

Introduction

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Humans spend a considerable amount of time engaging with narratives and art. Some thinkers propose that our minds/brains are optimized for information in the form of narratives (Mar et al.), going so far as to invoke terms such as *homo narrans* (Fisher) or *homo aestheticus* (Dissanayake). Others claim that our experience of our own lives is inherently narrative in character (Bruner; Schank & Abelson). Works of art can shape cultures and elicit powerful emotional responses – responses that may be difficult to elicit otherwise (Robinson). We have a profound sense that narratives and art are an important aspect of being human. Why do narratives and art have such a hold over us? What might this affinity tell us about the architecture of our minds and brains?

Over the past 15 years, empirical research on literature, poetry, drama, arts, film, and dance have begun to gain a foothold in cognitive neuroscience. As cognitive neuroscientists, we have come to learn that our models of language, memory, emotion, and perception fall short of providing satisfactory accounts of our aesthetic experiences with narratives and art (Chatterjee & Vartanian; Lee, Bellana & Chen; Goldstein & Bloom; Nastase et al.; Hartung et al.; Hasson et al.; Sonkusare et al.; Willems). Feeling immersed in a story or song, appreciating the beauty of a painting, or reveling in the lasting impact of a film or play are not trivial aspects of human experience – instead they lie at the heart of some of our deepest questions. As such, this gap between cognitive neuroscience and aesthetics has become a fertile ground for empirical development and discovery.

In this special issue, we want to pay tribute to recent advances in understanding the human mind and brain through narratives and art, while also highlighting current challenges and charting out plans for the future. The contributions from cognitive and neuro-sciences, humanities and media studies, together reflect a refreshing interdisciplinary dialogue and, hopefully, a compelling window into recent work on understanding humans through narratives and art.

On narratives

In our first section on narratives, we present three contributions from cognitive neuroscience and linguistics.

We begin with a discussion of how narratives can inform our understanding of the neural bases of human memory. Cohn–Sheehy proposes the idea of an ‘intertextual hippocampus’, carrying forward the basic associative functions often ascribed to the hippocampus, a brain structure tucked into our medial temporal lobes, to how we remember naturalistic experiences, such as the events in a story.

Next, we explore individual differences across readers in their ability to take the words from a story and simulate a story world. Drawing from behavioural and brain research, Mak & Faber propose the importance of mental simulation in predicting the extent to which an individual will find a story immersive and enjoyable.

Lastly, narrative comprehension requires readers to track situational information like the continuity of characters, locations, or events, while additionally requiring us to make inferences from the

broader context. Klomberg and colleagues present a novel framework addressing how this may be accomplished in visual narratives, such as comics, in which these inferences are supported by visual constructional patterns. This piece highlights the fundamental role of graphic and structural cues in visual storytelling.

On art and empathy

The second section of this special issue tackles recent work at the intersection of art and empathy.

Narratives have long been connected with empathy. In her position piece, Turner reviews the latest research on narratives and empathy and argues that both empathy and fiction are ontologically extended processes and highlights the importance of taking cultural aspects and different fiction technologies into account in future research.

Next, Woodward & Woodward take a truly interdisciplinary approach to the interconnectedness of pain, stress, and suffering. They discuss perspectives on pain, stress and suffering from both a literature and a neuroscience perspective. They also address how to quantify and qualify these experiences alongside the self-understanding that is needed to assess them.

On aesthetics

In our third and final section, we present recent interdisciplinary work on aesthetics, or how and why we appreciate art.

First, we turn to Torromino and colleagues who review work on the hypothesis that art should be treated as supernormal stimuli. They propose an integrated perspective bridging art with neuroscience to show the potential that this conceptualization, rooted in ethology, can bring to our understanding of aesthetics.

Next, we examine the aesthetics of reading. Trasmundi & Kukonnen make an argument for reviving our interest in ‘aisthesis’ – embodied sensation and perception – in the study of reading. In a proof of concept study, they describe the impact of aesthetic practices in situated embodiment for processing and appreciating a classic piece of literature: Goethe’s *Faust*. Using this approach, they showcase the potential of this embodied cognition framework in the study of aesthetics in reading.

Importantly, any examination of aesthetics is incomplete without a consideration of the cultural context in which we are embedded and how it may shape how we appreciate art. To this end, Darda & Chatterjee present an empirical study examining aesthetic preferences in a cross-cultural comparison of people from North America and India. They discuss the potential of education about and exposure to art from different cultures in helping to reduce social bias.

Finally, we explore the impact of artificial intelligence on art and aesthetics. In their piece, Abiodun & Nickel provide a timely dialogue between artist and scientist, as they meditate on how art and artificial intelligence continuously influence one another, in often unexpected ways.

Concluding thoughts

In this special issue, we take a glimpse into the study of the human mind and brain via narratives and art. We address a wide range of topics, from how stories can inform our neural models of human memory to examining how artificial intelligence may change our understanding of art itself. We hope that our readers find this special issue thought-provoking and useful.

One idea that has become plain over the course of preparing this special issue, is that neuroaesthetics – and the broader study of narratives and art – remains a well-spring of exciting questions about the human mind and brain. A key reason why this line of inquiry continues to be so generative is its inherent interdisciplinarity. Neuroaesthetics implies that a basic understanding of the brain, and our subjective experience, is incomplete without thoughtful consideration from the humanities. Similarly, our understanding of art and aesthetics is only deepened with rigorous experimentation about

its basic properties and neural implementation. Not only is there space for both scientists and humanities scholars in the field, but neuroaesthetics plainly highlights the shortcomings of either approach when pursued in isolation. What is a model of vision that has nothing to say about the experience of beauty drawn out by painting? What is a framework of language that has nothing to say about our ability to evoke alternate worlds from the words in a novel? What is a theory of aesthetic experience with no consideration of the machinery upon which our minds are built?

Stories, poetry, drama, arts, film, and dance are all fundamental parts of the human experience. If we are interested in anything that resembles a *complete* understanding of how the human mind and brain works, neuroaesthetics will be a useful, if not essential, means towards this end.

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