

Attending to the city

Description

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In the book *Network Nature*, I explored how people attune themselves to the natural world â?? or at least, how we attune to that part of our spatial experience that we are inclined to describe as â??natural.â?• We also attune to artifice, such as urban environments. Cities present a spectrum of stimuli that shape our perceptual engagement, and indeed shape our cities.

Iâ??m currently researching natural language processing (NLP) in the urban context. So, itâ??s appropriate to adopt some of the language of semiotics. Both natural environments and urban landscapes communicate through signs and symbols. Buildings, street art, traffic signs, and the flow of people and vehicles are participants in this semiotic play.

It is common to think of nature as a stable and predictable substate and reference plane that grounds human experience. By contrast, urban environments are novel, dynamic and unpredictable. Signs in the city also compete for attention. Attention in the city is fragmented, with frequent shifts. Iâ??ve referenced attention deficit and restoration theory in previous posts. *Attention* is key to perception and what it is to be situated in our world.

Automated attention

Hereâ??s one of the statements from *Network Nature* about attention and emotion. I recruited ChatGPT4 to help me write a Python program to detect the most significant words in the paragraph â?? those to which a reader might *pay attention*. Stronger red implies greater attention; a lighter red warrants less attention.

> when anticipations are not fulfilled then disappointment follows . it seems to me that signs in the landscape , views , prospects , and places are in the company of a range of emotions including delight , recovery , repose , and safety as well as disappointment , anxiety , danger and melanch all this takes place in the context of the movement of and through signs and their attendant cont

My demonstration here is far from perfect, but Iâ??ve been trying to replicate the â??attentionalâ?• feature of the so-called Transformer model of NLP that underlies the performance of ChatGPT conversational AI. I explained the process in an earlier post: Attention scores.

This method takes the semantic vector of each word (from an online library of such vectors) and calculates the relationship between each word and every other word in the paragraph. Summing up all the relationships for each particular word (as vectors) provides an indication of the significance of that particular word in relationship to the whole paragraph. The heat map of the paragraph above simplifies those vectors to a series of single value scores. The score to each word determines its background colour.

In helping me write the code for this, ChatGPT4 appeared keen to remind me that this is just a demonstration of a much more sophisticated process integral to the performance of a multi-layered NLP neural network.

Tuning in

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The success of the platformâ??s ability to take attention into account is ably demonstrated by itâ??s ability to help me write this program, but also in its summary of the chapter in which this paragraph occurs: â??Tuning in to natureâ?• (PDF). ChatGPT told me:

The chapter you provided from your book explores the concept of attention in relation to nature and the environment. Hereâ??s a summary of the key themes and discussions:

1. *Tuning in to Nature*: The chapter opens with the metaphor of tuning in, likened to adjusting a radio to a specific frequency. This idea extends to attuning ourselves to natureâ??s signals or signs, an act that involves filtering out irrelevant information and focusing on specific aspects of our environment.
2. *Semiotics and Nature*: The text delves into semiotics, the study of signs and symbols, as a framework for understanding how we perceive and interpret nature. The works of Charles Sanders Peirce, William James, and John Dewey, prominent figures in American pragmatism, are referenced to support this exploration.
3. *Attention and Perception*: Attention is discussed as a crucial aspect of interacting with our environment. The chapter highlights how attending to nature requires us to pick up on signs and cues, sometimes without conscious effort. The role of attention in survival, engagement with the world, and the development of our relationship with nature is emphasized.
4. *Embodiment and Attention*: The text argues that attention is not just a cognitive process but also a bodily activity. It draws upon the work of William James, who suggests that bodily actions are integral to the process of paying attention.
5. *Emotional and Cultural Dimensions of Signs*: The emotional aspects of signs and their cultural interpretations are discussed. The chapter suggests that signs in nature not only convey information but also evoke emotional responses.
6. *Intention and Communication*: The chapter challenges the traditional sender-receiver model of communication, suggesting that intentions in communication are more complex and embedded in shared practices and responsibilities.
7. *The Concept of Prospect*: This section discusses how people are drawn to environments that offer both prospect (views, opportunities for exploration) and refuge (places of safety and shelter).

8. *The â??Aha Moment***â??**: The chapter describes moments of sudden clarity or insight in our interactions with the environment, illustrating these with examples from literature and personal experiences.
9. *Transitions and Habituation*: The discussion extends to how we navigate transitions in the landscape and how habituation affects our perception and interaction with our environment.
10. *Digital Media and Nature*: The chapter briefly touches upon the impact of digital media on our attention and relationship with nature. It raises concerns about how digital communications might distract us from the natural world.

It concluded its summary on a positive note: â??The chapter is rich in philosophical and theoretical discussions, weaving together concepts from psychology, semiotics, pragmatism, and environmental studies to offer a nuanced understanding of attention in relation to nature and the environment.â?•

Reference

- Coyne, R. (2018). *Network Nature: The Place of Nature in the Digital Age*. London: Bloomsbury Academic. Publisherâ??s site.

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Notes

- On the subject of the capabilities and future of artificial general intelligence (AGI), see recent interview with OpenAI (ChatGPT) CEO Sam Altman: Altman, S., K. Roose, et al. (2023). â??Hard Fork: An interview with Sam Altman.â?• The Daily: The New York Times 24 November. Retrieved 25 November 2023, from https://podcasts.apple.com/gb/podcast/the-daily/id1200361736?i=1000636410364.
- ChatGPT4 generated the featured banner image upon request and explained it: â??Here is an image that visually represents the themes of your text about attention in urban spaces, with a grunge, apocalyptic feel. This scene captures the interplay between the urban environment and the forces of nature, symbolizing the dynamic and often challenging aspects of urban attention.â?•

Category

1. Artificial Intelligence

Tags

1. attention
2. chatgpt
3. nature
4. urbanism

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