

Panel 2

The Sensible Invisible:

Ethical Issues and Communication Strategies

“Surfin’ on a Soundwave”: The Magic School Bus and the Invisible World of Sound

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Figuring the Invisible

– An Interdisciplinary Conference

15.–16.12.2023

Lucerne School of Applied Sciences and Arts
(HSLU) with the Marie Skłodowska-Curie Global
Research Project FICTA SciO.



Funded by
the European Union

HSLU Lucerne University
of Applied Sciences
and Arts

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Authors: Michael J. Meindl and Matthew Wisnioski

Abstract

The mid-1990s saw the release of one of the most iconic public science initiatives in the United States: *The Magic School Bus (MSB)* television series. Based on the books by Joanna Cole (author) and Bruce Degen (illustrator), and a result of public-private partnerships, *MSB* focused on the eccentric teacher Ms. Frizzle and her multicultural class, who would take field trips to various locations, including space and the human body. The “invisible” often played a role in the show’s episodes, from soundwaves to odor particles. Representing the invisible is difficult for any audience, but it can become especially tricky when the target demographic is elementary students. Acting as an example of “useful animation” (Cook et al., 2023), *MSB*’s creators embraced the medium of animation and, through its characters, plots, and designs, found a number of ways to help its young audience to understand scientific concepts, including those that deal with things beyond what we can see.

In this presentation, we look at a number of episodes that deal with the invisible, with a special emphasis on those that tackle sound. Through a detailed analysis of these episodes, we show how *MSB*’s “scientific storytellers” (Ockert, 2018) utilize various animation narrative strategies, including metamorphosis and penetration (Holliday, 2024; Wells, 1998), to help explain the invisible world of sound. We also show how the episodes work to be both educational and entertaining, a difficult task for any educational (science) media (LaFollette, 2013). Beyond content analysis, we also draw on extensive archival research to help connect the episodes’ strategies in showcasing the invisible with the larger goals of the series. In the end, we show how animation is used strategically to help teach a particular audience about the invisible while also entertaining the viewers.

References

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Keywords

The Magic School Bus; Narrative Strategies; Sound Representation; Scientific Storytellers; Useful Animation

Bios

Michael J. Meindl is an associate professor of media production at Radford University (Virginia, USA). He also serves as the director of the Cinema and Screen Studies program. He has an MFA in dramatic media and is currently ABD in the Dept. of Science, Technology, and Society at Virginia Tech. His research focuses on the intersection of science, technology, and animation. He has presented at numerous national and international conferences. He is a board member of the Society of Animation Studies, where he also acts as the chair of the Science, Technology, and Animation special interest group. He has published an essay exploring the representation of science in *Jaws* and *Mythbusters* and has a soon-to-be-published co-authored piece looking at satire and the media industry in *X-Men: The Animated Series*.

Matthew Wisnioski is an associate professor of Science, Technology, and Society at Virginia Tech. He is the author of the forthcoming MIT Press book *Every American an Innovator: How Innovation Became a Way of Life* which traces the expansion of innovation culture from elite experts to kindergarteners, documenting how and why the relentless pursuit of innovation has transformed our society, our institutions, and our inner selves. An advocate of “critical participation,” he also has collaborated in engineering education reform and transdisciplinary art and technology initiatives.

Attendance: Meindl plans on participating in person. Wisnioski plans on attending virtually.