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The Popcultural Life of Science: Back and Forth

In 2014, Deven Fosberry and Pratik Lakhotia published a research paper in the *Journal of Interdisciplinary Science Topics* entitled “Playing ‘The Floor Is Lava’ in Real Life.” In the abstract, the authors explain their rationale for the choice of this topic thus:

The popular children’s game ‘the floor is lava’ seems entertaining when played using only the imagination, but it is not widely known what the effects would be if this game were to be played using real lava. This paper investigates whether playing this game in real life would be possible and what effect that would have on the human body.¹

In what follows, the authors take into consideration such factors as gases produced by lava and calculate the air temperature above lava to reach the expected conclusion that “it would not be possible to play a game of ‘the floor is lava’ either indoors or outdoors for more than a few seconds

¹ Deven Fosberry and Pratik Lakhotia, “Playing ‘The Floor is Lava’ in Real Life,” *Journal of Interdisciplinary Science Topics*, Vol. 3 (2014), accessed 14 February, 2021, <https://journals.le.ac.uk/ojs1/index.php/jist/article/view/747>.

due to the large air temperatures produced above the lava.”² However, they note, a short game of “the walls are lava” would be possible indoors, provided the convection currents are accounted for, the room has no roof, and the participants do not inhale too much of the gases.³

“The Floor Is Lava” article was featured on the BBC Radio 4 popular science podcast *The Curious Cases of Rutherford and Fry*, in which the hosts, both degree-holding science communicators, Adam Rutherford and Hannah Fry, investigate various science-related subjects. In this particular episode, they present silly science papers sent in by their listeners. They do make some gentle fun of the contents of the “Lava” article but give the authors’ names and read both the abstract and the conclusion in full.⁴ It must be noted that this type of publicity is incredibly valuable. What is not mentioned on the podcast, however, is that—although being an indexed and peer-reviewed academic journal—University of Leicester’s *Journal of Interdisciplinary Science Topics* is specifically designed “as an educational tool” to publish papers produced “by students on the Natural Sciences/Interdisciplinary Science undergraduate degree programmes at the University of Leicester (UK) and iScience students at McMaster University (Canada).”⁵ The same issue of the journal abounds in other examples of this type of topics: Steffan Llewellyn and David McDonagh investigate whether Winnie the Pooh has vitamin B12 deficiency⁶; Aaron Goldberg calculates how much water would have to be used to freeze the entire kingdom in Disney’s *Frozen*⁷; while Yannic Chen speculates on the theoretical possibility of frog-to-prince transformation as regards the laws of mass and energy conservation.⁸ It can, therefore, be assumed that the journal, rather than dismissing them, in fact, invites these popculturing avenues of research.

² Ibid.

³ Ibid.

⁴ Adam Rutherford and Hannah Fry, “We’re Back!,” *The Curious Cases of Rutherford and Fry*, BBC Radio 4, 1 December, 2020, accessed 14 February, 2021, <https://www.bbc.co.uk/programmes/p08zcl3y>.

⁵ “Focus and Scope,” *Journal of Interdisciplinary Science Topics*, accessed 14 February, 2021, <https://journals.le.ac.uk/ojs1/index.php/jist/about/editorialPolicies#focusAndScope>.

⁶ Steffan Llewellyn, David McDonagh, “Does Winnie the Pooh Have a B12 Deficiency?,” *Journal of Interdisciplinary Science Topics*, Vol. 3 (2014), accessed 14 February, 2021, <https://journals.le.ac.uk/ojs1/index.php/jist/article/view/714>.

⁷ Aaron Goldberg, “Powering Disney’s Frozen with a Carnot Refrigerator,” *Journal of Interdisciplinary Science Topics*, Vol. 3 (2014), accessed 14 February, 2021, <https://journals.le.ac.uk/ojs1/index.php/jist/article/view/717>.

⁸ Yannic Chen, “The Frog Prince Transformation,” *Journal of Interdisciplinary Science Topics*, Vol. 3 (2014), accessed 14 February, 2021, <https://journals.le.ac.uk/ojs1/index.php/jist/article/view/738>.

At first sight, these research topics seem utterly ridiculous. Why would anyone engage in such a mockery-inspiring endeavour? The answers vary, perhaps depending on one's approach to the idea of popculturing science. The undergraduates who publish their popculture-inspired research papers, apart from simply flexing their scholarly muscles, can also expect to gain some traction in science-popularising circles—not unreasonably, as the example of the BBC 4's podcast demonstrates. But is there any method in this madness? Perhaps there is: the Winnie the Pooh paper concisely and effectively communicates that honey-specific diet is devoid of vitamin B12, and the symptoms of its deficiency are the yellowing of the skin, restricted gait and forgetfulness, all of which are exhibited by the Pooh Bear.⁹ The educational value of the paper is high, as well as its entertainment factor (e.g., the comparison of Pooh's "skin tone" based on the original 1928 illustration and the 1988–2002 Disney version). What is questionable is the actual scientific value of the article, which does not seem to provide any new insights into the research of vitamin deficiency.

This, in essence, is the paradox that haunts popculturally disseminated knowledge in the age of Instagram: to reach many, popcultural scientists often promote quirky topics or simplistic versions of complex phenomena, and thus, discourage time-consuming in-depth analyses, to the detriment of both the addressees and sciences themselves. However, as an important intellectual commodity whose influence on our everyday life is difficult to exaggerate, science disseminated in the popcultural form should not be disregarded. Not only is it an immensely popular phenomenon but, what is perhaps more important, it shapes the trajectory of how we see and how we will see the value of scientific knowledge in the future. With this in mind, this volume addresses these issues in a variety of ways.

The articles in the first part present a back-and-forth discussion on the advantages and disadvantages of popculturing science. In the text opening the issue, Justyna Jajszczok reflects on the issue of credibility of specialists and asks if trust in academia, torn by the crisis of confidence, can be still possible. The text is optimistic in its conclusion, arguing that, due to its perpetual nature, we can rely on the process of peer review, and thus, gradually restore our faith in scholarly work. Alicja Bemben, on the other hand, notes in her paper that the employment of scientific activity in

⁹Llewellyn, McDonagh, "Does Winnie the Pooh Have a B12 Deficiency?."

various popcultural products has become something of a standard but also that entertainment is routinely valued higher than scientific accuracy, even in productions intended as educational. To substantiate her assertions, she presents the uses and abuses of science in the popular-science programme *MythBusters*.

Approaching the significance of the open, user-friendly language of science is Agnieszka Ślęzak-Świat's text on the importance of reading skills in the context of Super-Smart Society. Using the example of Simple English Wikipedia and her research of students' word knowledge, Ślęzak-Świat emphasises the need for tools (such as Semantic Web) helpful for the lay audience in taming the indecipherability of specialist texts. Conversely, in her article, Anne Mydla notes how, in the wrong hands, the language of science can be imitated to prove unscientific assertions, such as biblical literalism, as it is done by certain fundamentalist and evangelical groups. Looking into three instances of popcultural apologetics, she demonstrates how such imitations of scientific discourse work to disprove the reputation of fundamentalism as anti-intellectual.

Tomáš Kačer's article focuses on Tom Stoppard's science plays, which mediate between popular science sources and the audience's access to them. This science communication is done on both textual and performative levels, allowing the spectators not just passive access to scientific ideas but also giving them an opportunity to experience scientific concepts and their implications filtered through the human condition and issues of ethics. The subject of the validity of science communicated through the text of culture is taken up by Alicja Piotrowska in her text on the role of mathematics in films. In it, she ponders what functions, other than scientific accuracy, mathematical formulas perform in the three films she discusses, that is *Good Will Hunting* (1997), *A Beautiful Mind* (2001) and *Pi* (1998).

Literary approaches to popculturing science appear in four texts in this issue. Fabian Hempel investigates science in novels focused on human-caused global warming from the sociological perspective, examining how representations of science in chosen climate change novels demonstrate it as performing simultaneous roles of causing, diagnosing and remedying the climate change. Piotr Cieśla analyses the metaphors of cancer in selected works of Ulf Ellervik, while Sebastian Gadomski explores scientific themes in contemporary Egyptian pocket novels. Finally, Jacek Mydla traces the evolution of investigative competencies in detective fiction to claim that,

even though inspired by Sherlock Holmes, contemporary detectives rely much heavier on the scientific expertise of forensic specialists.

Beyond the theme of advantages and disadvantages of popculturing scientific discourse, this issue also includes specific case studies on the intersection of literature, cultural studies, media studies, and popular culture. Ives S. Loukson reflects how Senegalese hip-hop artist Dider Awadi trivialises the legacy of Martin Luther King Jr. by focusing on internal rather than external sources of Black people's misery. In the following text, Anna Stwora studies how historical works of art are transformed and "funified" by the advertisement industry. Motifs of irony are explored in texts by Aleksandra Musiał and Marcin Leszczyński; in the former, Musiał argues that representations of the Vietnam War are dominated by the close entanglement of the poetics of fear and a sense of irony according to Paul Fussell's model; in the latter, Leszczyński shows the ironic play with the motif of tears, that is a play with literary conventions, in Juliusz Słowacki's *Beniowski*.

Ethics in texts of culture are presented in Maryna Pęczak's article on Yoko Taro's *NieR: Automata* game, in which the selfless actions of the protagonists can be seen as a remedy to the meaninglessness of their world and destiny. In a similar vein, Maria Panova interprets the film as a morally valuable medium, exploring selected works of Bulgarian cinematographers from the 1980s. The topic of journalistic endeavour is picked up in Jakub Waško's text tracing the reports on the COVID-19 pandemic in the most popular Polish news outlets. This part of the issue is concluded by Michał Stachurski's assessment of contemporary culture and education in the light of the progressing devaluing of scholarly ethos.

Finally, the volume also includes four reviews. Alicja Bemben critiques Naomi Oreskes's *Why Trust Science?*, remarking on the weak points of its core arguments. In her highly critical review of *The League of Wives* by Heath Hardage Lee, Aleksandra Musiał enumerates the book's numerous drawbacks and shortcomings. Marek Błaszczyk praises *Living and Loving Better with Time Perspective Therapy* by Philip G. Zimbardo and Rosemary K. M. Sword, while Mateusz Kłosowski recognises the advantages of presenting Czesław Miłosz's work according to the centre-periphery axis in his review of *Peryferie Miłosza. Nieznane konteksty, glosy, nowe rozpoznania*, edited by Marek Bernacki.