Behavioral and Brain Sciences

Article contents

Abstract

Funding

Conflict of interest

References

The familiar appeal of imaginary worlds

Published online by Cambridge University Press: **18 November 2022**

In response to: **Why imaginary worlds? The psychological foundations and cultural evolution of fictions with imaginary worlds**

Related commentaries (32) Author response

Andrew Shtulman

Commentary Related commentaries Metrics

Abstract

Imaginary worlds may satisfy our need to explore, but it's an open question what we are searching for. Research on imagination suggests that if we are searching for something extraordinary – something that violates our intuitions about real-world causality – then we seek it in small doses and in contexts that ultimately confirm our intuitions. Imaginary worlds allow for true novelty, but we may actually prefer ideas that are novel on their surface but familiar at their core.

Type	Open Peer Commentary
Information	Behavioral and Brain Sciences, Volume 45, 2022, e298 DOI: https://doi.org/10.1017/S0140525X21002338 Check for updates

The wizarding world of Harry Potter is one of the most popular imaginary worlds of all time. Every year millions of people read the Harry Potter novels and watch the Harry Potter movies, but what draws them to this world? Is it the magic spells, like levitation and transfiguration, and fantastical creatures,

like hippogriffs and house elves? Or is it the characters, like Ron and Hermione, and their experiences at boarding school, like going to dances and confronting difficult teachers? Are people drawn to Harry Potter's world for its physical impossibilities or its fictional versions of familiar realities?

Dubourg and Baumard (D&B) argue that humans engage with imaginary worlds because these worlds provide an outlet for novelty-seeking. Humans, like other animals, must forage for resources, and we prefer to do so in novel environments, whose resources have yet to be discovered. Imaginary worlds satisfy our desire to forage in novel environments because they contain resources we could not, by definition, have encountered in the real world.

While this analogy between foraging and fiction is intriguing, it entails a tension in the meaning of "novel." We forage for novel sustenance, not novel resources. We seek resources that are familiar but must be consumed anew: a new bite of familiar food, a new burrow in familiar terrain. Imaginary worlds contain all manners of novelty – talking animals, flying carpets, time-traveling wizards, flesh-eating zombies – but these extreme cases may not be what draws us to imaginary worlds. We may be seeking novel instances of familiar experiences, such as courtship or politics, which, if true, renders many of the imaginary aspects of imaginary worlds moot. As D&B note, fans of Harry Potter often forage for Quidditch rules; fans of Star Wars forage for planet names; and fans of Pokémon forage for family trees. We forage for ideas that are familiar and easy to understand.

Support for this contention comes from research on how we process ideas that are not easy to understand – ideas that violate core intuitions about real-world causality. Such ideas tend to be memorable, but they become less memorable the more intuitions they violate (Boyer & Ramble, 2001). Stories that include counterintuitive ideas follow this same pattern; a few counterintuitive ideas make a story memorable but too many make it incomprehensible, as illustrated by the success of the Grimm Brothers' *Cinderella* but lack of success of their bizarre tale *The Girl Without Hands* (Norenzayan, Atran, Faulkner, & Schaller, 2006). Moreover, when we read narratives that violate real-world regularities, like fairytales, we assume that other real-world regularities still hold, especially mathematical and scientific

ones (Weisberg & Goodstein, 2009). Counterintuitive ideas are appealing only against a backdrop of intuitive ones.

Even counterintuitive ideas themselves follow an intuitive logic. When a story involves a magical transformation, animate entities tend to turn into other animate entities, such as people turning into pigs, but inanimate entities tend to remain inanimate, such as tears turning into streams (Kelly & Keil, 1985). When a story involves magical spells, some spells are depicted as more difficult than others, and their ordering accords with our intuitions about the physical laws violated by the spells. The more foundational the law, the more difficult we view the spell, as reflected by the intuition that conjuring a frog out of thin air is more difficult than changing a frog's color (McCoy & Ullman, 2019). Likewise, laws appreciated early in development, such as object permanence and object cohesion, are viewed as more difficult to violate than laws appreciated later in development, such as gravity and inertia (Lewry, Curtis, Vasilyeva, Xu, & Griffiths, 2021).

Intuitions about spell difficulty also honor the multiplicity of expectations we bring to bear on real-world events. Lifting an object, for instance, elicits the expectation that heavy objects are harder to lift, as well as the expectation that physical support must be applied. When we read stories that involve levitation spells, we hold the second expectation in abeyance but not the first; we grant characters the power to lift objects without physically supporting them, but we still expect that heavy objects, like a bowling ball, will be more difficult to levitate than lighter ones, like a basketball (Shtulman & Morgan, 2017). Weight is ostensibly irrelevant in a world that severs the connection between lifting and support, but we apply this consideration nonetheless. Indeed, we apply irrelevant causal considerations when reasoning about any type of magic, regardless of age or cultural upbringing (Gong & Shtulman, 2021).

Such findings indicate that our beliefs about magical events – events that occur only in imaginary worlds – are highly constrained by our beliefs about real-world causality (Harris, 2021). When we engage with imaginary worlds, we appear to be less concerned with learning new ideas and more concerned with applying the ideas we already know. If what we seek in imaginary worlds

is true novelty, then we would likely learn to search elsewhere. We would eschew fantasy books and superhero movies for classes on quantum mechanics and differential equations. Science and mathematics involve ideas that have no familiar precursors; they defy intuition and are thus truly novel from a conceptual perspective (Shtulman, 2017). Yet, rather than devote ourselves to learning evolutionary biology or celestial mechanics, most people would prefer to spend their time assimilating the mundane details of imaginary worlds, like the ancestries of Pokémon characters or the names of Star Wars planets.

D&B rightly note that imaginary worlds are a “super stimulus,” intentionally crafted to grab attention, because they satisfy our need to explore, but it's an open question what we are searching for. Research on imagination suggests that if we are searching for something counterintuitive – something that violates our intuitions about real-world causality – then we seek it in small doses and in contexts that ultimately confirm our intuitions on the whole. Imaginary worlds allow for the truly novel, but true novelty may not be all that enjoyable. We may actually prefer novel versions of entities and events that are, at their core, completely familiar.

Funding

This research received no specific grant from any funding agency, commercial or not-for-profit sectors.

Conflict of interest

None.

References

Boyer, P., & Ramble, C. (2001). Cognitive templates for religious concepts: Cross-cultural evidence for recall of counter-intuitive representations. Cognitive Science, 25, 535–564. CrossRef Google Scholar

Gong, T., & Shtulman, A. (2021). The plausible impossible: Chinese adults hold graded notions of impossibility. Journal of Cognition

and Culture, 21, 76–93. CrossRef Google Scholar

Harris, P. L. (2021). Early constraints on imagination: The realism of young children. Child Development, 92, 466–483. CrossRef Google Scholar PubMed

Kelly, M. H., & Keil, F. C. (1985). The more things change…: Metamorphoses and conceptual structure. Cognitive Science, 9, 403–416. CrossRef Google Scholar

Lewry, C., Curtis, K., Vasilyeva, N., Xu, F., & Griffiths, T. L. (2021). Intuitions about magic track the development of intuitive physics. Cognition, 214, 104762. CrossRef Google Scholar PubMed

McCoy, J., & Ullman, T. (2019). Judgments of effort for magical violations of intuitive physics. PLoS ONE, 14, e0217513. CrossRef Google Scholar PubMed

Norenzayan, A., Atran, S., Faulkner, J., & Schaller, M. (2006). Memory and mystery: The cultural selection of minimally counterintuitive narratives. Cognitive Science, 30, 531–553. CrossRef Google Scholar PubMed

Shtulman, A. (2017). Scienceblind: Why our intuitive theories about the world are so often wrong. Basic Books. Google Scholar

Shtulman, A., & Morgan, C. (2017). The explanatory structure of unexplainable events: Causal constraints on magical reasoning. Psychonomic Bulletin & Review, 24, 1573–1585. CrossRef Google Scholar PubMed

Weisberg, D. S., & Goodstein, J. (2009). What belongs in a fictional world. Journal of Cognition and Culture, 9, 69–78. Google Scholar