Academic discourse communities establish shared expectations regarding acceptable rhetorical practices, argumentation patterns, and forms of authorial positioning. As Swales (1990) argues, members of a discourse

community learn to adopt specific linguistic and rhetorical conventions that signal membership within that community. Writers therefore position themselves not only as individuals but also as participants in particular disciplinary and academic communities (Hyland, 2004).

The genre of the text also influences how authorial voice is constructed. Different academic genres, such as research articles, dissertations, book chapters, or conference papers, impose different rhetorical expectations on writers. These expectations shape how writers organize arguments, present claims, and signal their stance. Genre-based research has shown that rhetorical moves and patterns of authorial positioning vary systematically across academic genres (Swales, 1990; Bhatia, 2004). Closely related to genre is the role of the audience. Academic writers constantly anticipate the knowledge, expectations, and potential reactions of their readers.

Hyland (2005) emphasizes that academic writing is fundamentally interactive, requiring writers to guide readers through arguments and signal their stance toward propositions. As a result, writers adjust their rhetorical strategies depending on their intended audience and the level of expertise they assume their readers possess. Finally, institutional norms also influence authorial voice. Universities, academic journals, and research institutions establish expectations regarding acceptable writing styles, citation practices, and forms of argumentation. These institutional frameworks shape how writers present their research and position themselves within academic discourse (Hyland, 2009; Flowerdew, 2013).

These studies indicate that authorial voice in academic writing is shaped by multiple interacting dimensions rather than by a single aspect of writer identity. Disciplinary conventions, cultural traditions, linguistic background, academic communities, genre expectations, audience

awareness, and institutional norms all contribute to how writers position themselves in relation to their claims and to the wider research community. In other words, authorial voice emerges from the interaction between the individual writer and the communicative practices of the academic community. The range of factors discussed in the literature that may shape authorial voice in academic discourse is summarized in Figure 2.

Figure 2

Factors Shaping Authorial Voice

Source: Author's conceptual illustration generated with the assistance of ChatGPT (OpenAI, 2026).

As illustrated in Figure 2, authorial voice can be understood as the result of a complex interaction between several contextual and individual factors. Disciplinary conventions influence how explicitly writers present themselves in their texts, cultural traditions shape rhetorical

preferences, and linguistic background may affect how scholars express stance and evaluation. Individual experiences and academic training also contribute to how writers frame arguments and position their work within existing scholarship. Academic voice, therefore, is not merely a stylistic feature but reflects the identities and intellectual backgrounds that writers bring into the process of scholarly communication.

These studies indicate that academic writing emerges from a dynamic interaction between linguistic choices and the identities of the writers who produce them. The ways in which authors guide readers, present claims, and evaluate previous research are shaped not only by disciplinary norms but also by cultural and linguistic experiences. Writer–reader interaction therefore develops through an ongoing relationship between individual identity and the communicative practices of the academic community. At this point, however, an important question arises when we consider the growing role of artificial intelligence in academic writing. If human identity plays such a central role in shaping authorial voice, what happens when texts are produced or assisted by GenAI systems? Human writers bring personal histories, cultural backgrounds, disciplinary training, and intellectual commitments into their writing. AI systems, by contrast, do not possess identities in the same sense. They generate language based on patterns learned from large datasets rather than lived experiences or participation in academic communities.

This contrast raises an important issue concerning authorial voice in AI-assisted writing. When readers encounter academic texts that rely heavily on AI-generated language, they sometimes describe the style as “mechanical” or “generic.” One possible explanation for this perception is the absence of a clearly identifiable voice. Human writers often reveal their intellectual positions through subtle rhetorical signals, evaluative expressions, and the ways in which they structure arguments. AI-generated text, however, may produce

grammatically correct sentences while lacking the distinctive patterns of positioning that typically reflect an individual author's identity.

I find it useful to consider another possibility as well. As scholars increasingly interact with AI-generated language, academic writing itself may begin to change. Exposure to large amounts of machine-produced text could influence stylistic expectations within academic communities. If certain patterns of phrasing become widely reproduced through automated systems, they may gradually shape how scholars write and how readers evaluate academic discourse. In such a context, the question of authorial voice becomes even more significant.

Emerging research already suggests that AI tools may influence rhetorical structure, lexical patterns, and the expression of stance in academic writing (Dwivedi et al., 2023; Kasneci et al., 2023; Lund & Wang, 2023). These developments raise important questions about how authorial voice may evolve when academic texts are produced in interaction with generative systems rather than solely through human rhetorical decisions. I argue that understanding this transformation requires closer attention to the linguistic mechanisms through which writers organize discourse and signal their presence in academic texts. In particular, the influence of AI-assisted writing becomes visible in the ways writers employ metadiscourse to guide readers, structure arguments, and express stance. Because metadiscourse functions as the interface between writers and readers in academic communication, shifts in writing practices may first appear in the patterns through which writers signal their rhetorical intentions. In this sense, metadiscourse does not operate only at the level of discourse organization. It also extends beyond discourse itself, functioning as the linguistic space in which writers construct relationships with readers, negotiate their authorial presence, and position their arguments within the broader academic conversation.

Understanding how AI-assisted writing may influence metadiscourse patterns therefore provides an important key to examining how authorial voice may evolve in contemporary academic communication. Building on this perspective, the present book argues that AI-assisted writing tools should be considered an emerging factor shaping authorial voice in contemporary academic discourse. From this viewpoint, authorial voice is no longer formed solely through disciplinary norms, cultural background, or linguistic experience. It is also shaped by the technological environments in which academic texts are increasingly produced. Examining how AI-assisted writing interacts with metadiscourse therefore offers a valuable framework for understanding how authorial identity may be negotiated in the evolving landscape of academic communication.

For this reason, the next chapter builds on the concept of metadiscourse as an established framework for analyzing how writers structure academic communication and signal their stance within scholarly texts. Before turning to this framework, however, it is useful to briefly reflect on why the study of authorial voice inevitably leads to the analysis of the linguistic mechanisms through which writers organize discourse and interact with their readers.

2.5. From Authorial Voice to Metadiscourse

The discussion in this chapter has explored several interconnected aspects of academic discourse. First, academic writing was described as a form of scholarly communication through which knowledge is constructed and shared within research communities. Rather than functioning as a neutral container of information, academic texts represent a site where arguments are developed, evidence is interpreted, and scholarly dialogue takes place. Writers therefore participate in an ongoing intellectual conversation in which new knowledge emerges through interaction with earlier studies.

A second important point concerns the interaction between writers and readers. Academic texts are not simply written for an abstract audience; they are carefully structured to guide readers through complex arguments. Writers signal how ideas develop, highlight the significance of particular claims, and anticipate possible questions or objections. Readers, in turn, interpret these signals while evaluating the strength and relevance of the arguments presented. Academic discourse therefore operates as a communicative process in which meaning is negotiated between authors and their audiences.

The chapter has also emphasized the role of authorial voice in this interaction. Although academic writing has often been associated with impersonality, research in discourse analysis demonstrates that writers inevitably construct a presence within their texts. This presence emerges through the ways authors frame their research questions, evaluate previous studies, and position their own contributions. Authorial voice is therefore closely related to the identity of the writer and the rhetorical choices made during the writing process. Identity, however, is not a single or fixed characteristic. As the previous sections have shown, several factors may influence how writers construct their voice in academic discourse. Disciplinary traditions shape expectations about argumentation and authorial presence, while cultural and linguistic backgrounds may also influence rhetorical preferences. Studies comparing L1 and L2 academic writing further demonstrate that writers sometimes adopt different strategies when presenting themselves in scholarly texts (Mur-Dueñas, 2007; Güçlü, 2025b). These variations suggest that academic discourse reflects the interaction between individual identity and the broader conventions of research communities.

The emergence of GenAI introduces an additional dimension to this discussion. Human writers bring their disciplinary knowledge, cultural experiences, and intellectual perspectives into their texts. AI systems, however, generate

language based on statistical patterns learned from large datasets rather than personal or disciplinary experience. As a result, the language produced by such systems may appear fluent while lacking a clearly identifiable authorial voice. This contrast raises an important question for contemporary academic communication: how is writer identity represented when texts are produced with the assistance of AI technologies?

Addressing this question requires a closer examination of the linguistic strategies through which writers organize discourse and communicate their stance toward the ideas they present. Authorial voice, after all, is not expressed only through content but also through the textual signals that guide readers through arguments, indicate relationships between ideas, and reveal the writer's evaluative position. In academic writing, these strategies are often realized through a range of textual signals that guide readers, clarify relationships between ideas, and express the writer's position. The study of these signals forms the basis of what is known as metadiscourse.

The next chapter therefore uses metadiscourse as a theoretical framework for understanding how writers manage interaction in academic texts. By examining how authors organize their arguments and signal their stance toward readers, the discussion will provide a foundation for analyzing the relationship between academic discourse and emerging AI-assisted writing practices. Understanding these interactional signals becomes particularly important in an era where machines can generate academically structured language. If artificial intelligence reproduces the surface features of academic discourse, researchers must look even more carefully at the underlying rhetorical mechanisms that shape scholarly communication.

Key Points

• Academic discourse is not simply a form of language but a communicative practice through which knowledge is constructed, negotiated, and shared within scholarly communities.

• Academic texts function as part of an ongoing dialogue, where writers position their work in relation to previous research and contribute to disciplinary conversations.

• Knowledge construction in academia is inherently intertextual, relying on citation practices that connect texts within broader intellectual and institutional networks.

• Academic writing involves active writer–reader interaction, requiring writers to guide readers through arguments and make the significance of their claims clear.

• Authorial voice is a central feature of academic discourse and emerges through the interaction between individual identity and disciplinary, cultural, and linguistic conventions.

• Academic discourse can be understood as an epistemic ecosystem in which ideas circulate, are evaluated, and gradually gain recognition within scholarly communities.

• The emergence of artificial intelligence introduces new questions about authorship, voice, and the linguistic construction of academic discourse.

Chapter 3

Metadiscourse as the Linguistic Architecture Academic Communication

3.1. Understanding Metadiscourse

The previous chapter examined how academic discourse emerges through interaction between writers and readers and how authorial voice reflects the identity of the writer. These observations naturally lead to another important question: how do writers linguistically manage this interaction within the text? Academic arguments rarely unfold as simple sequences of factual statements. Instead, writers constantly guide readers, clarify the organization of ideas, and signal how particular claims should be interpreted. The linguistic devices used for these purposes are commonly described under the term metadiscourse.

You may not always notice metadiscourse when reading an academic text, precisely because it often works in the background. However, its absence is immediately felt. A paragraph may contain accurate information, but if the writer does not signal how the ideas connect, why a claim matters, or how strongly a conclusion should be interpreted, the text quickly becomes difficult to follow. In this sense, metadiscourse functions rather like the invisible architecture of academic writing: readers may not always focus on it directly, but it is often what makes a text readable, persuasive, and rhetorically coherent.

At a basic level, metadiscourse refers to language that helps organize a text and shape the relationship between writers and readers. Vande Kopple (1985) defines metadiscourse as linguistic material that writers use to organize their discourse

and engage readers in the communication process. Similarly, Crismore (1989) describes metadiscourse as rhetorical resources that allow writers to guide readers through a text and signal how the information should be interpreted. More recently, Hyland (2005) conceptualizes metadiscourse as a set of linguistic devices through which writers organize discourse, express stance, and interact with their readers. Unlike propositional content, which conveys information about the subject matter, metadiscourse focuses on how that information is presented. Writers use such signals to indicate transitions between ideas, emphasize important points, acknowledge alternative views, or express their level of commitment to a claim. Through these cues, readers can follow the structure of the argument and understand how the writer positions themselves within the discussion.

In the metadiscourse literature, this distinction is often described in terms of the difference between propositional and non-propositional aspects of discourse. Propositional elements communicate the informational content of the text, the ideas, claims, and evidence that constitute the subject matter of the discussion. By contrast, metadiscourse operates at a different level. It does not primarily add new information about the topic; rather, it helps organize discourse and guide readers in interpreting the propositional content (Crismore, 1989; Hyland, 2005). In this sense, metadiscourse can be seen as a non-propositional layer of discourse that accompanies and frames the propositional content.

Importantly, this distinction is not always clear-cut. As previous studies have shown (e.g. Vande Kopple, 1985; Crismore, 1989; Crismore et al., 1993; Hyland, 2005; Ädel, 2006; Dafouz-Milne, 2008), the boundary between propositional and non-propositional material can be fluid, context-dependent, and subject to reader interpretation. The same linguistic item may function as propositional in one context and as metadiscourse in another, depending on how it

contributes to meaning in the text. For this reason, the distinction should be understood as functional rather than purely formal. That is, what matters is not the form of a linguistic item itself, but the role it plays in guiding interpretation within a specific discourse context. This distinction can be illustrated with simple examples from academic writing:

(1) "AI-generated texts often contain repeated transition markers." (Propositional statement)

(2) "Importantly, AI-generated texts often contain repeated transition markers." (Propositional statement with metadiscourse)

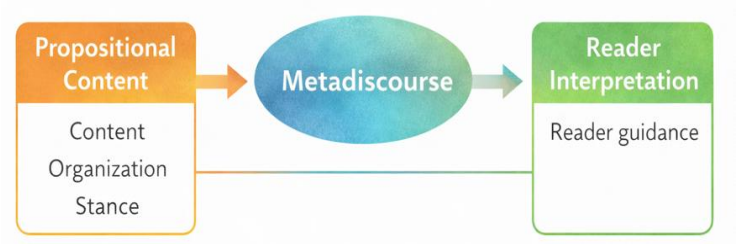
In example (1), the sentence presents propositional information about AI-generated texts. In example (2), however, the word *importantly* does not introduce new information about the topic. Instead, it signals how the reader should interpret the statement by emphasizing its significance. In this sense, the added expression functions as non-propositional metadiscourse. It directs the reader's attention and frames the claim in terms of its rhetorical importance rather than its informational content. Such examples demonstrate that metadiscourse does not operate by adding content but by shaping how content is presented and received. It highlights relationships, signals emphasis, and supports the reader's navigation of the text, thereby functioning as an essential component of academic communication. Consequently, understanding academic discourse requires attention not only to what is said, but also to how it is organized and how readers are guided through the argument.

As illustrated in Figure 3, metadiscourse can be understood as the element that mediates between propositional content and reader interpretation. While the propositional content of a text presents the main ideas or information,

metadiscourse helps organize these ideas and guide readers in interpreting them.

Figure 3

Metadiscourse as the Link Between Text and Reader



Source: Author's AI-assisted conceptual illustration (ChatGPT, 2026)

The figure highlights how metadiscourse functions as a bridge between textual content and reader interpretation. Through metadiscursive signals such as organizational markers, stance expressions, and reader-oriented guidance, writers structure their arguments and facilitate the reader's understanding of the text.

Although the term may appear relatively recent, the idea that writers guide readers through discourse has a longer intellectual history. Linguistic theories concerned with discourse organization and textual coherence have long recognized that communication involves more than the transfer of information. For instance, Halliday's systemic functional linguistics emphasized that language simultaneously performs ideational, interpersonal, and textual functions in communication (Halliday & Hasan, 1976). From this perspective, the interpersonal dimension of language plays a crucial role in shaping how writers interact with their audiences.

The concept of metadiscourse itself was introduced more explicitly in the 1980s as scholars began to examine how

writers structure texts and engage readers. One of the earliest systematic accounts was proposed by Vande Kopple (1985), who defined metadiscourse as linguistic material that helps writers organize discourse and communicate attitudes toward both the content and the audience. According to this view, metadiscourse includes a wide range of elements that assist readers in navigating the text and understanding the writer's intentions. Subsequent research refined and expanded this framework. Crismore (1989), for example, emphasized that metadiscourse reflects the writer's awareness of the reader and the need to facilitate comprehension. In her analysis of academic and educational texts, she demonstrated that writers frequently employ various signals to guide readers through complex arguments. These signals may indicate the structure of the text, highlight important information, or acknowledge alternative interpretations.

Later developments in discourse analysis further broadened the scope of metadiscourse research. Scholars began to investigate how these linguistic features function across different genres, disciplines, and cultural contexts. Studies in academic writing demonstrated that metadiscourse plays a crucial role in constructing arguments and maintaining reader engagement. Hyland (2005) proposed one of the most influential frameworks in this field, distinguishing between interactive resources, which help organize the text, and interactional resources, which allow writers to express stance and engage readers.

This distinction is particularly relevant for understanding academic communication. Writers must not only present their research clearly but also persuade readers that their interpretations are convincing and significant. Metadiscourse provides the linguistic tools that make this possible. Through these signals, authors guide readers through their reasoning, highlight the relevance of their claims, and position themselves within ongoing scholarly conversations.

The relevance of metadiscourse becomes even more apparent in contemporary discussions of AI-assisted writing. If academic discourse relies on subtle linguistic cues that signal organization, stance, and engagement, it becomes important to ask whether such cues are reproduced in texts generated by artificial intelligence systems. Do AI-generated texts employ similar strategies for guiding readers through arguments? Or do they display different patterns of interaction within the discourse? These questions suggest that metadiscourse provides an especially useful framework for examining the relationship between academic writing and emerging AI technologies. Before addressing this issue in detail, however, it is necessary to look more closely at how metadiscourse operates in academic texts. The following sections therefore explore the different categories of metadiscourse resources and their functions in scholarly communication.

In this book, I approach metadiscourse not only as a descriptive framework for analyzing academic texts, but also as a useful lens for understanding how AI-generated academic discourse may differ from human writing. If artificial intelligence can reproduce academic language, then one of the most important questions is not whether metadiscourse appears in such texts, but how it appears, how regularly it appears, and whether it serves the same rhetorical purposes.

3.2. Interactive Resources in Academic Writing

Academic writing requires not only the presentation of ideas but also the careful organization of those ideas within a coherent textual structure. Readers rarely approach scholarly texts with unlimited time or attention. Instead, they expect the writer to guide them through complex discussions, theoretical arguments, and empirical findings in a way that remains clear and logically structured. Without such guidance, even well-designed research can become difficult to follow. For this reason, academic writers rely on a variety of linguistic signals

that help readers navigate the text and understand how different parts of the argument relate to one another.

A useful way to think about interactive resources is to compare them to orientation tools in an unfamiliar city. Street signs, maps, and directional markers do not change the city itself, but they make movement through it possible. In much the same way, interactive resources do not change the propositional content of an academic text, nonetheless they help readers move through the argument without losing direction. Within the model proposed by Hyland (2005), these organizational signals are described as interactive resources. Their primary function is to shape the structure of the discourse so that readers can easily follow the progression of ideas. Rather than expressing the writer's attitude or personal stance, interactive resources focus on textual organization. They help signal relationships between ideas, indicate how arguments develop, and clarify how sections of a text contribute to the overall discussion. Through these cues, writers reduce the cognitive effort required from readers and facilitate comprehension.

One of the most frequently discussed types of interactive resources involves transitions, which signal logical relationships between clauses and sentences. Expressions such as *however*, *therefore*, *in addition*, or *consequently* clarify whether the writer is presenting a contrast, extending a previous idea, or drawing a conclusion. These signals help readers interpret how pieces of information relate to each other. When transitions are absent or unclear, readers may struggle to understand the intended structure of the argument. Effective academic writing therefore depends heavily on the appropriate use of these connective devices.

Another important category is frame markers, which indicate the stages of the discourse. Writers frequently announce the structure of their texts through expressions such

as *this chapter examines*, *the next section discusses*, or *to conclude this discussion*. Such markers provide readers with an overview of how the argument unfolds across the text. They function almost like signposts that orient readers within the structure of the discussion. In longer academic works, these signals become particularly valuable because they help maintain coherence across multiple sections.

Academic texts also make use of endophoric markers, which refer readers to other parts of the same document. References such as *as discussed earlier*, *see Figure 2*, or *as shown in Table 3* direct readers toward additional information located elsewhere in the text. These internal references allow writers to connect different parts of the discussion and avoid unnecessary repetition. At the same time, they encourage readers to interpret the text as an integrated whole rather than as a series of isolated sections.

A further category of interactive resources includes evidentials, which acknowledge information derived from external sources. Academic writing rarely develops in isolation; arguments are usually positioned in relation to previous research. By referring to earlier studies, for example through expressions such as *previous research has shown* or *Smith (2021) argues that*, writers indicate the origin of particular claims and situate their work within an existing scholarly conversation. These references help readers understand how the present study relates to earlier contributions in the field.

Finally, writers frequently employ code glosses, which clarify or elaborate on ideas that might otherwise remain ambiguous. Academic texts often contain specialized terminology or complex concepts that require additional explanation. Expressions such as *that is*, *in other words*, or *for example* allow writers to restate or illustrate their ideas in ways that facilitate reader understanding. Code glosses therefore

play an important role in making specialized knowledge accessible to readers who may approach the text from different disciplinary backgrounds.

Overall, these interactive resources contribute significantly to the coherence and readability of academic discourse. They guide readers through the structure of the argument, clarify relationships between ideas, and signal how the discussion is organized. In this sense, interactive resources form an essential component of effective scholarly communication. Their importance becomes even more evident when we consider the growing role of GenAI in academic writing. If coherent academic discourse relies on subtle signals that organize the text and guide interpretation, it becomes relevant to examine whether AI-generated texts reproduce these patterns consistently. Some studies suggest that AI systems can generate grammatically fluent sentences but may not always reproduce the rhetorical organization expected in academic argumentation. Understanding these patterns therefore requires careful attention to the linguistic resources through which writers structure their texts.

Recent research on AI-generated academic writing makes this issue even more relevant. If generative systems are capable of reproducing highly visible textual signals such as transitions, frame markers, or code glosses, then the question becomes whether these markers are rhetorically well placed or simply statistically common. This distinction will become particularly important in the later chapters of this book.

The following section examines another dimension of metadiscourse that complements the organizational role of interactive resources. While the elements discussed here focus on structuring the text, interactional resources reveal how writers express their stance and involve readers in the discussion.

3.3. Interactional Resources in Academic Writing

While interactive resources help organize the structure of academic texts, writers also rely on another set of linguistic signals that reveal how they position themselves in relation to their arguments and their audience. These signals are described as *interactional resources* in Hyland's model of metadiscourse. Their function is primarily interpersonal rather than structural. Through these elements, writers communicate degrees of certainty, evaluate the significance of their findings, and acknowledge the presence of readers. Academic discourse therefore involves not only presenting information but also negotiating meaning and credibility with an audience.

This is precisely why interactional resources often reveal more about the writer than purely organizational markers do. Through choices involving caution, certainty, evaluation, and reader involvement, authors make their rhetorical presence felt in the text. In other words, interactional resources are among the main linguistic sites where academic voice becomes visible. One central category of interactional resources is *hedging,* which allows writers to present claims with appropriate caution. Academic knowledge rarely develops through absolute statements; interpretations of evidence often remain open to further discussion or revision. For this reason, writers frequently use expressions such as *may*, *might*, *suggest*, or *appear to* when presenting arguments. These forms signal that a claim should be interpreted as a possibility rather than an unquestionable fact. Hyland (1998) argues that hedging plays a key role in academic communication because it reflects the tentative nature of knowledge construction and invites readers to consider alternative interpretations.

Alongside hedges, writers sometimes employ *boosters* to express stronger commitment to particular claims. Words such as *demonstrates*, *clearly shows*, or *establishes* indicate that the writer regards the evidence as sufficiently strong to support a

firm conclusion. Boosters therefore perform an important persuasive function within academic argumentation. When used carefully, they help writers emphasize the importance of their findings and signal confidence in their interpretations. Nevertheless, excessive certainty may undermine credibility if the evidence does not adequately support the claim.

A further group of interactional resources includes *attitude markers,* which communicate the writer's evaluation of particular ideas or situations. These markers allow authors to signal that certain results are significant, surprising, or problematic. Expressions such as *important*, *remarkable*, or *noteworthy* provide readers with cues about how the writer interprets the relevance of specific findings. Although academic discourse is often associated with neutrality, evaluative language remains an essential component of scholarly communication because it helps readers understand the implications of the discussion (Hunston & Thompson, 2000).

Writers may also draw readers directly into the discussion through *engagement markers*. These elements acknowledge the presence of the audience and encourage readers to follow the development of the argument. Directives such as *consider the following example*, *note that*, or *it is important to recognize* guide readers' attention toward specific aspects of the discussion. Questions and inclusive expressions may serve a similar purpose by inviting readers to participate in the reasoning process. Through these strategies, the text becomes a space where interpretation is actively negotiated between writer and reader.

Another important interactional resource is *self-mention,* which refers to explicit references to the author within the text. First-person pronouns such as *I* or *we* allow writers to clarify their role in the research process and indicate their contribution to the argument. Self-reference may appear when authors

describe methodological decisions, explain analytical steps, or present interpretations of data. Studies of academic writing suggest that these forms often strengthen the transparency of the discussion because they clearly identify the source of particular claims (Hyland, 2001).

Overall, interactional resources reveal how writers construct relationships with readers while presenting academic arguments. Through cautious expressions, confident assertions, evaluative language, reader-oriented signals, and occasional self-reference, authors position themselves within the discourse and shape how their claims are interpreted. Academic writing therefore reflects a balance between presenting information and managing interpersonal relationships within scholarly communication.

This interpersonal dimension becomes particularly relevant in discussions of AI-assisted writing. If academic discourse relies on linguistic cues that signal stance and engagement, it is reasonable to ask whether texts produced with the assistance of artificial intelligence display similar interactional patterns. Although AI-generated language can reproduce many features of academic style, questions remain about whether such texts convey a clear sense of authorial presence. Examining these issues requires continued attention to the interactional features through which academic writers communicate their positions.

3.4. Metadiscourse and the Construction of Authorial Presence

In the previous sections, we examined how metadiscourse resources help writers organize texts and signal their stance toward the ideas they present. When these resources are considered together, another important feature of academic discourse becomes visible: writers construct a recognizable presence within their texts. Academic arguments rarely appear

as purely neutral statements detached from their authors. Instead, readers often encounter a voice that guides the discussion, evaluates evidence, and signals how particular claims should be interpreted. Metadiscourse therefore plays a crucial role in making the author's presence visible in academic communication (Hyland, 2005; Ädel, 2006).

For this reason, metadiscourse can be viewed not merely as a set of textual features, but as one of the main mechanisms through which academic identity becomes linguistically observable. Writers do not simply "have" a voice before they write; rather, voice emerges through rhetorical choices made within discourse. In this sense, authorial presence is not something added to academic writing from the outside. It is constructed within the text itself.

> Reflection
>
> Do you think academic voice can exist without metadiscourse, or is it fundamentally constructed through these linguistic choices?

As readers, we frequently recognize this presence even when writers do not explicitly refer to themselves. The structure of the argument, the way earlier research is discussed, and the degree of certainty attached to particular claims all contribute to this impression. If you examine a research article carefully, you will notice that the writer consistently directs your attention toward certain interpretations while presenting others more cautiously. These rhetorical signals help readers understand not only what is being argued but also how the argument should be evaluated within the broader scholarly conversation (Thompson & Thetela, 1995). Research in discourse analysis has demonstrated that authorial presence is rarely expressed through a single linguistic feature. Instead, it emerges through a combination of textual organization, evaluative language, and interpersonal signals distributed

throughout the text. Ivanič (1998) explains that the voice of the writer develops through discursive choices that reflect both personal rhetorical preferences and the expectations of the academic community. Similarly, Tang and John (1999) show that the use of first-person pronouns in academic writing allows authors to adopt different rhetorical roles when presenting arguments, describing procedures, or evaluating findings.

Another important dimension concerns the relationship between authorial presence and credibility. Academic readers rarely evaluate claims solely by examining the information presented. They also consider how convincingly the argument is developed and how transparently the reasoning process is communicated. Clear explanations, careful interpretation of evidence, and appropriately expressed degrees of certainty all contribute to the credibility of the text. Hyland (2001) notes that such rhetorical choices allow writers to present themselves as knowledgeable participants within their disciplinary communities. At the same time, authorial presence is shaped by disciplinary conventions and community expectations. Different fields display distinct preferences regarding the visibility of the writer within the text. In some disciplines, authors frequently refer to their own research decisions and interpretations, whereas in others writers tend to adopt more impersonal forms of expression. Studies of academic discourse suggest that these patterns reflect the epistemological traditions and communicative practices that characterize particular research communities (Swales, 2004; Hyland, 2002).

When we examine academic writing from this perspective, it becomes clear that metadiscourse functions as one of the main mechanisms through which writers position themselves within scholarly communication. Through organizational signals, evaluative expressions, and reader-oriented cues, authors guide the interpretation of their arguments and clarify their relationship to the ideas they present. Academic discourse therefore reflects an interaction between information and

interpretation, where writers actively shape how their research is understood.

I refer to this process as *metadiscoursal visibility*: the gradual emergence of the writer's presence through the strategic use of organizational and interpersonal signals across the text. This concept is particularly useful because it allows us to understand authorial presence not as a fixed personal quality, but as a rhetorically constructed textual effect. Recognizing the role of metadiscourse in constructing authorial presence provides an important foundation for understanding how academic texts function within research communities. By identifying the linguistic strategies through which writers organize discourse and communicate stance, researchers can gain deeper insight into how scholarly arguments are constructed, interpreted, and evaluated across different disciplinary contexts.

Academic discourse, as discussed throughout this chapter, relies heavily on metadiscourse resources that allow writers to organize arguments, express stance, and construct a recognizable authorial presence. These linguistic mechanisms play a central role in shaping how scholarly knowledge is communicated and interpreted within disciplinary communities. However, the rapid development of GenAI raises an important question: if academic discourse depends on such interpersonal and organizational signals, how are these signals reproduced in texts generated by AI systems? The following chapter addresses this issue by examining the role of metadiscourse in AI-assisted academic writing and by introducing the concept of algorithmic metadiscourse.

Key Points

• Algorithmic metadiscourse refers to metadiscursive features generated through probabilistic language modeling rather than deliberate rhetorical choices.

• AI-generated texts can reproduce many surface features of academic discourse, including transitions, hedges, and frame markers.

• These features may resemble human writing, but they emerge from fundamentally different processes of language production.

• AI-generated discourse often shows a shift toward structurally oriented and pattern-driven metadiscourse.

• Interactional resources such as stance, self-mention, and reader engagement may appear less developed or more standardized.

• The three-layer model distinguishes between surface realization, rhetorical function, and algorithmic generation in AI-assisted discourse.

• Differences between human and AI-generated writing are particularly visible in authorial voice and rhetorical positioning.

• AI-generated academic discourse may remain structurally coherent while displaying reduced rhetorical distinctiveness, a tendency described as rhetorical flattening.

Chapter 4

From Metadiscourse to Algorithmic Metadiscourse: Reframing Academic Discourse in the Age of AI

4.1. Metadiscourse in the Age of AI

The emergence of GenAI has introduced new questions about the nature of academic writing. While previous chapters examined how human writers organize discourse, express stance, and construct authorial presence through metadiscourse, AI-assisted writing invites us to reconsider how these rhetorical signals are produced. If generative systems can reproduce many of the linguistic features associated with academic discourse, it becomes necessary to examine whether these signals perform the same rhetorical functions. This chapter explores these questions by examining the role of metadiscourse in AI-generated academic writing and by introducing the concept of algorithmic metadiscourse.

In this book, I introduce the concept of *algorithmic metadiscourse* to describe metadiscursive forms generated through statistical language modeling rather than through deliberate rhetorical choices made by human authors. In algorithmic metadiscourse, surface features of academic discourse may appear highly conventional while their production is driven by probabilistic pattern recognition within large textual datasets. This point becomes clearer when we consider how large language models generate text. Rather than constructing arguments through human-like reasoning, such systems produce discourse by predicting likely word sequences on the basis of patterns learned from vast textual datasets. Developments in transformer-based architectures made this form of generation far more coherent across longer stretches of

discourse, allowing academic-looking textual structures to emerge with increasing fluency. For this reason, the metadiscourse signals found in AI-generated writing may resemble those of human academic prose even though they emerge from fundamentally different processes of production. A transition such as *however* may still connect two ideas, a hedge such as *may suggest* may soften a claim, and a frame marker such as *this study examines* may organize the structure of a text. At the same time these signals emerge from algorithmic prediction rather than from a writer's situated participation in a disciplinary community.

Recent studies examining metadiscourse in AI-generated writing provide empirical evidence that supports the relevance of this distinction. A growing body of research comparing AI-generated and human-authored texts demonstrates that large language models are capable of reproducing many metadiscursive features typically associated with academic discourse. Comparative analyses of research abstracts, essays, and academic genres have shown that AI-generated texts frequently display systematic patterns of interactive and interactional metadiscourse, often with a strong reliance on transitions, hedges, and engagement markers (Jiang & Hyland, 2025c; Yao & Liu, 2025; Yao & Liu, 2026; Lei, 2026; Honcharova, 2025; Sadigzade, 2026).

These studies suggest that generative models are able to emulate the surface structure of scholarly argumentation by reproducing conventional discourse signals commonly found in academic writing. At the same time, several studies indicate that AI-produced discourse may display distinctive rhetorical tendencies when compared with human writing. For instance, research comparing essays written by ChatGPT and university students shows that AI-generated texts tend to employ highly explicit organizational signals and formulaic discourse structures (Jiang & Hyland, 2025c). Other comparative analyses of research abstracts and academic genres similarly

report differences in the distribution and rhetorical functions of interactive and interactional markers (Yao & Liu, 2025; Sadigzade, 2026). Studies examining AI-mediated educational contexts also suggest that the integration of GenAI tools may influence the development and use of metadiscourse resources in student writing (Esfandiari & Allaf-Akbary, 2024; Zhu & Dong, 2025).

Evidence from corpus-based analyses of AI-generated argumentative essays further highlights the importance of examining these patterns. For example, Güçlü (2025a) shows that ChatGPT-generated essays across a range of social science topics display a clear preference for interactional metadiscourse, particularly hedges, while transitions emerge as the most frequent interactive devices in the corpus. These findings suggest that AI-generated argumentative discourse may foreground stance-taking and reader engagement while maintaining a relatively standardized organizational structure.

These findings point to the need for a clearer analytical framework for identifying algorithmic metadiscourse in empirical discourse analysis. An important issue, however, concerns the balance between interactive and interactional metadiscourse in AI-generated academic writing. While large language models can reproduce many organizational signals that help structure discourse, interactional resources associated with authorial stance and reader engagement may not always be equally developed. This distinction becomes especially important when we consider the role of metadiscourse not only in organizing academic texts but also in projecting voice, responsibility, and rhetorical presence.

4.2. Analytical Indicators for Identifying Algorithmic Metadiscourse

While previous studies have documented differences between human and AI-generated writing, researchers still face

the practical challenge of determining whether metadiscursive signals observed in a text emerge from context-sensitive rhetorical choices or from statistically predictable discourse patterns. Recent research suggests that although AI-generated texts can reproduce recognizable metadiscourse features, they often display reduced interactional depth, limited stance variation, and a tendency toward formulaic expression (Gao et al., 2023; Jiang & Hyland, 2025). For instance, AI-generated abstracts have been described as coherent but comparatively vague and formulaic, lacking the nuanced authorial presence typically found in human writing (Gao et al., 2023). Similarly, Jiang and Hyland (2025a) report that AI-generated essays tend to contain significantly fewer interactional metadiscourse markers, resulting in a more impersonal rhetorical style.

At the same time, corpus-based studies reveal that AI-generated texts may exhibit a different distribution of metadiscourse features rather than a simple absence of them. For example, Zhang and Zhang (2025) and Sadigzade (2026) demonstrate that AI-generated abstracts may contain a higher frequency of interactive (text-organizing) markers, while showing reduced use of stance and engagement features. This suggests that AI systems can reproduce the structural organization of academic discourse while only partially capturing its interactional dimension. In a similar vein, Amirjalili et al. (2024) note that although AI-generated academic writing may appear contextually appropriate, it often lacks depth, specificity, and accurate rhetorical positioning.

Further evidence is provided by Güçlü (2025a), who demonstrates that ChatGPT-generated argumentative essays display a clear preference for interactional metadiscourse markers, particularly hedges, while transitions emerge as the most frequent interactive devices. These findings indicate that AI-generated discourse does not simply lack metadiscourse, but rather reconfigures its distribution and rhetorical functions across genres and topics. Overall, these studies suggest that AI-

generated academic writing is characterized not by the absence of metadiscourse, but by a systematic shift toward structurally oriented and pattern-driven discourse, often accompanied by reduced rhetorical sensitivity and authorial presence.

To address this issue, Table 1 presents a set of analytical indicators that may assist researchers in distinguishing between human-produced and algorithmically generated metadiscourse. These indicators are grounded in established metadiscourse frameworks (e.g. Hyland, 2005), but are reinterpreted in light of emerging findings on AI-generated academic discourse. These indicators are not intended as rigid diagnostic criteria. Rather, they function as analytical guidelines that can support corpus-based and discourse-oriented investigations of AI-generated academic writing. In this sense, the framework proposed here does not aim to replace existing models of metadiscourse, but to extend them by accounting for the distinctive linguistic patterns observed in AI-mediated writing.

Table 1

Analytical Indicators for Identifying Algorithmic Metadiscourse

Analytical Dimension	Human Metadiscourse	Algorithmic Metadiscourse	Analytical Indicator
Distribution of markers	Context-dependent	More evenly distributed	Check if markers follow structure rather than argument
Variety of expressions	Lexically varied	Formulaic and repetitive	Identify recurring fixed phrases
Context sensitivity	Topic-sensitive	Weakly context-dependent	Assess relevance to argument

Argument development	Evolves with reasoning	Structurally predictable	Look for alignment with argument shifts
Rhetorical positioning	Reflects stance	More neutral stance	Examine context-based positioning
Interaction with reader	Audience-aware	Often formulaic	Evaluate genuine reader guidance

The analytical indicators summarized in Table 1 provide a practical framework for examining how metadiscourse operates in AI-generated academic writing. By considering dimensions such as distribution, contextual sensitivity, rhetorical positioning, and interaction with readers, researchers can move beyond simply identifying discourse markers and instead examine how these markers function within the broader structure of academic argumentation. In this way, the framework helps distinguish between metadiscursive signals that emerge from context-sensitive rhetorical choices and those that may arise from statistically predictable discourse patterns in AI-generated language. In cases where interactional resources appear limited, generalized, or formulaic, such patterns may also contribute to a reduction in rhetorical distinctiveness, a tendency that may later be described as rhetorical flattening in AI-generated academic discourse.

These studies indicate that GenAI systems are capable of reproducing many of the metadiscursive signals that characterize academic discourse. However, the presence of such signals does not necessarily imply the same rhetorical motivations that guide human writers. Rather, these patterns may reflect the statistical regularities embedded in the training data of large language models. From this perspective, the

concept of *algorithmic metadiscourse* provides a useful framework for understanding how familiar discourse markers can emerge from fundamentally different processes of language production in AI-assisted academic writing.

While previous studies have documented the presence of metadiscourse in AI-generated texts, the concept of *algorithmic metadiscourse* proposed in this book seeks to explain how such markers emerge from computational language prediction rather than from situated rhetorical decision-making. This book therefore proposes that metadiscourse should also be examined as an algorithmically reproducible feature of discourse. In AI-assisted writing, these markers may remain visible on the surface while functioning differently in rhetorical terms. A transition may still connect two ideas, a hedge may still soften a claim, and a self-mention form may still appear in the text; still the interpretive intention behind these features may no longer emerge from the same kind of human disciplinary judgment. For this reason, metadiscourse offers a particularly rich framework for understanding the transformation of academic communication in the age of AI. However, the rhetorical effects of these markers may not be distributed evenly across metadiscourse categories. In particular, when self-mentions, engagement markers, and other interactional resources appear less prominently, the discourse may remain structurally coherent while projecting a weaker sense of authorial presence.

4.3. A Three-Layer Model of Algorithmic Metadiscourse

At this point, it becomes useful to clarify how metadiscourse operates in AI-generated academic writing. As we have seen in the previous sections, GenAI systems are capable of reproducing many of the linguistic signals that characterize academic discourse. Transitions, hedges, engagement markers, and frame markers frequently appear in

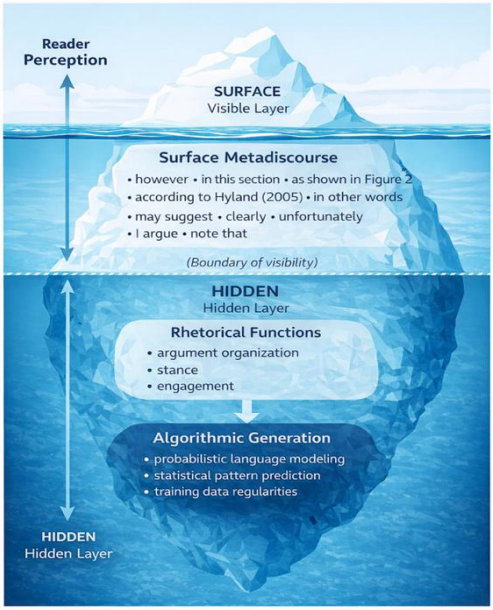
AI-generated texts, often creating the impression of coherent scholarly argumentation. However, the presence of these markers raises an important question. If metadiscourse is traditionally understood as a rhetorical resource through which writers guide readers and position their claims, how should we interpret similar features when they are produced by algorithmic systems?

As introduced earlier in this chapter, the concept of algorithmic metadiscourse is used in this book to describe metadiscursive forms generated through statistical language modeling rather than through deliberate rhetorical choices made by human authors. This concept does not imply that AI-generated texts lack metadiscourse. On the contrary, such texts often contain many recognizable discourse signals commonly associated with academic writing. The key issue, however, is that these signals may emerge from different generative processes. To clarify this distinction more systematically, I propose *a three-layer model of algorithmic metadiscourse* as a theoretical framework for analysing AI-generated academic discourse. The model distinguishes three interconnected dimensions: the surface realization of metadiscourse markers in the text, the rhetorical functions these markers perform in organizing and guiding discourse, and the computational mechanisms through which these markers are generated in AI-assisted writing. As discussed in the previous section, Table 1 presents a set of analytical indicators that can assist researchers in identifying potential patterns of algorithmic metadiscourse in empirical data. The three-layer model proposed here serves a different purpose. Rather than identifying observable indicators, it seeks to explain how such patterns emerge from different levels of discourse production. In this sense, it provides operational criteria for analysis, whereas the three-layer model offers the theoretical framework through which these patterns can be interpreted.

By distinguishing between these layers, the model allows for a more systematic examination of how metadiscourse operates in contexts where human and algorithmically generated language increasingly intersect. The framework therefore makes it possible to analyse not only the visible linguistic signals of academic discourse but also the underlying processes through which these signals are produced. In order to illustrate the relationship between these layers, Figure 4 presents an iceberg model of algorithmic metadiscourse. The model visually distinguishes between the visible discourse signals that readers encounter in a text and the underlying processes through which these signals are generated in AI-assisted writing.

Figure 4

Iceberg Model of Algorithmic Metadiscourse



Source: Author's conceptual illustration generated with the assistance of ChatGPT (OpenAI, 2026).

Metadiscourse can be reconsidered through the layered structure illustrated in Figure 4. From this perspective, metadiscourse can be defined as the set of linguistic resources that appear at the visible surface of discourse, with underlying rhetorical functions shaping how the discourse operates and is interpreted.

As shown in the iceberg model of algorithmic metadiscourse, the surface layer represents the visible metadiscourse markers that organize the text and guide readers through the argument. Beneath this visible layer lie the rhetorical functions that shape how these markers structure interpretation and position claims within the discourse. At the deepest level, the model highlights the algorithmic processes through which such markers may be generated in AI-assisted writing. It is therefore possible that AI-generated academic discourse may retain the visible architecture of metadiscourse while displaying a weaker realization of its interpersonal rhetorical functions. In such cases, discourse markers may remain structurally present even though the interactional dimension of academic communication is less strongly developed. The model also allows us to consider a possible imbalance between visible discourse structure and interpersonal rhetorical force. In AI-generated academic writing, surface metadiscourse may remain highly visible even when the interactional dimension of discourse is less strongly developed. The following sections discuss each of these layers in greater detail.

Layer 1: Surface Metadiscourse

The first layer concerns the surface realization of metadiscourse markers in the text. At this level, AI-generated writing often resembles human academic discourse quite closely. Readers may notice familiar discourse signals such as *however* (transition), *in this section* (frame marker), *as shown in Figure 2* (endophoric marker), *according to Hyland (2005)*

(evidential), or *in other words* (code gloss). Additional markers such as *may suggest* (hedge), *clearly* (booster), *unfortunately* (attitude marker), *I argue* (self-mention), and *note that* (engagement marker) may also appear throughout the text.

These markers help structure the argument and guide readers through the text. As a result, AI-generated essays frequently appear coherent and academically structured. Because large language models are trained on vast collections of written material, including scholarly texts, they reproduce many of the linguistic patterns that readers associate with academic writing. For this reason, the surface layer of metadiscourse is often the most immediately visible. When readers encounter AI-generated texts, they may initially perceive them as rhetorically well organized because these familiar signals appear throughout the discourse.

Nevertheless, the presence of such markers at the surface level does not imply that all categories occur with the same rhetorical weight or frequency in AI-generated discourse. Some interactional resources, particularly those related to authorial visibility and reader involvement, may remain less prominent than organizational markers such as transitions and frame markers.

Layer 2: Rhetorical Function

The second layer concerns the rhetorical role that metadiscourse markers perform in the argument. In human-authored texts, writers typically employ metadiscourse strategically. They choose particular markers to clarify relationships between ideas, signal degrees of certainty, or guide readers toward specific interpretations (Hyland, 2005; Hyland & Jiang, 2018). At this point, it is useful to remember that academic writing always involves interaction with an audience. Writers anticipate potential questions, highlight important claims, and sometimes soften their statements in

order to maintain credibility. In this sense, metadiscourse plays a central role in shaping how arguments are interpreted.

In AI-generated texts, however, these rhetorical functions may appear in more standardized ways. The markers themselves may be correctly positioned, but their distribution often reflects recurring textual patterns rather than context-sensitive rhetorical decisions. As a result, AI-produced discourse may appear structurally coherent while displaying a more uniform rhetorical style. This issue becomes particularly significant in relation to interactional metadiscourse. In human-authored academic writing, self-mentions, engagement markers, attitude markers, hedges, and boosters do not merely decorate the discourse. They help writers project voice, negotiate commitment, and establish an interpretive relationship with readers. If these resources appear less frequently, less strategically, or in more formulaic ways in AI-generated writing, the result may be a discourse that appears academically organized but rhetorically less vivid.

A particularly important issue concerns the role of interactional metadiscourse in projecting authorial voice. In Hyland's (2005) framework, interactional markers such as self-mentions, engagement markers, hedges, boosters, and attitude markers play a crucial role in expressing authorial stance and constructing a recognizable authorial voice within the text.Through these resources, writers position themselves in relation to their claims and establish a rhetorical relationship with their readers.

In AI-generated academic writing, however, the distribution of these markers may display certain differences. Several studies comparing human-authored and AI-generated texts suggest that some interactional features, particularly self-mentions and reader-engagement markers, appear less frequently in AI-produced discourse. One possible explanation for this tendency is that GenAI systems do not possess a stable

authorial identity or disciplinary positioning in the same sense as human writers. Because AI systems generate language through statistical prediction rather than through situated participation in a research community, the rhetorical functions associated with authorial voice may be realized in more limited or standardized ways.

As a result, while AI-generated texts may reproduce many surface features of academic discourse, the interactional dimension of metadiscourse may sometimes appear less strongly developed. This difference may lead to a weaker projection of authorial presence and rhetorical positioning within the text. From the perspective of the present model, such patterns illustrate how the surface realization of metadiscourse markers does not necessarily correspond to the same rhetorical functions when discourse is produced through algorithmic language generation.

Layer 3: Algorithmic Generation

The third layer concerns the algorithmic processes through which these markers are generated. Large language models produce text through probabilistic prediction. Rather than selecting linguistic expressions in response to rhetorical goals, the system predicts sequences of words based on patterns learned from large textual datasets.

From this perspective, algorithmic metadiscourse reflects the statistical regularities present in the training data. Transitions, hedges, and engagement markers appear frequently because they are common features of academic writing and therefore become highly predictable elements in language generation.

It is worth emphasizing that this does not necessarily mean that AI-generated discourse lacks coherence. Instead, the coherence emerges from pattern recognition rather than from the writer's situated participation in a disciplinary community.

In other words, the appearance of metadiscourse may resemble human discourse at the surface level while differing in the processes through which it is produced.

4.4. Implications of the Model

These three layers help explain why AI-generated academic writing can appear both familiar and different at the same time. At the surface level, AI systems reproduce many of the textual signals commonly associated with scholarly discourse. At the rhetorical level, however, important differences may emerge in the ways these signals function in relation to authorial stance and interaction with readers. In traditional academic writing, interactional metadiscourse resources, such as self-mentions, engagement markers, and stance expressions, play an important role in projecting authorial identity and constructing a recognizable scholarly voice (Hyland, 2005). Because GenAI systems do not possess a stable authorial identity or disciplinary positioning, these interactional features may sometimes appear less strongly developed or more standardized in AI-generated discourse.

Read in this way, the three-layer model also helps explain why AI-generated academic discourse may sometimes appear rhetorically effective on the surface but less persuasive in interpersonal terms. As suggested by the analytical dimensions presented in Table 1, algorithmic metadiscourse may involve a relatively strong presence of organizational signals alongside a more limited or standardized use of interactional resources. This imbalance may reduce the visibility of authorial stance and weaken the dialogic relationship between writer and reader.

For the purposes of this book, this tendency may be described as *rhetorical flattening*: a reduction in authorial voice, stance variation, and reader-oriented rhetorical force in discourse shaped by algorithmic language generation. In such

cases, a text may remain coherent, fluent, and recognizably academic while offering a weaker sense of rhetorical individuality and interpersonal engagement.

At the computational level, metadiscourse markers emerge from probabilistic language modeling rather than from intentional rhetorical positioning. The linguistic signals themselves may therefore resemble those found in human-authored texts, while the processes through which they are generated differ fundamentally. The three-layer model therefore provides a useful framework for examining how metadiscourse operates in AI-assisted academic writing. By distinguishing between surface realization, rhetorical function, and algorithmic generation, researchers can better analyse the similarities and differences between human-authored and AI-generated academic texts.

Ultimately, this model suggests that the transformation of academic discourse in the age of artificial intelligence does not necessarily occur only at the level of visible language. It also involves changes in the underlying processes through which discourse is produced and in the ways authorial presence may be projected in academic texts. AI-generated academic writing may preserve the visible structure of metadiscourse while weakening some of its interpersonal rhetorical effects. This distinction becomes especially important when examining how authorial voice and reader engagement are realized in AI-assisted academic discourse.

The rhetorical consequences of this development become especially visible when we examine specific interactional resources in AI-generated academic writing. Questions of hedging, self-mention, reader engagement, and authorial voice therefore require closer attention in the following chapter.

Key Points

• Algorithmic metadiscourse refers to metadiscursive features generated through probabilistic language modeling rather than deliberate rhetorical choices.

• AI-generated texts can reproduce many surface features of academic discourse, including transitions, hedges, and frame markers.

• These features may resemble human writing, but they emerge from fundamentally different processes of language production.

• AI-generated discourse often shows a shift toward structurally oriented and pattern-driven metadiscourse.

• Interactional resources such as stance, self-mention, and reader engagement may appear less developed or more standardized.

• The three-layer model distinguishes between surface realization, rhetorical function, and algorithmic generation in AI-assisted discourse.

• Differences between human and AI-generated writing are particularly visible in authorial voice and rhetorical positioning.

• AI-generated academic discourse may remain structurally coherent while displaying reduced rhetorical distinctiveness, a tendency described as rhetorical flattening.

Chapter 5

AI and the Rhetorical Transformation of Academic Discourse

5.1. AI and the Organization of Academic Texts

Academic writing is often recognized not only by the ideas it presents but also by the way those ideas are organized within the discourse. As discussed in the previous chapter, the three-layer model of algorithmic metadiscourse suggests that AI-generated texts may reproduce many visible features of scholarly communication while emerging from different processes of language production. The central claim of this chapter is that AI-generated academic discourse may preserve the visible architecture of metadiscourse while transforming the rhetorical conditions under which that architecture is produced.

One of the most immediately observable dimensions of this resemblance concerns textual organization. When readers encounter a research article, they expect a recognizable structure that guides them through the discussion in a predictable manner. Introductions establish the research problem, literature reviews situate the study within existing scholarship, and methodological sections explain how the research was conducted. This recognizable organization allows readers to navigate complex arguments efficiently. These structural patterns have long attracted the attention of discourse scholars. One of the most influential contributions comes from John Swales, who examined how research articles organize knowledge through what he called rhetorical moves. According to Swales (1990), academic introductions typically follow a sequence in which authors first establish a research territory,

then identify a gap in the literature, and finally present their own contribution. This pattern has been widely observed across many disciplines and has become a central concept in genre analysis.

If we examine contemporary AI-generated academic prose, an interesting question emerges: do these systems reproduce similar rhetorical patterns? In many cases, the answer appears to be yes. Because large language models are trained on extensive collections of written texts, they often learn recurring organizational structures associated with academic genres. When prompted to generate a research-style explanation, AI systems frequently produce paragraphs that resemble the familiar structure of introductions, explanations, and conclusions. In other words, the system has learned not only vocabulary and grammar but also patterns of discourse organization.

However, the resemblance is not always perfect. Studies examining AI-generated academic writing suggest that while such texts often imitate conventional structures, they sometimes reproduce them in a formulaic manner. For instance, experiments conducted by Stokel-Walker and Van Noorden (2023) found that AI-generated scientific abstracts often followed recognizable structural patterns but occasionally lacked the detailed reasoning that typically supports scholarly arguments. The generated texts appeared structurally correct, however the intellectual development of ideas was sometimes less precise. In some cases, the resulting text may appear rhetorically sophisticated while displaying what might be described as *rhetorical compression*, where the density of discourse signals gives the impression of structured argumentation even when the underlying reasoning remains relatively limited.

At this point, it may be helpful to consider a simple analogy. Imagine a student who has read many research articles

and understands their general structure but has not yet developed deep expertise in the field. Such a student might be able to reproduce the external form of academic writing, introductions, summaries, and conclusions, without fully engaging with the intellectual debates behind them. In some respects, AI-generated academic texts display a similar pattern: the structure of discourse is reproduced convincingly, while the underlying reasoning may remain comparatively superficial.

Researchers studying automated writing systems have also examined how AI-generated texts organize arguments across longer passages. In experiments comparing human-written and machine-generated essays, researchers found that AI systems often produce paragraphs that appear coherent locally but occasionally struggle to maintain a consistent argumentative thread across extended texts (Kreminski et al., 2022). Readers may therefore encounter passages that are individually well written but less clearly connected to the overall line of reasoning.

This observation invites us to reflect more carefully on the nature of academic organization. Effective scholarly writing does not simply follow a predefined structure; it also develops ideas progressively across the text. Writers introduce concepts, refine arguments, respond to alternative interpretations, and gradually lead readers toward a conclusion. As Hyland (2004) observes, academic discourse involves guiding readers through "a carefully staged argument" in which each part contributes to the broader communicative purpose of the text. When AI-generated texts are examined from this perspective, the distinction between structural imitation and rhetorical development becomes clearer. AI systems can reproduce recognizable textual patterns because those patterns appear frequently in their training data. Nevertheless the deeper organization of academic argumentation—the gradual negotiation of ideas within a disciplinary conversation—remains closely connected to human intellectual practice.

For scholars interested in discourse analysis, this distinction opens an intriguing line of inquiry. If AI systems can reproduce many structural features of academic writing, how do these systems handle the linguistic signals that guide readers through complex arguments? More specifically, how do they employ the metadiscourse resources that organize academic texts and signal relationships between ideas? Exploring these questions requires a closer examination of how AI-generated language interacts with the rhetorical conventions of scholarly communication.

While these observations show that AI systems can reproduce recognizable organizational patterns of academic writing, structure alone does not fully explain how readers are guided through scholarly arguments. Academic discourse also relies heavily on metadiscourse signals that clarify relationships between ideas and shape interaction between writer and reader. The next section therefore examines how such metadiscourse practices appear in AI-generated academic writing.

A useful way of extending this discussion is to consider what may be called *metadiscursive provenance.* By this term, I refer to the origin of metadiscursive signals in a text and to the process through which such signals emerge. In human-authored discourse, metadiscourse typically arises from rhetorical intention, as writers strategically organize information and guide readers through the development of an argument. In AI-generated discourse, however, similar signals may emerge through probabilistic pattern continuation rather than through situated rhetorical choice. This distinction suggests that the study of academic discourse in the age of artificial intelligence should attend not only to the presence of metadiscourse markers but also to their provenance.

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5.2. Modes of Academic Discourse Production

Academic discourse has traditionally been understood as a form of scholarly communication produced by human writers who construct arguments, evaluate evidence, and position their claims within ongoing disciplinary debates. In this familiar setting, the organization of academic texts, the use of metadiscourse markers, and the projection of authorial voice are closely connected to human rhetorical decision-making. Writers do not simply produce sentences; they actively guide readers through complex reasoning and negotiate knowledge claims within a research community.

However, the emergence of GenAI invites us to reconsider how academic texts are produced. In recent years, scholars and students alike have increasingly encountered texts that resemble academic writing but are generated with the assistance of large language models. These texts often display recognizable features of scholarly discourse, including structured argumentation, disciplinary vocabulary, and familiar metadiscourse signals. At first glance, the differences between human and AI-produced writing may therefore appear relatively small.

A closer examination suggests that the processes through which such texts are produced may differ in important ways. Human writers typically construct arguments through deliberate rhetorical choices. They decide how strongly to present a claim, when to acknowledge uncertainty, and how to guide readers through the interpretation of evidence. AI systems, by contrast, generate language by predicting sequences of words based on patterns learned from large textual datasets. As a result, the linguistic signals associated with academic discourse may appear in AI-generated texts even though the processes that produce them differ from those underlying human writing. In order to clarify these differences, contemporary academic discourse can be described in terms of three modes of production: human-authored discourse, AI-assisted discourse, and AI-generated discourse. This distinction does not refer simply to technological tools but to the processes through which academic language is produced and organized.

Human-authored discourse refers to texts produced entirely by human writers who take responsibility for both the argument and its linguistic realization. In such texts, rhetorical decisions emerge from the author's engagement with evidence, disciplinary debates, and anticipated reader interpretations. The organization of the text, the distribution of metadiscourse markers, and the expression of stance all reflect situated scholarly reasoning. *AI-assisted discourse*, by contrast, describes texts in which human authors remain responsible for the argument while using artificial intelligence tools for drafting, editing, or linguistic refinement. In many contemporary writing environments, this hybrid mode has become increasingly common. Writers may use AI systems to generate preliminary formulations, restructure sentences, or suggest alternative expressions, while still retaining responsibility for argument development and final interpretation. In this respect, AI-assisted discourse reflects not

the replacement of human writing but the reconfiguration of rhetorical labor within academic communication. In this mode, computational systems may support the production of sentences or paragraphs, however the rhetorical direction of the text continues to be shaped by the human writer. The resulting discourse therefore reflects a hybrid interaction between human rhetorical intention and algorithmic language generation.

Finally, *AI-generated discourse* refers to texts produced primarily through algorithmic language systems. In this mode, linguistic patterns associated with academic writing emerge through probabilistic prediction rather than through direct human rhetorical planning. The generated text may reproduce recognizable features of scholarly communication, at the same time the rhetorical signals present in the discourse originate from statistical regularities in training data rather than from the author's engagement with disciplinary argumentation. However, the rhetorical appearance of such texts raises an important question. If the linguistic signals of academic discourse can emerge through algorithmic prediction, how should we understand the rhetorical character of these texts? One possible way of approaching this phenomenon is to view AI-generated academic discourse as a form of *simulated rhetoric*. In this sense, the generated text reproduces many of the linguistic signals associated with scholarly communication, such as structured argumentation, metadiscourse markers, and disciplinary vocabulary, but these signals emerge from probabilistic pattern continuation rather than from intentional rhetorical decision-making.

A related observation concerns the density of rhetorical signals in AI-generated academic writing. In many cases, generated texts contain a high concentration of discourse markers, transitions, hedges, and formulaic academic expressions, which create the impression of structured scholarly argumentation. However, the development of the

underlying argument may remain comparatively limited. This phenomenon may be described as *rhetorical compression*, a situation in which the surface signals of academic discourse appear densely within the text while the underlying argumentative development remains relatively shallow.

Distinguishing between these modes is important for the analysis of contemporary academic discourse. The rhetorical features of a text may depend not only on its genre or disciplinary context but also on the processes through which it is produced. In other words, the emergence of GenAI does not merely introduce new writing tools; it also alters the conditions under which academic discourse is created, interpreted, and evaluated.

Another consequence of these changing conditions may be described as *rhetorical asymmetry***.** This concept refers to the uneven reproduction of rhetorical resources in AI-generated academic discourse. In many cases, AI systems appear to reproduce the organizational features of academic writing more successfully than the interpersonal ones. Structural signals such as transitions, sequencing devices, and framing expressions may remain highly visible, while interactional resources such as self-mention, reader engagement, and rhetorically individualized stance may appear weaker or more generalized. AI-generated academic discourse may therefore display a rhetorically asymmetrical profile in which textual organization is preserved more strongly than interpersonal rhetorical force.

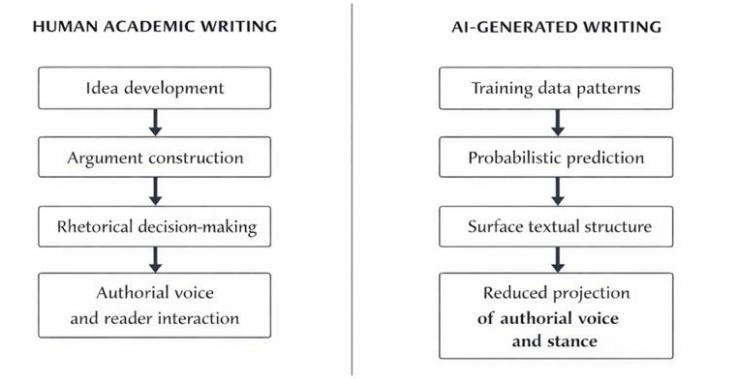
One further implication of these production modes may be described as rhetorical asymmetry. This term refers to the uneven reproduction of rhetorical resources in AI-generated academic discourse. More specifically, AI systems often appear to reproduce the organizational features of discourse more successfully than the interpersonal ones. Structural signals such as transitions, sequencing devices, and framing expressions may remain highly visible, while interactional

resources such as self-mention, reader engagement, and rhetorically individualized stance may appear weaker, less varied, or more generalized. AI-generated academic discourse may therefore display a rhetorically asymmetrical profile in which textual organization is preserved more strongly than interpersonal rhetorical force.

From this perspective, it becomes useful to visualize the contrasting processes through which academic discourse emerges in human and AI-generated contexts. While human academic writing typically develops from the formulation of ideas toward rhetorical expression, AI-generated discourse follows a different trajectory in which linguistic patterns learned from large textual datasets lead to the production of surface textual structures. This contrast is illustrated in Figure 5.

Figure 5

Rhetorical Architecture of Human and AI-Generated Academic Discourse



Source: Author's conceptual illustration generated with the assistance of ChatGPT (OpenAI, 2026).

As the figure illustrates, human academic writing usually begins with the development of ideas and arguments. These ideas are gradually shaped through rhetorical decision-making as writers guide readers through the interpretation of evidence and the development of claims. Through this process, authors construct an identifiable authorial voice and establish interaction with their readers. The figure also highlights that authorial voice and reader interaction are more directly tied to human rhetorical decision-making than to algorithmic pattern generation.

In AI-generated writing, however, the process unfolds in a different direction. Language models rely on statistical patterns derived from training data and generate text through probabilistic prediction. The resulting discourse may therefore reproduce many surface characteristics of academic writing even though these linguistic signals do not originate from deliberate rhetorical planning. Consequently, AI-generated academic discourse may display recognizable structural features while projecting a more limited degree of authorial voice and rhetorical interaction.

This contrast helps explain why AI-generated texts may display recognizable academic structures while sometimes exhibiting what has been described earlier as *simulated rhetoric* or *rhetorical compression*. Seen in these terms, the contrast between human and AI-generated discourse is not simply a contrast between two writing styles, but between two different routes of rhetorical emergence. Human discourse moves from thought, evaluation, and rhetorical intention toward linguistic realization. AI-generated discourse, by contrast, moves from learned linguistic regularities toward the appearance of rhetorical structure. This reversal is central to understanding why generated academic writing may preserve surface organization while only partially reproducing the deeper interpersonal dynamics of scholarly communication.

From a discourse-analytic perspective, this distinction also raises important questions about the operation of metadiscourse in AI-influenced writing environments. In particular, I argue that special attention should be given to interactional metadiscourse resources, *hedges, boosters, attitude markers, self-mentions,* and *engagement markers* (Hyland, 2005), because these categories play a central role in projecting authorial stance and voice in academic discourse. If academic texts are increasingly produced through different modes of discourse generation, it becomes relevant to examine how these interactional signals appear when language is generated through algorithmic systems rather than through human rhetorical decision-making.

Understanding these dynamics provides a useful foundation for examining how artificial intelligence may influence the rhetorical conventions of academic writing. The following sections therefore explore how specific metadiscourse practices, such as hedging, self-mention, and reader engagement, operate in AI-generated academic discourse.

5.3. AI and Metadiscourse Practices

In Chapter 3, metadiscourse was discussed as a set of linguistic resources that help writers organize texts and signal their stance toward their arguments. Those resources play a crucial role in guiding readers through complex academic discussions. Rather than repeating the theoretical framework here, it may be more useful to consider how these patterns appear when academic prose is generated with the assistance of artificial intelligence.

When we examine AI-generated academic texts, one feature becomes immediately noticeable: many familiar metadiscourse expressions appear frequently in the generated output. The presence of metadiscourse does not necessarily

guarantee the full rhetorical functioning of metadiscourse. At this point, an important distinction should be made between the presence of metadiscourse and its rhetorical functioning. A text may contain recognizable metadiscourse markers and still fail to realize the same interpretive, interpersonal, or argumentative effects that these markers typically perform in human-authored academic discourse. In AI-generated writing, the appearance of such features may create the impression of rhetorical control, even when the underlying discourse development remains comparatively limited. For this reason, metadiscourse in AI-generated academic texts should not be approached only as a matter of formal occurrence, but also as a matter of rhetorical enactment. Transitions such as *however*, *therefore*, and *in addition*, explanatory signals like *in other words*, and stance expressions such as *this study suggests* or *it is important to note* often appear in AI-produced paragraphs. Because large language models learn from extensive collections of written language, they inevitably encounter thousands of examples of these expressions during training. As a result, the generated text frequently reproduces the surface patterns associated with academic discourse.

However, several studies suggest that the distribution of these features may differ from that found in human writing. Analyses of AI-generated academic texts indicate that organizational markers often appear in predictable positions within the text, sometimes producing a relatively uniform rhetorical rhythm (Kreminski et al., 2022). Human writers, by contrast, tend to vary the placement and frequency of such signals depending on the development of the argument. When you read a research article written by an experienced scholar, you may notice that metadiscourse markers appear precisely where the writer anticipates potential difficulties for the reader.

Another interesting observation concerns the density of metadiscourse expressions. Some comparative studies report that AI-generated texts occasionally contain a higher

concentration of transitional expressions than comparable human-written passages (Liang et al., 2024). This pattern may occur because language models attempt to maintain coherence by repeatedly inserting explicit connectors between ideas. The resulting discourse often appears highly structured, still the rhetorical variation that characterizes human academic writing may be less pronounced.

Researchers have also examined how AI systems reproduce stance-related expressions such as hedges and boosters. Experimental analyses suggest that large language models frequently generate cautious formulations, phrases like *may indicate*, *suggests that*, or *appears to be*, which resemble the hedging strategies commonly used in academic discourse (Katz & Shah, 2023). Such patterns reflect the statistical regularities present in scholarly texts, where writers often avoid absolute claims. AI-generated academic discourse may therefore be understood as a form of simulated rhetoric. The generated text reproduces many of the linguistic signals associated with scholarly communication, but these signals emerge from probabilistic pattern continuation rather than from intentional rhetorical decision-making.

Rhetorical choice in academic writing involves more than selecting appropriate lexical items. Human scholars decide strategically when to emphasize a conclusion, when to acknowledge uncertainty, and when to guide readers toward a particular interpretation. These decisions emerge from engagement with disciplinary debates and with the evidence under discussion. AI-generated discourse, by contrast, relies on probabilistic pattern continuation rather than on participation in scholarly reasoning.

We may therefore observe an interesting paradox. On the surface, AI-generated texts often resemble academic writing because they reproduce many of its linguistic signals. At a deeper level, however, the communicative intentions that

normally shape these signals originate from human authors rather than from the computational system itself. In this sense, AI-generated metadiscourse reflects patterns extracted from academic language rather than rhetorical strategies developed through scholarly argumentation.

Recognizing this distinction is essential for understanding how AI interacts with academic discourse. When metadiscourse markers appear in AI-generated texts, they may signal structural coherence without necessarily reflecting the same interpretive processes that guide human academic writing. Exploring this difference provides a useful starting point for examining how artificial intelligence may influence the construction of authorial voice in scholarly communication.

From this perspective, the notion of *algorithmic metadiscourse* may be defined as the patterned emergence of metadiscursive signals in AI-generated discourse through computational prediction rather than through fully situated human rhetorical intention. The concept does not suggest that metadiscourse disappears in AI-generated writing. Rather, it indicates that metadiscourse is reconfigured under conditions of algorithmic language production. In such cases, the visible markers of academic discourse may remain present in the text, while the processes through which they are produced differ from those that characterize human-authored scholarly writing.

5.4. Algorithmically Attenuated Voice in AI-Generated Academic Discourse

Recent empirical work on AI-generated academic writing provides additional insight into how metadiscourse resources appear in machine-produced texts. Several studies suggest that large language models tend to reproduce recognizable metadiscourse signals across a wide range of categories, including transitions, frame markers, hedges, boosters, and engagement markers (Gao et al., 2023; Walters, 2023). For

instance, AI-generated paragraphs frequently include transition expressions such as *however*, *moreover*, *therefore*, and *in addition*, which help signal logical relations between ideas. Frame markers such as *in this section*, *this study examines*, or *as discussed earlier* also appear regularly, indicating how the discourse is organized. Similarly, stance-related expressions, particularly hedges such as *may suggest*, *appears to indicate*, or *it seems that*, are commonly found in AI-generated academic prose, reflecting the cautious tone typical of scholarly communication.

At the same time, these metadiscourse signals often display limited lexical variability. Because large language models generate text through probabilistic prediction based on patterns observed in large corpora of written language, they tend to reproduce highly frequent expressions rather than strategically varying linguistic forms according to the rhetorical context. Human authors, by contrast, typically select different metadiscourse formulations depending on how they wish to emphasize a claim, acknowledge uncertainty, or guide readers through the development of an argument. For example, an experienced scholar might alternate between expressions such as *however*, *nevertheless*, *by contrast*, or *on the other hand* in order to achieve subtle rhetorical effects. AI-generated texts, however, often rely on a narrower set of recurrent markers.

Another observation concerns engagement markers. In human academic writing, authors sometimes address readers directly through expressions such as *note that*, *consider*, or *we can see that*, which invite readers to participate in the unfolding argument (Hyland, 2005). Some comparative studies suggest that such reader-oriented signals appear less frequently in AI-generated academic discourse (Liang et al., 2024). As a result, the generated text may remain structurally organized through transitions and frame markers while displaying a comparatively weaker interpersonal dimension. These patterns

suggest that AI-generated academic discourse often reproduces the visible architecture of metadiscourse while displaying a narrower range of rhetorical variation. The resulting text may therefore appear coherent and well structured on the surface, yet the distribution and variability of metadiscourse signals may differ from those found in human-authored scholarly writing.

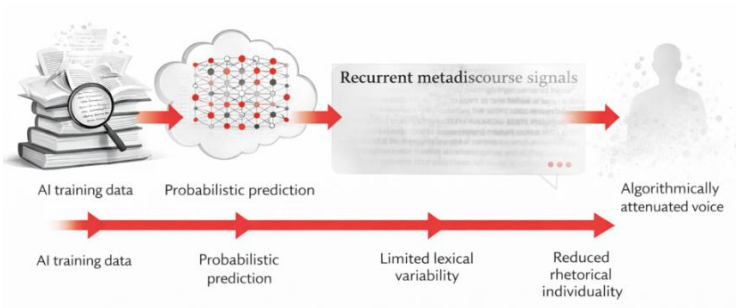
These observations have important implications for the notion of authorial voice in academic writing. As discussed earlier in this book, academic voice emerges not only from the information presented in a text but also from the rhetorical choices through which writers guide readers, signal their stance, and position themselves within disciplinary conversations. Metadiscourse plays a central role in this process because it enables authors to structure arguments, manage reader expectations, and express varying degrees of commitment toward their claims.

In AI-generated academic discourse, however, the production of metadiscourse signals follows a different logic. Rather than emerging from situated rhetorical decision-making, these signals are generated through probabilistic prediction based on patterns observed in large corpora of written language. As a result, the generated discourse may reproduce many recognizable features of academic writing while lacking the same degree of rhetorical intentionality that characterizes human-authored texts. This mechanism reflects the fundamental architecture of large language models, which generate text by predicting the most probable next token given the preceding context (Brown et al., 2020; Bommasani et al., 2021). Rather than constructing arguments through deliberate rhetorical reasoning, these systems operate by identifying statistical regularities in the training data and extending those patterns during text generation. To understand this mechanism more clearly, it is useful to consider how the generation process unfolds step by step.

As illustrated in Figure 6, the process begins with extensive training corpora containing large quantities of written language. During training, language models learn probabilistic associations between linguistic elements and discourse patterns. When generating new text, the model predicts likely continuations based on these learned distributions (Vaswani et al., 2017; Brown et al., 2020). Because recurrent metadiscourse signals frequently appear in academic writing, they also tend to emerge repeatedly in AI-generated discourse. However, the reliance on statistically dominant patterns may lead to a more limited range of lexical and rhetorical variation compared with human-authored academic texts. In other words, although the generated discourse may appear structurally coherent, the statistical mechanism underlying text generation can gradually produce more standardized rhetorical patterns.

Figure 6

From Probabilistic Language Generation to Algorithmically Attenuated Academic Voice



Source: Author's conceptual illustration generated with the assistance of ChatGPT (OpenAI, 2026).

As illustrated in Figure 6, this process can be understood as a gradual transformation in the production of academic discourse. AI systems learn statistical regularities from large collections of training data and generate text through

probabilistic prediction. During this process, recurrent metadiscourse signals frequently emerge because they represent highly probable discourse patterns in academic language. However, the repeated reliance on statistically dominant expressions may gradually reduce lexical variability and rhetorical diversity in the generated text. Over time, this mechanism may produce discourse that remains structurally coherent but displays a more standardized and less individualized rhetorical profile.

This situation may lead to what might be described as an *algorithmically attenuated voice.* In such cases, the structural signals of scholarly discourse remain visible in the text, but the individuality and stylistic variation typically associated with human academic voice become less pronounced. Because the system relies on statistically dominant expressions, the resulting discourse often appears linguistically competent but rhetorically more neutral. In other words, AI-generated academic writing may preserve the recognizable architecture of scholarly communication while simultaneously producing a more standardized form of discourse. The voice that emerges from such texts is therefore not entirely absent, but it may appear more muted, less individualized, and less clearly tied to a specific authorial perspective. Understanding this transformation is crucial for examining how artificial intelligence may influence the future development of academic communication.

5.5. Hedging and the Linguistic Style of AI-Generated Academic Texts

One striking feature that frequently appears in AI-generated academic prose is the extensive use of *hedging expressions.* Words and phrases such as *may*, *might*, *suggests that*, *appears to indicate*, or *can be interpreted as* often occur throughout generated texts. These expressions are, of course, a familiar part of academic discourse. Scholars commonly use

hedges to signal caution, acknowledge uncertainty, and avoid presenting claims as absolute truths. However, when we examine AI-generated writing more closely, the frequency and distribution of such expressions sometimes appear unusually high.

This tendency can be explained partly by the nature of the data used to train large language models. Academic writing across many disciplines relies heavily on hedging as a rhetorical strategy for negotiating knowledge claims. Hyland (1998) observed that hedging functions as a central mechanism through which researchers "present claims with appropriate caution while inviting readers to participate in the interpretation of evidence." Because large language models are trained on extensive collections of scholarly texts, they encounter countless examples of such cautious formulations. When generating academic-style language, the system therefore tends to reproduce these patterns readily.

Recent empirical studies provide evidence that this tendency may be particularly pronounced in AI-generated texts. In a comparative analysis of human-written and machine-generated academic paragraphs, Liang et al. (2024) found that large language models frequently produced higher densities of hedging expressions than human authors. According to the authors, the generated texts often contained sequences of cautious statements such as *"this may indicate," "it could be argued,"* and *"the findings might suggest."* While such language resembles academic style, the repeated use of similar hedges sometimes created what the researchers described as a *"layered uncertainty effect."* This tendency may also contribute to what might be described as *simulated rhetoric*, where the surface signals of academic caution appear frequently in the discourse without necessarily reflecting deliberate rhetorical evaluation. The frequent use of hedging expressions in AI-generated academic prose may also contribute to what could be described as *rhetorical*

compression, where cautious linguistic signals accumulate within the discourse even when the argumentative development remains relatively limited.

A related observation appears in studies examining AI-generated scientific abstracts. Stokel-Walker and Van Noorden (2023), discussing early experiments with GenAI in scientific writing, note that machine-produced texts often adopt a cautious tone even when the prompt does not explicitly require it. As they remark, AI systems tend to produce prose that "sounds academically careful," frequently employing expressions that soften claims or frame conclusions as tentative interpretations. From a discourse perspective, this pattern raises an interesting question. In human academic writing, hedging serves a strategic purpose. Authors decide where caution is necessary and where stronger statements may be justified by evidence. These decisions reflect the writer's engagement with data, methodology, and disciplinary debates. In AI-generated writing, however, the distribution of hedging expressions may be influenced more by statistical probability than by rhetorical judgment. This tendency may also point to what can be described as algorithmic caution. By this, I mean the recurrent tendency of AI-generated academic discourse to default to cautious epistemic formulations because such patterns are statistically prominent in scholarly corpora. In human academic writing, caution is often strategically calibrated in relation to evidence, disciplinary expectations, and argumentative risk. In AI-generated writing, however, caution may appear as a default stylistic tendency rather than as a carefully modulated rhetorical choice.

To illustrate this difference, imagine a researcher presenting experimental results. In some parts of the discussion, the author may deliberately hedge interpretations because the data remain inconclusive. In other sections, the same researcher might adopt a more assertive tone when evidence strongly supports a claim. Such variation reflects the

intellectual evaluation of the research process. In AI-generated text, by contrast, hedging expressions may appear with greater regularity simply because they are common in academic corpora.

Some scholars have suggested that this phenomenon reflects a broader characteristic of language models. As Bender et al. (2021) famously argue, large language models generate language through probabilistic pattern continuation rather than through genuine understanding. In their words, such systems function as "stochastic parrots," reproducing linguistic patterns learned from large datasets. When applied to academic writing, this mechanism can produce discourse that imitates the cautious tone typical of scholarly argumentation without necessarily reflecting the reasoning processes that motivate it. For researchers interested in academic discourse, the implications of this observation are significant. If AI systems systematically reproduce hedging expressions, the rhetorical style of AI-assisted academic writing may gradually develop distinctive patterns of uncertainty and caution. Such patterns could influence how readers interpret AI-generated texts and how writers revise them during the editing process.

Understanding these dynamics requires careful analysis of the linguistic features that signal stance and certainty within academic writing. Examining how hedging operates in AI-generated discourse therefore provides valuable insight into the interaction between computational language generation and the rhetorical conventions of scholarly communication.

The issue becomes even more significant when we turn from metadiscourse in general to the interactional resources through which writers construct stance, responsibility, and reader involvement. These resources are central to the projection of authorial voice and therefore deserve separate consideration.

5.6. The Disappearance of "I"? Self-Mention and Authorial Responsibility in AI-Assisted Academic Writing

One of the most visible linguistic signals of authorial presence in academic writing is *self-mention,* particularly through expressions such as *I argue*, *we suggest*, or *in this study we demonstrate*. These forms do more than simply identify the author; they also signal responsibility for the claims presented in the text. When a scholar writes "I argue that…", the statement functions as a rhetorical commitment that connects the argument to an identifiable researcher. In this sense, self-mention operates as a marker of intellectual accountability within scholarly communication (Hyland, 2001). For this reason, the relative scarcity of self-mention and engagement markers in AI-generated academic texts may also contribute to a reduction in authorial voice and rhetorical responsibility within the discourse.

The increasing use of AI-assisted writing tools introduces an interesting complication to this practice. If a paragraph is generated with the assistance of a language model but contains expressions such as *I argue* or *we propose*, the reader may reasonably wonder how these statements should be interpreted. Does the "I" refer to the human author who provided the prompt, or does it simply reflect a rhetorical pattern reproduced by the AI system? The question may appear subtle at first, However it touches on a fundamental principle of academic communication: the relationship between authorship and responsibility.

This situation may be better understood through the concept of *delegated stance***.** Delegated stance refers to cases in which epistemic positioning, evaluation, or rhetorical commitment is linguistically projected through AI-generated language while responsibility for the claim remains with the human author. In such instances, the stance expressed in the

text is not entirely absent, but neither is it fully equivalent to stance that emerges directly from the writer's own rhetorical formulation. The concept therefore highlights the growing complexity of authorship and rhetorical responsibility in AI-assisted academic writing.

This issue may be understood through the notion of delegated stance. Delegated stance refers to cases in which epistemic positioning, caution, evaluation, or rhetorical commitment is linguistically projected through AI-generated language, while responsibility for that projection formally remains with the human author. In such cases, the stance expressed in the text is not entirely absent, but neither is it fully equivalent to stance that emerges directly from the writer's own rhetorical formulation. The concept therefore helps explain the growing complexity of authorship and responsibility in AI-assisted academic discourse. Self-mention in AI-assisted discourse may therefore no longer function only as a marker of presence, but also as a site of negotiated rhetorical responsibility.

Discussions in academic publishing have begun to address this issue directly. In an editorial statement on the use of GenAI, the journal *Nature* emphasized that AI systems cannot be credited as authors because they cannot assume responsibility for the claims they generate. As the editorial notes, "large language models cannot take responsibility for the integrity, originality and accuracy of the research they produce" (Nature, 2023). Responsibility, in scholarly contexts, remains tied to identifiable human authors who can defend their arguments and respond to criticism. From a discourse perspective, this distinction is particularly important because self-mention plays a strategic role in academic argumentation. Writers use first-person expressions to signal interpretive decisions, methodological choices, and contributions to knowledge. Tang and John (1999), for example, demonstrated that the pronoun *I* in academic writing often performs several

rhetorical roles, including describing procedures, stating arguments, and emphasizing the author's contribution to the field. These roles depend on the assumption that the author is actively engaged in the research process.

When AI-generated language is introduced into this context, the rhetorical meaning of self-mention may become less transparent. Large language models frequently produce sentences containing first-person expressions because such forms are common in academic corpora. In contrast, the presence of these expressions does not necessarily indicate that the system itself is making a claim or interpreting evidence. Instead, the generated language reproduces patterns learned from previous texts. To illustrate the issue, consider a paragraph generated in response to a prompt about research findings. The system might produce a sentence such as *"In this study, we demonstrate that the proposed model improves accuracy."* Grammatically and rhetorically, the sentence resembles conventional academic writing. However, the pronoun *we* does not refer to the computational system itself. Rather, it reflects a rhetorical template frequently found in research articles.

Some scholars therefore argue that AI-assisted writing requires renewed attention to the relationship between linguistic form and authorial responsibility. As Birhane et al. (2023) observe, GenAI systems can produce persuasive language that resembles scholarly discourse, even the responsibility for interpreting and validating that language remains with the human user. In practical terms, this means that the author must remain accountable for every claim that appears in the final text, regardless of whether the wording was produced independently or generated through technological assistance. Seen from this perspective, self-mention in AI-assisted writing acquires an additional layer of significance. Expressions such as *I argue* or *we propose* may continue to appear in academic discourse; notwithstanding this, their

interpretation increasingly depends on the transparency of the writing process. Readers may wish to know whether the phrasing reflects the author's own rhetorical choices or the output of a generative system.

These developments suggest that the study of academic discourse must now consider new forms of interaction between linguistic expression, technological tools, and scholarly responsibility. Self-mention, once understood primarily as a marker of authorial voice, may also become an indicator of how writers negotiate authorship in an environment where automated text generation is readily available. In this sense, the reduction or ambiguity of self-mention affects not only responsibility but also the visibility of the scholar within the text.

At the same time, the issue is not limited to accountability alone. In metadiscourse research, self-mention is also a crucial resource for making the author visible within the text. Through first-person reference, writers do not simply claim ownership of propositions; they also project an intellectual presence, mark their contribution, and signal their position within a disciplinary conversation. In this sense, the reduction of self-mention in AI-generated academic discourse may affect not only how responsibility is interpreted but also how authorial visibility is constructed.

This observation has broader implications for the rhetoric of academic writing. If self-mention becomes less frequent, more ambiguous, or more weakly tied to an identifiable scholarly agent, the discourse may begin to lose one of its most important interpersonal dimensions. The text may still sound academic, however the sense that a researcher is visibly taking responsibility for the argument may become less pronounced. Such a development contributes directly to rhetorical flattening, in which the language of scholarship remains visible

while the rhetorical presence of the scholar becomes less distinct.

When self-mention becomes less visible or less clearly tied to an identifiable scholarly agent, academic discourse may retain its formal linguistic structure while losing part of its authorial presence. In such cases, the text may appear academically coherent, by contrast the rhetorical visibility of the author becomes less clearly articulated. In this sense, the reduction or ambiguity of self-mention may be interpreted not simply as a stylistic shift but as a transformation in *the ecology of academic voice.* The question is no longer only who writes, but also who is rhetorically present in the discourse. As AI-assisted writing becomes more common, the visibility of the scholar may increasingly depend on whether writers actively reclaim those interpersonal resources that algorithmic generation tends to generalize or suppress.

5.7. Reader Engagement in AI-Generated Academic Writing

Academic writing is often described as an interaction between writers and readers. Although scholarly texts may appear monologic at first glance, they frequently contain linguistic signals that anticipate reader expectations, guide interpretation, and invite intellectual participation. These signals are commonly realized through *engagement markers*, expressions that address readers directly or indirectly and encourage them to follow the development of the argument (Hyland, 2005). In conventional academic discourse, engagement markers perform several rhetorical functions. Writers may direct readers' attention toward important points, clarify how evidence should be interpreted, or invite reflection on a particular issue. Expressions such as *consider the following example*, *it is worth noting*, or *we may ask* create the impression of an ongoing intellectual dialogue between author and audience. As Hyland (2005) explains, these markers help

writers “bring readers into the discourse as participants rather than passive observers.”

When we examine AI-generated academic texts, engagement markers often appear with striking regularity. Large language models have been trained on extensive collections of written discourse, including textbooks, articles, and essays that frequently employ reader-oriented expressions. As a result, AI-generated paragraphs commonly include phrases that resemble direct interaction with the reader. You may encounter sentences such as *let us consider an example* or *it is important to note that* appearing early in a generated discussion.

However, the presence of these expressions does not necessarily imply the same communicative intention that characterizes human writing. For this reason, it may be useful to distinguish between the formal presence of engagement markers and their engagemental force. By engagemental force, I refer to the extent to which reader-oriented expressions actually succeed in involving readers in the interpretive movement of the argument. In AI-generated academic discourse, such markers may remain formally visible while exerting a weaker rhetorical pull on the reader. The text may thus simulate interaction without fully achieving reader inclusion as a rhetorical effect.

In human discourse, engagement markers are often used strategically to anticipate potential misunderstandings or guide readers through complex reasoning. Writers draw on their awareness of disciplinary audiences when deciding where to place such signals. AI-generated language, by contrast, tends to reproduce these markers as part of learned linguistic patterns rather than as deliberate rhetorical choices. In this respect, reader engagement in AI-generated texts may sometimes resemble a form of *simulated rhetorical interaction* rather than

a genuine attempt to guide a reader through an evolving scholarly argument.

Recent research examining AI-generated texts suggests that this pattern can sometimes produce what appears to be *simulated interaction*. Studies comparing human and machine-generated discourse show that AI systems often include reader-oriented expressions even when the surrounding argument does not require them (Kreminski et al., 2022). In such cases, the text may appear conversational or instructive without reflecting a genuine attempt to guide a reader through a developing argument.

This observation invites a broader reflection on the nature of reader engagement in academic communication. In human scholarly writing, interaction with readers emerges from a writer's attempt to communicate ideas clearly within a particular disciplinary community. Engagement markers function as rhetorical tools that help manage this interaction. In AI-generated writing, however, these markers may function primarily as stylistic signals rather than as indicators of genuine communicative intent. For researchers studying academic discourse, this distinction highlights an important area for further investigation. If AI systems increasingly produce texts that contain the surface features of reader engagement, it becomes relevant to examine how readers interpret these signals. Do such expressions influence perceptions of credibility or clarity? Or do readers eventually recognize them as stylistic conventions rather than meaningful rhetorical guidance?

Exploring these questions will be essential for understanding how AI-generated language interacts with the interpersonal dimensions of academic communication. A text may guide readers structurally without fully involving them rhetorically. The emergence of AI-generated academic writing does not simply introduce new writing tools. It also raises

fundamental questions about the nature of rhetorical agency in scholarly communication. If metadiscourse markers, rhetorical structures, and authorial signals can be reproduced through algorithmic prediction, the relationship between language, argumentation, and intellectual responsibility may require renewed theoretical attention. In this sense, the study of algorithmic metadiscourse may represent one of the most important emerging research directions in the analysis of academic discourse.

From this perspective, the issue is not merely whether engagement markers appear in the text, but whether they succeed in creating the conditions for reader involvement. Academic discourse depends on more than formal clarity; it also relies on the reader's sense of being guided, addressed, and intellectually included in the development of the argument. When this dimension weakens, the text may remain informative and well organized while producing a more distant and mechanically structured rhetorical effect. As suggested earlier by the analytical dimensions presented in Table 1, AI-generated academic discourse may preserve the visible architecture of metadiscourse while weakening some of its interpersonal rhetorical effects.

5.8. Simulated Reader Engagement

As discussed in the previous sections, academic writing is not only a means of presenting information but also a way of interacting with readers. Research articles often guide readers through the development of arguments by using engagement markers such as *consider the following example*, *note that*, or *we may ask*. These expressions draw attention to important points and invite readers to participate in the interpretation of evidence.

Simulated reader engagement does not refer to the total absence of reader-oriented discourse. Rather, it refers to the

reproduction of linguistic signals of reader inclusion under conditions where those signals are not necessarily tied to evolving audience awareness, interpretive anticipation, or deliberate rhetorical guidance. The text appears to invite the reader in, but the interaction is generated through learned discourse patterns rather than through situated communicative judgment. Within metadiscourse research, such reader-oriented signals are typically described as engagement markers, one of the central components of the interactional dimension of metadiscourse (Hyland, 2005). Together with hedges, boosters, attitude markers, and self-mentions, engagement markers allow writers to position readers within the unfolding argument and to construct a dialogic relationship with their audience (Hyland, 2005; Hyland & Jiang, 2022).

Interestingly, several corpus-based studies have shown that engagement markers are relatively rare in many academic disciplines, especially in research articles where writers tend to avoid direct address to readers (Hyland, 2005). This scarcity makes their presence particularly meaningful when they do appear. When we turn to AI-generated academic texts, however, similar expressions often appear throughout the discourse. Large language models are trained on extensive collections of written texts, many of which contain explanatory passages that directly address readers. As a result, generated paragraphs frequently reproduce phrases that resemble reader interaction.

Recent studies comparing human and AI-generated academic writing suggest that large language models can reproduce many of the linguistic features associated with academic discourse, including discourse markers and stance expressions (Stokel-Walker & Van Noorden, 2023; Liang et al., 2024). On the other hand, researchers have also observed that these features sometimes appear in predictable or formulaic ways. In this regard, it may therefore be useful to consider the rhetorical status of these expressions more

carefully. In human academic writing, engagement markers usually reflect deliberate rhetorical choices. Writers anticipate potential questions, highlight critical steps in their reasoning, and guide readers through complex interpretations. In AI-generated discourse, by contrast, similar expressions may appear simply because they occur frequently in the training data. The system reproduces them as part of statistical language patterns rather than as part of a communicative strategy.

From this perspective, reader engagement in AI-generated academic writing may sometimes be understood as a form of *simulated reader engagement*. The discourse contains signals that resemble interaction with readers, however these signals emerge from probabilistic language generation rather than from intentional rhetorical planning. Simulated reader engagement therefore helps explain how AI-generated academic texts may appear interactive without establishing the same level of dialogic involvement that characterizes human-authored scholarly writing.

5.9. Algorithmic Rhetoric

The observations presented so far raise a broader theoretical question. If AI-generated texts can reproduce many of the visible features of academic discourse, how should we conceptualize the rhetorical processes through which these texts are produced? One possible way of approaching this issue is through the notion of *algorithmic rhetoric*. In this study, algorithmic rhetoric refers to the emergence of rhetorical structures in texts generated through statistical language modeling rather than through intentional human persuasion.

In traditional academic writing, rhetorical structures emerge through deliberate communicative decisions. Authors evaluate evidence, position their claims within existing research, and anticipate how readers may interpret their arguments. Rhetorical signals such as transitions, hedges, or

engagement markers therefore appear as part of a carefully constructed argumentative process (Hyland, 2005). AI-generated discourse operates differently. Large language models generate text by predicting probable word sequences based on patterns observed in vast textual datasets (Bender et al., 2021). As a result, rhetorical signals may appear in the text even though they do not originate from situated rhetorical decision-making. This distinction between surface rhetorical signals and underlying communicative processes has become an important topic in recent discussions of GenAI. Some scholars have argued that language models are capable of producing highly convincing academic prose despite lacking the epistemic grounding that normally guides scholarly argumentation (Floridi & Chiriatti, 2020).

An interesting example illustrates this point. In an experiment widely discussed in the scientific community, reviewers were asked to evaluate abstracts generated by GPT-style models. Many reviewers were unable to reliably distinguish AI-generated abstracts from genuine scientific writing (Stokel-Walker & Van Noorden, 2023). The generated texts reproduced recognizable rhetorical structures even though they were not produced through human research practices. Seen from this perspective, phenomena such as *simulated rhetoric*, *simulated reader engagement*, and *rhetorical compression* can be understood as manifestations of algorithmic rhetoric. AI systems reproduce the linguistic architecture of academic discourse while relying on fundamentally different mechanisms of text production.

Algorithmic rhetoric may therefore be understood as an umbrella concept for describing rhetorical effects that emerge from language models without relying on fully human rhetorical intentionality. Within this broader category, phenomena such as rhetorical compression, simulated reader engagement, delegated stance, and rhetorical flattening can be treated as analytically distinct but related manifestations. They

suggest that AI-generated academic discourse is not rhetorically empty. Rather, it is rhetorically reconfigured. AI-generated academic discourse is not rhetorically empty. Rather, it is rhetorically reconfigured.

To these related tendencies we may also add rhetorical flattening, which refers not to the absence of rhetorical signals altogether but to the weakening of authorial voice, stance variation, and reader-directed interpersonal force in algorithmically shaped discourse. Overall, simulated rhetoric, rhetorical compression, simulated reader engagement, and rhetorical flattening help explain why AI-generated academic writing may appear persuasive on the surface while remaining rhetorically thinner in interpersonal terms.

5.10. Rethinking Authorial Voice in the Age of AI

The discussion so far brings us to one of the most central questions in academic discourse: the nature of authorial voice. As numerous studies have shown, scholarly writing is not simply a neutral presentation of facts. Authors position themselves within disciplinary debates by expressing stance, evaluating evidence, and guiding readers through their arguments (Hyland, 2005; Matsuda & Tardy, 2007).

At the centre of this transformation lies a crucial distinction: the visible presence of rhetorical signals does not necessarily ensure the full realization of rhetorical voice. In human-authored discourse, voice emerges through the coordinated interaction of stance, self-positioning, and reader-oriented rhetorical judgment. In AI-generated or AI-assisted discourse, many of the same linguistic signals may remain visible, yet their interpersonal force may become thinner, more generalized, or less clearly anchored in a single scholarly consciousness. This is why the study of voice in the age of AI must move beyond surface textual features and consider the conditions of rhetorical production itself.

In metadiscourse research, these interpersonal dimensions of academic writing are typically realized through interactional resources such as hedges, boosters, attitude markers, self-mentions, and engagement markers (Hyland, 2005). Through these resources, writers signal degrees of certainty, negotiate claims, and establish credibility within their disciplinary communities. Interestingly, corpus-based studies have shown that patterns of self-mention vary significantly across disciplines. For instance, Hyland (2001) found that first-person pronouns appear far more frequently in fields such as philosophy and sociology than in disciplines such as physics or engineering, where impersonal styles remain more common.

When we examine AI-generated academic discourse, however, the interpretation of these signals becomes more complex. On the surface, AI-generated texts frequently contain familiar expressions of stance and evaluation. Hedging phrases such as *may suggest* or *appears to indicate* often occur throughout generated paragraphs. These expressions may not necessarily reflect the same rhetorical processes that characterize human academic writing. As Bender et al. (2021) famously argue, large language models generate text through probabilistic pattern continuation rather than through genuine understanding. In their words, such systems may function as "stochastic parrots" that reproduce linguistic patterns without engaging in the epistemic practices that underlie scholarly reasoning.

For this reason, the increasing presence of GenAI invites scholars to reconsider how authorial voice is constructed and interpreted in academic discourse. The linguistic signals traditionally associated with authorial presence may still appear in the text, but their origin may involve a complex interaction between human rhetorical intention and algorithmic language generation. AI-generated academic writing may reproduce the language of scholarship without fully reproducing the voice of the scholar. As suggested earlier by

the dimensions of rhetorical positioning and interaction with readers in Table 1, AI-generated academic discourse may preserve the visible architecture of metadiscourse while weakening some of its interpersonal effects. Read together with the iceberg model presented in Figure 3, this pattern suggests that the visible presence of discourse markers does not necessarily guarantee the full rhetorical realization of authorial voice. Accordingly, the role of interactional metadiscourse becomes especially important. In human-authored academic discourse, self-mentions, engagement markers, attitude markers, hedges, and boosters work together to create more than stylistic variation. They help writers construct voice, signal commitment, manage caution, and involve readers in the unfolding argument. These resources therefore contribute not only to textual meaning but also to the rhetorical individuality of scholarly writing.

In AI-generated academic writing, however, these resources may not always appear with the same balance or rhetorical force. Organizational signals may be reproduced successfully, and cautious stance markers such as hedges may occur frequently, however self-mention, reader engagement, and visible authorial positioning may remain comparatively limited or generalized. In such cases, the discourse may appear coherent, fluent, and informationally dense while projecting a weaker sense of rhetorical agency. This issue matters because academic writing is not merely a neutral vehicle for transmitting information. It is also a site where scholars project identity, negotiate disciplinary belonging, and develop individual rhetorical styles. Differences of discipline, genre, culture, gender, and linguistic background have long been shown to shape how writers position themselves in academic discourse. If algorithmic systems increasingly encourage the reproduction of statistically common discourse patterns, there is a risk that these forms of rhetorical diversity may become less visible in academic writing.

This possibility raises broader questions about rhetorical diversity in academic discourse. If AI systems privilege statistically frequent forms of expression, they may gradually reinforce dominant discourse conventions while making less typical, culturally inflected, or individually distinctive rhetorical styles less visible. The long-term issue may therefore not be the disappearance of academic discourse itself, but the narrowing of the range of voices through which academic discourse can be realized. More importantly, this trend has significant implications for the future of rhetorical diversity in academia. As AI systems rely on statistically dominant linguistic patterns, they may increasingly favor standardized forms of academic expression. In the long run, the concern is not that academic discourse will disappear, but that the spectrum of scholarly voices through which knowledge is articulated may become narrower and more uniform.

From this perspective, the growing use of AI in academic writing raises not only technical and ethical questions but also rhetorical and cultural ones. The danger is not that academic discourse will cease to contain metadiscourse, but that it may increasingly rely on forms of metadiscourse that preserve structure while weakening authorial visibility and reader involvement. In this sense, the future of AI-assisted academic writing may depend on whether writers continue to shape these interpersonal resources deliberately rather than leaving them to algorithmic default.

In this sense, the study of academic discourse in the age of artificial intelligence requires not only the analysis of textual features but also a deeper understanding of the processes through which rhetorical meaning is produced. These observations suggest that the transformation of academic discourse in the age of artificial intelligence involves not only new technologies but also new rhetorical dynamics. Understanding these dynamics requires attention not only to

the visible linguistic signals of discourse but also to the processes through which those signals are generated.

It may therefore be possible for AI-generated academic writing to reproduce the language of scholarship without fully reproducing the voice of the scholar.

Reflection

If AI systems can reproduce many of the linguistic signals of academic discourse, how can readers distinguish between rhetorically intentional writing and algorithmically generated discourse patterns?

To what extent might the increasing use of AI-assisted writing influence the visibility of authorial voice and rhetorical individuality in academic texts?

If academic discourse increasingly relies on statistically dominant language patterns, how might this affect rhetorical diversity across disciplines, cultures, and linguistic communities?

Key Points

• AI-generated academic texts can reproduce many of the recognizable organizational patterns of scholarly writing. However, the underlying development of the argument may remain more limited than in human-authored discourse.

• Academic discourse in the age of AI can be understood through three main modes of production: human-authored discourse, AI-assisted discourse, and AI-generated discourse.

• AI-generated writing often preserves the visible structure of academic discourse, but the rhetorical processes through which this structure is produced differ from those of human writing.

• Interactive markers such as transitions, frame markers, and code glosses often remain highly visible in AI-generated texts and contribute to the appearance of coherence and organization.

• Interactional markers such as hedges, self-mentions, and engagement markers may also appear in AI-generated discourse, but they do not always reflect the same degree of rhetorical intention or authorial presence found in human-authored writing.

• In many cases, AI-generated academic writing may create the impression of structured argumentation through familiar metadiscourse patterns, even when the deeper development of ideas remains relatively limited.

• Concepts such as simulated rhetoric, rhetorical compression, and simulated reader engagement help explain why AI-generated texts may appear rhetorically effective on the surface while remaining weaker in interpersonal terms.

• Self-mention and reader engagement are especially important for understanding how authorial voice is projected in academic discourse, and these resources may become less visible or more generalized in AI-assisted writing.

• The growing use of AI in academic writing raises important questions not only about structure and coherence, but also about authorial voice, reader interaction, and the future of rhetorical diversity in academic discourse.

Chapter 6

6.1. Artificial Intelligence and Academic Integrity

In the previous chapters, we explored how artificial intelligence is beginning to influence the linguistic features of academic discourse. We examined issues such as metadiscourse patterns, hedging, self-mention, and reader engagement in AI-assisted writing. At this point, however, a different set of questions emerges. If AI can produce language that closely resembles academic prose, how should we think about *academic integrity* in this new writing environment?

Academic integrity has traditionally been built upon several key principles: originality, transparency, and intellectual responsibility. Scholars are expected to present ideas that reflect their own research processes, acknowledge sources carefully, and report findings honestly. These principles help sustain the trust that allows scholarly communities to function. As Bretag (2016) explains, academic integrity is not simply about avoiding misconduct; it is also about maintaining confidence in the reliability of scholarly communication. The arrival of GenAI has complicated this picture in ways that many institutions did not anticipate only a few years ago. When tools can generate paragraphs, summaries, or even entire explanations of theoretical concepts, the boundaries between assistance and authorship become less obvious. You might ask yourself a simple question: if a paragraph in a paper was produced by an AI system and later edited by the researcher, whose intellectual contribution does the final text represent?

I would suggest that this question lies at the center of current debates about AI and academic integrity. Earlier technologies such as grammar checkers or reference managers

supported writing without altering the core intellectual work of the author. GenAI systems, however, are capable of producing ideas and explanations that may resemble scholarly reasoning. Because of this capacity, many universities have begun revising their policies on academic writing and research practices. Academic publishers have also entered this discussion. Several major journals have clarified that AI systems cannot be listed as authors of scholarly articles. The reasoning is straightforward: authorship implies accountability. As an editorial published in *Nature* states, authors must be able to "take responsibility for the integrity, originality and accuracy of the work" (Nature, 2023). Since AI systems cannot assume responsibility for research claims, they cannot fulfill the role associated with authorship in scholarly communication.

Another issue concerns the reliability of AI-generated information. Because large language models generate text through probabilistic pattern continuation rather than through direct verification of facts, their outputs may contain fabricated references, distorted summaries, or misleadingly confident explanations. This limitation is especially important in academic contexts, where even linguistically fluent prose may fail to meet the standards of evidential accuracy expected in scholarly communication. Consequently, generated outputs may sometimes include incorrect citations or fabricated references. Researchers have begun to refer to this phenomenon as *hallucination*, meaning that the system may present inaccurate information with a high degree of linguistic confidence (Ji et al., 2023).

If you have ever experimented with AI writing tools yourself, you may already have encountered such examples. A generated paragraph may appear fluent and convincing at first glance, but closer inspection reveals that certain references do not exist or that claims have been simplified in misleading

ways. In these situations, the responsibility for identifying and correcting errors remains with the human researcher.

For this reason, many scholars emphasize that AI should be treated as a *supportive instrument rather than an intellectual substitute.* I find this distinction particularly important. AI tools may assist writers in organizing ideas, exploring alternative explanations, or summarizing complex material. At the same time, the process of evaluating evidence and constructing arguments must remain a human responsibility. We might therefore frame the ethical challenge in the following way. The central issue is not simply whether AI tools should be used in academic writing. Instead, the key question is how scholars can integrate these technologies into their research practices without undermining the principles that sustain academic integrity.

As Floridi and Chiriatti (2020) argue, the development of advanced AI systems requires new forms of human oversight and accountability. In other words, technological innovation must be accompanied by ethical reflection. For scholars working in academic writing and discourse studies, this reflection becomes an essential part of understanding how scholarly communication is evolving in the age of artificial intelligence.

6.2. Transparency and Disclosure in AI-Assisted Academic Writing

As the use of artificial intelligence becomes more visible in academic writing, a practical question quickly follows: should authors disclose when AI tools have assisted in producing a text? Many universities and publishers now encourage or even require such transparency. At first glance, this expectation appears straightforward. Academic research has long emphasized openness about methods, sources, and

analytical procedures. If AI contributes to the writing process, it may seem reasonable to disclose this assistance as well.

However, the issue becomes more complex when we consider how disclosure might affect the way academic texts are interpreted. Imagine that you are reading a research article and encounter a note stating that parts of the manuscript were generated with the help of an AI system. Would this information influence how you evaluate the argument? Some readers might become more cautious, wondering whether the reasoning reflects the author's interpretation or the output of a computational model. Others might see AI assistance as comparable to using statistical software or reference management tools.

This situation reveals what we might call a *transparency paradox*. On the one hand, academic communities value openness about research practices. On the other hand, disclosing AI involvement may unintentionally alter how readers perceive the credibility or originality of a text. The same argument may appear persuasive when attributed entirely to a human author but may be interpreted differently when readers know that parts of the language were generated by an algorithm.

Some scholars have begun to discuss this issue in the context of emerging publishing policies. For example, several major publishers, including Elsevier and Springer Nature, have issued guidelines stating that authors should disclose the use of GenAI in the preparation of manuscripts. At the same time, these policies emphasize that AI tools cannot be credited as authors and that responsibility for the content remains with the human researcher (Elsevier, 2023; Springer Nature, 2023). These policies attempt to balance transparency with accountability. However, they also raise an interesting question about how academic writing is evolving. Historically, many forms of technological assistance in writing have remained

invisible. Few authors mention that they used spelling checkers, translation software, or digital editing tools while preparing a manuscript. GenAI differs from these technologies because it can contribute not only to the form of language but also to the development of explanations and arguments.

I sometimes find it helpful to think about this issue through an analogy. Consider a research laboratory in which complex instruments assist scientists in analyzing data. Researchers typically report the instruments used in their experiments because those tools influence how the data were produced. In a similar way, AI systems may increasingly become part of the intellectual infrastructure that supports academic writing. If so, acknowledging their role may eventually become as routine as describing methodological procedures. However, transparency alone may not fully address the challenges introduced by AI-assisted writing. Another question concerns the level of detail required in disclosure. Should authors simply state that AI tools were used during writing? Or should they specify which sections of the text were generated or revised with AI assistance? Some researchers argue that meaningful transparency requires more precise descriptions of how AI systems contribute to the writing process (Dwivedi et al., 2023).

You may already notice that this discussion is moving beyond a simple yes-or-no answer. The question is not merely whether AI use should be disclosed. Rather, the issue involves how scholarly communities will develop shared norms for describing technological assistance in writing. These norms will likely evolve gradually as researchers experiment with new tools and institutions refine their guidelines. In my view, transparency should be understood not as a constraint but as part of the broader evolution of scholarly communication. Academic writing has always adapted to new technologies, from typewriters and word processors to digital databases and citation managers. Artificial intelligence represents another

step in this long trajectory. The challenge for scholars is to integrate these tools in ways that preserve the core values of academic inquiry, critical thinking, intellectual responsibility, and openness about how knowledge is produced.

Seen from this perspective, transparency becomes more than a formal requirement. It becomes a way of maintaining trust within academic communities at a time when the processes behind writing are becoming increasingly complex. As AI technologies continue to develop, discussions about disclosure will play an important role in shaping how scholars navigate the changing landscape of academic communication.

Reflection

If parts of an academic text are produced with the assistance of AI, how should readers interpret authorship and responsibility?

More importantly, does knowing that AI was involved change how we evaluate the credibility, originality, or authority of the argument?

6.3. AI Reliance, Cognitive Offloading, and the Future of Academic Writing Skills

As artificial intelligence becomes more accessible in academic environments, another concern has gradually entered the discussion: how might extensive reliance on AI tools influence the development of academic writing skills? In earlier sections, we examined how AI can generate coherent academic language and reproduce many of the rhetorical features typical of scholarly discourse. Nonetheless, the availability of such tools raises an additional question that educators and researchers have begun to explore. If students

and researchers increasingly rely on automated systems to produce written language, what happens to the process through which writing skills are traditionally developed?

Writing has long been understood as more than a means of recording ideas. In many educational traditions, writing itself is part of the thinking process. When scholars draft arguments, revise explanations, and reorganize paragraphs, they are not merely presenting knowledge but actively shaping their understanding of a topic. As Emig (1977) famously argued, writing represents a unique form of learning because it engages cognitive processes that help individuals structure and refine their thoughts. The integration of GenAI into writing practices may therefore influence this relationship between writing and thinking. If an AI system produces large portions of text on behalf of the writer, some of the cognitive work traditionally associated with drafting may be reduced. In such situations, the writer may shift from composing ideas to evaluating and editing generated content. While this process still requires intellectual engagement, the nature of the writing activity changes significantly.

Recent studies in educational research have begun to examine this shift. Kasneci et al. (2023), discussing the role of large language models in education, note that GenAI systems may transform how students approach writing tasks. According to the authors, while these tools can support learning in certain contexts, they may also "alter the balance between independent knowledge construction and technological assistance." In other words, the presence of AI may reshape how learners engage with the cognitive processes involved in writing.

A related concern appears in discussions about what some scholars describe as cognitive offloading. This term refers to the tendency to delegate certain mental tasks to external tools or technologies. Digital devices already support cognitive offloading in everyday activities such as navigation or

information retrieval. Writing researchers now wonder whether GenAI may extend this phenomenon into the domain of academic composition. If AI systems can generate structured paragraphs quickly, students may rely on them for tasks that previously required substantial linguistic effort.

You might recognize a similar pattern in everyday digital behavior. When search engines became widely available, many people gradually shifted from memorizing information to locating it instantly online. Something comparable may occur in academic writing. Rather than developing sentences and arguments step by step, writers may increasingly begin with AI-generated drafts and then revise them. Some researchers have expressed concern that such practices could affect the development of writing proficiency. In a recent analysis of GenAI in higher education, Zhai (2023) suggests that heavy reliance on automated text generation could "potentially weaken students' opportunities to practice complex writing and critical thinking skills." Writing competence develops through repeated engagement with drafting, revising, and restructuring ideas, activities that may become less frequent if AI tools perform substantial portions of the work.

At the same time, it would be misleading to assume that AI inevitably diminishes writing ability. Several scholars argue that the impact of AI on writing skills depends largely on how the technology is integrated into learning environments. If students use AI-generated drafts as starting points for critical revision, the process may still involve substantial analytical effort. In such cases, AI could function as a catalyst for reflection rather than a replacement for writing practice. I would therefore suggest that the key issue lies not in the existence of AI tools themselves but in how scholars and educators design writing practices around them. Academic writing has always evolved alongside technological change, from handwritten manuscripts to digital word processing. GenAI represents another stage in this evolution. The challenge

now is to ensure that these tools support the development of intellectual and rhetorical skills rather than replacing them.

For educators and researchers alike, this challenge invites a broader reflection on the role of writing in academic life. If writing continues to serve as a central method for developing and communicating knowledge, then maintaining opportunities for meaningful engagement with the writing process will remain essential even in an age of increasingly powerful language technologies.

Key points

• AI-generated language challenges traditional understandings of academic integrity by making the boundaries between authorship and assistance less clear.

• In AI-assisted writing, responsibility for the accuracy, originality, and interpretation of ideas still belongs to the human author.

• AI systems can produce fluent and convincing academic language, but their outputs may include errors, fabricated references, or misleading information.

• For this reason, AI should be treated as a supportive tool rather than a substitute for scholarly thinking and argumentation.

• Transparency about the use of AI in writing is becoming increasingly important, although it may also influence how readers evaluate a text.

• The growing use of AI may lead to forms of cognitive offloading, where writers shift from producing text to reviewing and editing generated content.

• Writing is not only a way of presenting ideas but also a way of developing them, and this process should remain central in academic practice.

• The integration of AI into academic writing is reshaping how knowledge is produced, but human judgment, critical thinking, and responsibility remain essential.

Chapter 7

The Future of Academic Discourse in the Age of Artificial Intelligence

7.1. The Changing Landscape of Academic Discourse

The relationship between technology and academic writing has always evolved over time. From handwritten manuscripts to digital word processors, each technological shift has influenced how scholars produce, revise, and circulate knowledge. The emergence of GenAI represents another moment of transformation in this long trajectory. Nevertheless, the scale and speed of this transformation appear particularly striking. For the first time, researchers have access to tools capable of producing extended passages of academic language almost instantly.

This development invites us to reconsider how academic discourse may evolve in the coming years. If systems can generate structured explanations, summarize complex research findings, and propose outlines for scholarly arguments, the process of academic writing may gradually change. You may already have noticed this shift when interacting with AI writing tools: instead of beginning with an empty page, many writers now start with generated drafts that they subsequently revise and refine.

Some scholars suggest that such changes may alter the role of writing within research practices. Traditionally, writing has functioned not only as a method of communication but also as a way of developing ideas. When researchers struggle to articulate an argument, the act of writing itself often leads to conceptual clarification. As Bazerman (2013) observes,

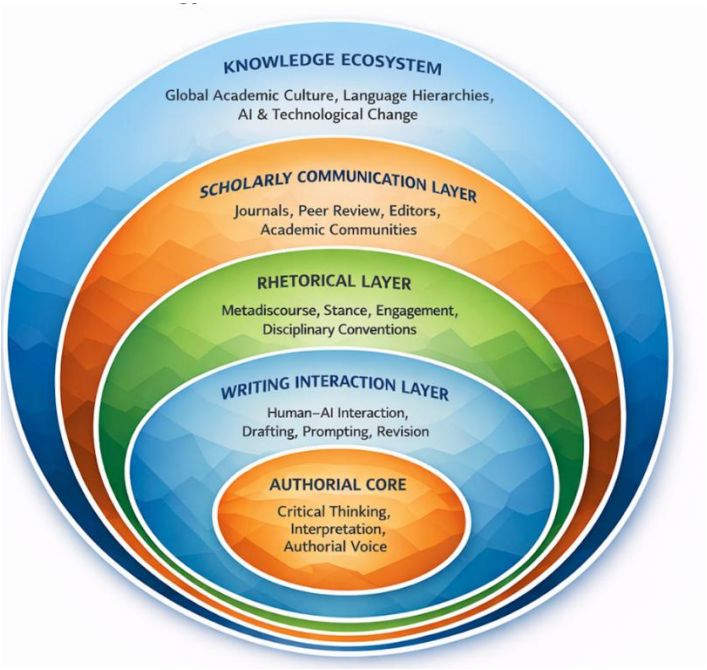
academic writing frequently serves as a space in which scholars "discover the implications of their own reasoning." If AI tools increasingly assist with drafting, the relationship between writing and thinking may take new forms.

At the same time, GenAI may also expand access to academic communication. Scholars working in multilingual contexts, for example, often face significant linguistic barriers when publishing in international journals. AI-supported writing tools may help researchers refine language, clarify explanations, and navigate unfamiliar rhetorical conventions. In this sense, AI technologies could potentially contribute to a more inclusive scholarly environment. However, these developments also raise questions about how academic communities will maintain standards of credibility and originality. The value of scholarly communication has always depended on the expectation that research reflects careful analysis, methodological rigor, and intellectual responsibility. As AI-generated language becomes more common, institutions and researchers will need to develop shared practices that ensure these principles remain central to academic work.

To better understand how these different forces interact in shaping academic discourse, it may be useful to visualize the emerging ecology of AI-mediated academic writing. In this study, I develop the Ecology of AI-Mediated Academic Discourse model to capture these interactions (see Figure 7). Academic discourse is no longer produced solely through the individual efforts of a single author. Instead, it increasingly emerges from the interaction between human intellectual work, algorithmic language generation, rhetorical conventions, and institutional structures within the broader knowledge ecosystem.

Figure 7

The Ecology of AI-Mediated Academic Discourse



Source: Author's conceptual illustration generated with the assistance of ChatGPT (OpenAI, 2026).

In this book, I propose the Ecology of AI-Mediated Academic Discourse model as a way of conceptualizing these interacting dimensions. Figure 7 presents a conceptual model illustrating the ecological structure of academic discourse in the age of artificial intelligence. Rather than emerging from a single source, contemporary academic writing increasingly develops within a layered system in which human reasoning, technological tools, rhetorical conventions, and institutional structures interact. Each layer of the model represents a different dimension of this evolving ecosystem.

At the centre of the model lies the authorial core. This layer represents the intellectual foundation of academic writing, including critical thinking, interpretation, and the development of scholarly arguments. Even as AI technologies become more integrated into writing practices, the interpretive responsibility for knowledge production continues to rest with the human researcher.

Surrounding the authorial core is the writing interaction layer, which reflects the direct interaction between human writers and AI-supported writing tools. At this level, activities such as prompting, drafting, revising, and restructuring text take place through a hybrid process in which human judgment and algorithmically generated language interact.

The next layer represents the rhetorical layer of academic discourse. This dimension includes the linguistic and rhetorical conventions that shape scholarly writing, such as metadiscourse markers, stance expressions, and strategies for reader engagement. These rhetorical resources allow writers to organize arguments, express degrees of certainty, and position themselves within disciplinary conversations.

Beyond this lies the scholarly communication layer, which represents the institutional structures through which academic discourse circulates. Journals, peer review systems, editors, and academic communities play a crucial role in evaluating, disseminating, and legitimizing scholarly knowledge.

Finally, the outermost layer of the model represents the knowledge ecosystem. This layer includes the broader cultural, technological, and global contexts that shape academic communication, including the increasing influence of artificial intelligence, evolving publication practices, and the global circulation of knowledge.

Overall, these layers illustrate how academic discourse in the age of artificial intelligence emerges from the dynamic

interaction of cognitive, rhetorical, technological, and institutional processes.

7.2. AI and the Evolution of Scholarly Voice

Another important issue concerns the future of *scholarly voice.* Academic discourse has traditionally allowed authors to position themselves in relation to their claims, evidence, and disciplinary communities. Through rhetorical choices, writers signal their interpretations, evaluate previous research, and guide readers toward particular conclusions. These elements contribute to what we recognize as authorial voice in scholarly texts.

The increasing presence of AI-generated language introduces new dimensions to this concept. If AI systems contribute to the phrasing or organization of academic texts, the boundaries between individual style and algorithmically generated language may become less distinct. Scholars may find themselves working in collaboration with computational systems that suggest alternative formulations, restructure paragraphs, or generate preliminary drafts. You might therefore ask an interesting question: will academic voice remain a distinctly human feature of scholarly discourse, or will it gradually evolve through interaction with algorithmic tools? Some researchers suggest that the answer lies not in choosing between human and artificial writing but in understanding how these forms of language production interact. In many cases, AI-generated drafts still require human interpretation, evaluation, and revision before they become part of a scholarly text.

Seen from this perspective, the future of academic voice may involve new forms of collaboration between human authors and digital systems. Scholars may increasingly act as editors, evaluators, and interpreters of AI-generated language rather than as sole producers of every sentence. The challenge

will be to maintain the intellectual responsibility and interpretive depth that have long defined academic discourse.

Reflection

If academic writing increasingly begins with AI-generated drafts rather than with an empty page, how might this change the way scholars think, argue, and position themselves in their work?

And more importantly, will academic voice remain something we develop through writing, or something we refine through interaction with AI-generated language?

7.3. Rethinking Academic Writing in the Age of AI

The discussions presented throughout this book suggest that GenAI is not simply another writing tool. Instead, it represents a development that encourages scholars to rethink several fundamental assumptions about academic communication. Questions of authorship, responsibility, knowledge production, and writing pedagogy are all being reconsidered as AI systems become integrated into research environments.

For scholars interested in language and discourse, this transformation opens new avenues of inquiry. Researchers may examine how AI-generated language interacts with disciplinary conventions, how readers interpret texts produced with technological assistance, and how writing practices evolve as new tools become available. These questions highlight the continuing relevance of discourse analysis and academic writing research in understanding the changing landscape of scholarly communication. In additon, the presence of AI

reminds us that academic writing ultimately remains a human activity. Technologies may assist with drafting, organization, and language production, by contrast the interpretation of evidence and the construction of knowledge continue to depend on human judgment. As Floridi (2019) argues, the development of intelligent technologies does not eliminate human responsibility; rather, it often makes that responsibility more visible. As you reflect on the issues explored in this book, you may find yourself returning to a simple yet important question: *what does it mean to write academically in an age when machines can generate academic language?* The answer will likely continue to evolve as scholars experiment with new technologies and refine the norms that guide scholarly communication.

For now, one conclusion appears clear. Artificial intelligence is becoming part of the ecosystem in which academic discourse is produced. Understanding how this ecosystem functions, and how it can support responsible and meaningful scholarly communication, will remain an important task for researchers, educators, and institutions in the years ahead.

7.4. Final Reflections: Writing, Responsibility, and the Future of Academic Discourse

Throughout this book, we have explored how artificial intelligence is gradually entering the domain of academic communication. At the beginning, the discussion focused on how scholarly discourse functions: how writers organize arguments, signal their stance, and guide readers through complex ideas. Later chapters examined how GenAI systems reproduce many of these linguistic patterns. However, the central question that emerges from these discussions is not merely technological. It is fundamentally about what it means to write academically in an age when machines can generate academic language.

Academic writing has always been closely connected to intellectual work. When scholars write, they are not only presenting conclusions but also developing their ideas through language. Drafting a paragraph, reconsidering a claim, or reorganizing an argument often leads researchers to refine their understanding of a topic. Writing therefore functions both as a communicative practice and as a cognitive activity. In this sense, the act of writing has traditionally been inseparable from the act of thinking. The arrival of GenAI introduces a new dimension to this relationship. For the first time, writers can interact with systems capable of producing extended passages of academic prose almost instantly. You may already have experienced this shift yourself: instead of starting with an empty page, you might begin with a generated outline or a preliminary explanation that you later revise. In such situations, writing becomes a process of *interaction between human judgment and algorithmically generated language.*

This development does not eliminate the role of the human writer. If anything, it highlights it more clearly. AI systems can generate sentences, but they cannot assume responsibility for research claims, evaluate evidence in a meaningful way, or participate in scholarly debate. The responsibility for interpreting data, constructing arguments, and defending conclusions remains with the researcher. Academic discourse therefore continues to depend on human intellectual accountability even as technological tools become more sophisticated. Furthermore, artificial intelligence may reshape how academic writing is practiced and taught. Students and researchers may increasingly use AI tools to explore ideas, summarize literature, or experiment with alternative formulations of arguments. These practices will likely influence writing pedagogy, editorial standards, and research workflows.

These developments also highlight an important pedagogical implication. If GenAI systems are capable of

producing fluent academic language, inexperienced writers may rely on such tools without fully understanding the rhetorical mechanisms that shape scholarly discourse. Over time, this reliance could weaken writers' awareness of how authorial voice, stance, and reader engagement are constructed through language. In response, academic writing courses and textbooks should explicitly teach the linguistic resources that enable scholars to build and maintain their authorial voice. By developing awareness of metadiscourse, stance, and rhetorical positioning, writers can engage with AI tools critically while preserving their own scholarly identity. You might therefore view the current moment as a transitional phase in the history of scholarly communication. Just as earlier generations of scholars adapted to typewriters, digital databases, and online journals, contemporary researchers are now learning to navigate a writing environment that includes intelligent language technologies. The outcome of this transition will depend not only on technological development but also on the ethical and intellectual choices made by academic communities.

Ultimately, the future of academic discourse will not be determined solely by artificial intelligence. It will be shaped by how scholars choose to engage with these tools while preserving the values that sustain scholarly inquiry: critical thinking, intellectual responsibility, transparency, and openness to debate. If these principles remain central, academic writing will continue to function as a meaningful way of constructing and communicating knowledge, even in a world where machines increasingly participate in the production of language.

As artificial intelligence becomes increasingly integrated into academic writing practices, the study of academic discourse may need to expand its analytical focus. Future research may therefore explore how human and algorithmic forms of language production interact in shaping scholarly

communication. Understanding these dynamics will be essential for preserving the rhetorical richness, diversity of authorial voice, and intellectual accountability that have traditionally characterized academic discourse.

Key points

• As we have seen throughout this chapter, academic discourse is no longer produced solely by individual writers, but increasingly emerges through interaction with AI-supported systems.

• In many cases, writing no longer begins with an empty page. Instead, writers may start with generated drafts and then revise, reshape, and interpret them.

• At the same time, it is important to remember that responsibility for meaning, interpretation, and argument still belongs to the human author.

• In this sense, AI does not replace academic writing, but changes how writing is practiced and experienced.

• The Ecology of AI-Mediated Academic Discourse model helps us see that academic writing now develops across multiple layers, including cognitive, technological, rhetorical, and institutional dimensions.

• You may notice that while AI can support clarity and fluency, it cannot replace the interpretive and evaluative work that lies at the core of scholarly writing.

• For this reason, writing should still be seen as a process of thinking, not only as a process of editing generated language.

• Overall, the future of academic discourse will depend not only on technological developments, but also on how scholars continue to engage critically, responsibly, and reflectively with their writing practices.

References

Abid, A., Farooqi, M., & Zou, J. (2021). Persistent anti-Muslim bias in large language models. *Proceedings of the AAAI Conference on Artificial Intelligence.*

Ädel, A. (2006). *Metadiscourse in L1 and L2 English*. John Benjamins.

Amirjalili, F., Neysani, M., & Nikbakht, A. (2024). Exploring the boundaries of authorship: A comparative analysis of AI-generated text and human academic writing in English literature. *Frontiers in Education, 9*, 1347421.

Bai, Q., & Nam, B. H. (2025). A meta-autoethnography of metadiscourse: Methodological implications for interdisciplinary qualitative research on generative artificial intelligence models. *International Journal of Qualitative Methods*.

Bazerman, C. (1988). *Shaping written knowledge: The genre and activity of the experimental article in science.* University of Wisconsin Press.

Bearman, M., Ryan, J., & Ajjawi, R. (2023). Discourses of artificial intelligence in higher education: A critical literature review. *Higher Education Research & Development.*

Bender, E. M., Gebru, T., McMillan-Major, A., & Shmitchell, S. (2021). On the dangers of stochastic parrots: Can language models be too big? In *Proceedings of the 2021 ACM Conference on Fairness, Accountability, and Transparency* (pp. 610–623). Association for Computing Machinery. https://doi.org/10.1145/3442188.3445922

Bhatia, V. K. (2004). *Worlds of written discourse: A genre-based view*. Continuum.

Birhane, A., et al. (2023). The values encoded in machine learning research. *Proceedings of the ACM Conference on Fairness, Accountability, and Transparency.*

Bommasani, R., Hudson, D. A., Adeli, E., Altman, R., Arora, S., von Arx, S., Bernstein, M. S., Bohg, J., Bosselut, A., Brunskill, E., Brynjolfsson, E., Buch, S., Card, D., Castellon, R., Chatterji, N., Chen, A., Creel, K., Davis, J. Q., Demszky, D., … Liang, P. (2021). On the opportunities and risks of foundation models. *arXiv Preprint*. https://doi.org/10.48550/arXiv.2108.07258

Borgman, C. L. (2007). *Scholarship in the digital age: Information, infrastructure, and the Internet.* MIT Press.

Bretag, T. (2016). Challenges in addressing plagiarism in education. *PLoS Medicine*, 13(12).

Brown, T. B., Mann, B., Ryder, N., Subbiah, M., Kaplan, J., Dhariwal, P., Neelakantan, A., Shyam, P., Sastry, G., Askell, A., Agarwal, S., Herbert-Voss, A., Krueger, G., Henighan, T., Child, R., Ramesh, A., Ziegler, D. M., Wu, J., Winter, C., … Amodei, D. (2020). Language models are few-shot learners. *Advances in Neural Information Processing Systems*, 33, 1877–1901.

Clark, E., August, T., Serrano, S., Haduong, N., Gururangan, S., & Smith, N. (2021). All that's "human" is not gold: Evaluating human evaluation of generated text. *Proceedings of the ACL*.

Connor, U. (2011). *Intercultural rhetoric in the writing classroom*. University of Michigan Press.

Cotton, D. R. E., Cotton, P. A., & Shipway, J. R. (2023). Chatting and cheating: Ensuring academic integrity in the era of ChatGPT. *Innovations in Education and Teaching International.*

Crismore, A. (1989). *Talking with readers: Metadiscourse as rhetorical act*. Peter Lang.

Crismore, A., Markkanen, R., & Steffensen, M. S. (1993). Metadiscourse in persuasive writing: A study of texts written by American and Finnish university students. *Written Communication, 10*(1), 39–71. https://doi.org/10.1177/0741088393010001002

Dafouz-Milne, E. (2008). The pragmatic role of textual and interpersonal metadiscourse markers in the construction and attainment of persuasion: A cross-linguistic study of newspaper discourse. *Journal of Pragmatics, 40*(1), 95–113.

Dawson, P. (2024). *Defending assessment security in a digital world*. Routledge.

Else, H. (2023). Abstracts written by ChatGPT fool scientists. *Nature*. https://doi.org/10.1038/d41586-023-00056-7

Elsevier. (2023). Elsevier policy on the use of generative AI and AI-assisted technologies in writing for scholarly publishing.

Emig, J. (1977). Writing as a mode of learning. *College Composition and Communication*, 28(2), 122–128.

Esfandiari, R., & Allaf-Akbary, O. (2024). Assessing interactional metadiscourse in EFL writing through intelligent data-driven learning: The Microsoft Copilot in the spotlight. *Language Testing in Asia*, 14, Article 27.

Floridi, L., & Chiriatti, M. (2020). GPT-3: Its nature, scope, limits, and consequences. *Minds and Machines, 30*, 681–694. https://doi.org/10.1007/s11023-020-09548-1

Floridi, L. (2019). *The logic of information: A theory of philosophy as conceptual design*. Oxford University Press.

Flowerdew, J. (2013). *Discourse in English language education*. Routledge.

Flowerdew, J. (2015). Scholarly writers who use English as an additional language: What can Goffman's "Stigma" tell us? *Journal of English for Academic Purposes*, 20, 1–10. https://doi.org/10.1016/j.jeap.2015.02.004

Fyfe, A., et al. (2017). *Untangling academic publishing: A history of the relationship between commercial interests, academic prestige and the circulation of research*. University of St Andrews.

Gao, C. A., Howard, F. M., Markov, N. S., Dyer, E. C., Ramesh, S., Luo, Y., & Pearson, A. T. (2023). Comparing scientific abstracts generated by ChatGPT to real abstracts with detectors and blinded human reviewers. *npj Digital Medicine, 6*(1), 75.Goodfellow, I., Bengio, Y., & Courville, A. (2016). *Deep learning*. MIT Press.

Güçlü, R. (2025a). Does ChatGPT argue through structure or stance? A metadiscourse analysis of English argumentative essays across topics. In O. Çınar, F. Başbuğ, & H. Aydemir (Eds.), *Contemporary studies in linguistics I: IMU Linguistics 15th anniversary commemorative volume* (pp. 147–169). Artsürem. https://doi.org/10.7816/imuling-15-25-01X007

Güçlü, R. (2025b). Self-mention in L1 and L2 Turkish research articles: Realizations, functions and distributions. *Education and Science*, 50(224), 169–198. https://doi.org/10.15390/ES.2025.2497

Halliday, M. A. K., & Hasan, R. (1976). *Cohesion in English*. Longman.

Honcharova, A. (2025). Human versus AI: A comparative study of the use of metadiscourse devices in research papers.

Hunston, S., & Thompson, G. (2000). *Evaluation in text: Authorial stance and the construction of discourse*. Oxford University Press.

Hyland, K. (1998). Hedging in scientific research articles. *John Benjamins*.

Hyland, K. (2001). Humble servants of the discipline? Self-mention in research articles. *English for Specific Purposes, 20*(3), 207–226. https://doi.org/10.1016/S0889-4906(00)00012-0

Hyland, K. (2002). Authority and invisibility: Authorial identity in academic writing. *Journal of Pragmatics, 34*(8), 1091–1112. https://doi.org/10.1016/S0378-2166(02)00035-8

Hyland, K. (2004). *Disciplinary discourses: Social interactions in academic writing.* University of Michigan Press.

Hyland, K. (2005). *Metadiscourse: Exploring interaction in writing.* London: Continuum.

Hyland, K. (2009). *Academic discourse: English in a global context.* Continuum.

Hyland, K. (2018). *Metadiscourse*. Bloomsbury Publishing.

Hyland, K., & Jiang, F. (2022). Academic discourse and the pressure of conformity. *Journal of English for Academic Purposes, 56*, 101077. https://doi.org/10.1016/j.jeap.2022.101077

Hyland, K., & Jiang, F. (Kevin). (2018). "In this paper we suggest": Changing patterns of disciplinary metadiscourse. *English for Specific Purposes*, 51, 18–30. https://doi.org/10.1016/j.esp.2018.02.001

Ivanič, R. (1998). *Writing and identity: The discoursal construction of identity in academic writing.* John Benjamins.

Ji, Z., Lee, N., Frieske, R., et al. (2023). Survey of hallucination in natural language generation. *ACM Computing Surveys*, 55(12).

Jiang, F. K. & Hyland, K. (2025a). Does ChatGPT write like a student? Engagement markers in argumentative essays. *Written Communication*, 42(3). https://doi.org/10.1177/07410883251328311

Jiang, F. K., & Hyland, K. (2025c). Rhetorical distinctions: Comparing metadiscourse in essays by ChatGPT and students. *English for Specific Purposes, 79*, 17–29.

Johansson, S., Bergenholtz, H., & Kosem, I. (2024). Generative AI and academic discourse: Risks of normalization and stylistic homogenization. *Applied Linguistics*, advance online publication. https://doi.org/10.1093/applin/amad062

Jurafsky, D., & Martin, J. H. (2023). *Speech and language processing* (3rd ed.). Draft.

Kaplan, J., et al. (2020). Scaling laws for neural language models. *arXiv preprint arXiv:2001.08361.*

Kasneci, E., Sessler, K., Küchemann, S., Bannert, M., Dementieva, D., Fischer, F., et al. (2023). ChatGPT for good? On opportunities and challenges of large language models for education. *Learning and Individual Differences*, 103.

Kasneci, E., Sessler, K., Küchemann, S., Bannert, M., Dementieva, D., Fischer, F., Gasser, U., Groh, G., Günnemann, S., Hüllermeier, E., Krusche, S., Kutyniok, G., Michaeli, T., Nerdinger, F., Pfeffer, J., Poquet, O., Sailer, M., Schmidt-Thieme, L., Seidel, T., … Kasneci, G. (2023). ChatGPT for good? On opportunities and challenges of large language models for education. *Learning and Individual Differences*, 103.

Kreminski, M., et al. (2022). Coherence in human and AI-generated text: A comparative study. *Proceedings of the International Conference on Natural Language Generation*

Lei, H. (2026). Rhetorical shifts in the AI age: A metadiscourse analysis of applied linguistics master's theses in the Chinese EFL context. *Linguistics and Education*.

Liang, W., Izzo, Z., Zhang, Y., Lepp, H., Cao, H., Zhao, X., Chen, L., Ye, H., Liu, S., Huang, Z., McFarland, D. A., & Zou, J. (2024). Monitoring AI-modified content at scale: A case study on the impact of ChatGPT on AI conference peer reviews. *Proceedings of ICML 2024*.

Lund, B. D., Wang, T., Mannuru, N. R., Nie, B., Shimray, S., & Wang, Z. (2023). ChatGPT and a new academic reality: Artificial intelligence-written research papers and the ethics of the large language models in scholarly publishing. Journal of the Association for Information Science and Technology, 74(5), 570–581.

Martínez, I. A. (2005). Native and non-native writers' use of first person pronouns in the different sections of biology research articles in English. *Journal of Second Language Writing, 14*(3), 174–190.

Matsuda, P. K. (2015). Identity in written discourse. *Annual Review of Applied Linguistics*, 35, 140–159.

Matsuda, P. K., & Tardy, C. M. (2007). Voice in academic writing. *Journal of Second Language Writing, 16*(4), 235–239.

Mikolov, T., Chen, K., Corrado, G., & Dean, J. (2013). Efficient estimation of word representations in vector space. *arXiv preprint arXiv:1301.3781.*

Mur-Dueñas, P. (2007). "I/we focus on…": A cross-cultural analysis of self-mentions in business management research articles. *Journal of English for Academic Purposes*, 6(2), 143–162.

Nature Editorial. (2023). Tools such as ChatGPT threaten transparent science; here are our ground rules for their use. *Nature*, 613.

OpenAI. (2023). *GPT-4 technical report*.

OpenAI. (2026). *ChatGPT* (Mar 15 version) [Large language model]. https://chat.openai.com

Sadigzade, Z. (2026). Metadiscourse patterns in human-written vs. generative AI-authored research abstracts: A comparative corpus-based analysis. *Acta Globalis Humanitatis et Linguarum*.

Selwyn, N. (2019). *Should robots replace teachers? AI and the future of education*. Polity Press.

Springer Nature. (2023). AI tools in manuscript preparation: Author guidelines.

Stokel-Walker, C., & Van Noorden, R. (2023). What ChatGPT and generative AI mean for science. *Nature, 614*, 214–216.

Stokel-Walker, C., & Van Noorden, R. (2023). What ChatGPT and generative AI mean for science. *Nature*, 614, 214–216.

Stokel-Walker, C., & Van Noorden, R. (2023). What ChatGPT and generative AI mean for science. *Nature*, 614, 214–216.

Swales, J. (1990). *Genre analysis: English in academic and research settings*. Cambridge University Press.

Swales, J. M. (2004). *Research genres: Explorations and applications*. Cambridge University Press.

Tang, R., & John, S. (1999). The "I" in identity: Exploring writer identity in student academic writing through the first-person pronoun. *English for Specific Purposes*, 18(S1), S23–S39.

Thompson, G., & Thetela, P. (1995). The sound of one hand clapping: The management of interaction in written discourse. *Text*, 15(1), 103–127.

Thorp, H. H. (2023). ChatGPT is fun, but not an author. *Science, 379*(6630), 313.

Vande Kopple, W. J. (1985). Some exploratory discourse on metadiscourse. *College Composition and Communication*, 36(1), 82–93.

Vaswani, A., Shazeer, N., Parmar, N., Uszkoreit, J., Jones, L., Gomez, A. N., Kaiser, L., & Polosukhin, I. (2017). Attention is all you need. *Advances in Neural Information Processing Systems.*

Walters, W. H. (2023). The effectiveness of ChatGPT for generating academic writing: A comparison of AI-generated and human-written essays. *The Journal of Academic Librarianship, 49*(6), 102807. https://doi.org/10.1016/j.acalib.2023.102807

Weizenbaum, J. (1966). ELIZA—A computer program for the study of natural language communication between man and machine. *Communications of the ACM*, 9(1), 36–45.

Yao, G., & Liu, Z. (2025). Can AI simulate or emulate human stance? Using metadiscourse to compare GPT-generated and human-authored academic book reviews. *Journal of Pragmatics*, 214, 45–59.

Yao, G., & Liu, Z. (2026). Rhetorical divergence of AI: Comparing interactive and interactional metadiscourse in GPT-generated and human-authored research abstracts. *Journal of English for Academic Purposes*.

Zhai, X. (2023). ChatGPT and AI: Implications for teaching and learning in higher education. *Educational Technology Research and Development*.

Zhang, M., & Zhang, J. (2025). Reflexivity in human-written and ChatGPT-generated English research article abstracts: A comparison of metadiscourse. *Applied Linguistics*, amaf032.

Zhu, Y., & Dong, M. (2025). Decoding the raters' mind: A metadiscourse investigation of ChatGPT vs EFL instructors in business English writing assessment. *Studies in Educational Evaluation*, 86, 101309.

“AI changed the academic world almost instantly on every level of our functioning and interaction, both peer-to-peer and vertically from student to teacher. Dr. Ruhan GÜÇLÜ is among the first who instantly responded with an insightful and multilayered treatise on the novelties in academic communication.”

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