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SCIENCE AND SOUTH PARK, REDDIT AND FACEBOOK, LEONARDO DA VINCI AND THE VITRUVIAN MAN, AND MODERN FAIRY TALES ABOUT EMERGING TECHNOLOGIES: SCIENCE COMMUNICATION AND POPULAR CULTURE

The dangers of 'Miss Information': science and comedy in *South Park*

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Abstract

Interest in the possible role for comedy as a medium for communicating and engaging the public in science is growing. However, current research has so far been restricted to exploring whether the content of scientific knowledge is accurate and precise within comedy, and whether the public might be said to understand science better for having watched it. In this commentary, I suggest that this approach neglects the diversity with which scientific ideas and images are used in comedy, particularly when comedy is written without the explicit goal of communicating science. I present my current research on the American animated comedy *South Park*, which suggests a different story: science serves to expose the hypocrisy and self-interest that governs the town. I suggest that examples such as *South Park* might benefit the analysis of comedy and science, by seeking to explain the very presence of science in comedy and in doing so, explore the values attributed to science within popular culture.

Keywords

Popularization of science and technology; Public understanding of science and technology; Science and media

Introduction

Academic interest in the relationship between science and comedy is growing. Events such as Bright Club in the United Kingdom, which places scientists quite literally centre-stage, as they present their current work to a live audience as a short stand-up set, and the success of the US sitcom *The Big Bang Theory*, centred on the lives of research scientists, has pointed to the potential for comedy to communicate scientific ideas and explore the meanings of science within culture. However, as Hauke Riesch has noted, the field is still in its infancy [Riesch, 2015]. The amount of academic work available does not match a surge in the use of comedy within science communication. As there is increased interest in the potentially fruitful ways that comedy might be used, there would appear to be a risk that these activities will be undertaken with little critical consideration of the structure, function, dynamism and potential downsides of comedy as a form of communication.

Where research has been conducted, it has been focused almost exclusively on comedy outputs explicitly written and produced to educate and engage the public. Accordingly, the questions asked concern the success of these efforts. As Karen Bultitude has noted, a predominant concern amongst science communication practitioners is that, while comedy and humour might engage the public, it might all too easily destabilise and distort scientific knowledge: the scientific knowledge that comes out won't look like what went in, and communication will have failed [Bultitude, 2011]. The drawbacks of comedy are then seemingly limited; we need only be worried when scientific knowledge within comedy appears inaccurate or imprecise. The key question is one of suitability: can comedy be relied upon to deliver knowledge suitable for inclusion in communication and engagement work? Is the physics in The Big Bang Theory accurate and do the labs look like they ought to? [Heyman, 2008] Do audiences understand the nature of science better when they watch a show committed to getting the science right? [Li and Orthia, 2015]

Such an approach risks encountering problems, by assuming that the purposes of the presence of scientific ideas and images within comedy are always educative, and that the terms of analysis can be on the one hand accuracy and precision, and on the other error and misfire. As the variety of topics during the International Conference on Science, Research and Popular Culture attested, the use of science in cultural outputs is far more wide-ranging, and often with very different goals. Popular shows like *Call the Midwife* frequently have funny scenes as a way of building relationships between characters onscreen [Colatrella, 2015]. Similarly, visitors to Facebook sites like 'I Fucking Love Science' will encounter a raft of memes and picture posts that, while making use of scientific imagery, are intended to be entertaining (and shared) far more than to seek necessarily to be informative [Marsh, 2015]. Asking only whether the humorous content of these outputs is an efficient way to communicate science would seem to miss the mark: is this what they are really aiming to do? Beyond the instances where comedies are specifically designed as part of science communication activities, science would seem to be used for a much wider range of purposes, forcing the questions of why it is there at all and what stories science allows comedy makers to tell. Asking only whether scientific knowledge is represented in a manner in keeping with contemporary scientific practice would risk underestimating the dynamism of comedy.

The perils of 'Miss Information': science and *South Park*

My own research has so far focused on a pilot study of the representation of scientists and scientific knowledges in the American animated comedy *South Park*. Broadcast since 1997, the show focuses on the exploits of four boys — Stan, Kyle, Cartman and Kenny — who are invariably shown to be far better at negotiating the world around them than their parents. Noted for its satire, pillorying the perceived hypocrisy and self-interest among the American public, stem cell research, climate change and gluten intolerance fall under the show's gaze alongside the Iraq war, scientology and the rapper Kanye West. As a mirror onto the real world of American contemporary culture, science features frequently, appearing in nearly half of the episodes produced to date. For the most part, *South Park* presents science in terms the audience might well recognise: research scientists, cultural debates and epistemic claims are borrowed from the world of *South Park*'s audience as freely as religious beliefs and celebrity meltdowns. For the show's co-creator Trey Parker, the key to their show's success is that they resist taking sides: they don't seek to offer the right answers, but rather work to expose the hypocrisy of

American political discourse: 'the people screaming on this side and the people screaming on that side are the same people, and it's OK to be someone in the middle, laughing at both of them' [Arp, 2007].

The aspiration to laugh at everything appears to be realised in the show's treatment of science. In the two-part story 'Go God Go' and 'Go God Go XII' from the show's 10th season, first broadcast in 2006, the audience is shown a vision of the world in 2546, where religion has been completely abolished and science alone provides the answers. The world is at war, as three rival militant atheist sects — the Unified Atheist League, the United Atheist Alliance and the Allied Atheist Alliance — fight to death to prevent heresy and secure the answer to the 'Great Question'. As the AAA — populated entirely by sentient sea otters — plot their attack, they are urged to renounce violence by the 'Wise One', an otter of enormous prestige:

Leader:	The great Dawkins said we cannot tolerate those who don't use reason! How reasonable is it to eat off wood instead of your tummy?
The Wise One:	Well perhaps the great Dawkins wasn't so wise. Oh, he was intelligent, but, some of the most intelligent otters I've ever known were completely lacking in common sense. Maybe, some otters do need to believe in something. Who knows? Maybe, just believing in God makes God exist.
Otter Soldier:	Kill the Wise One! [Parker, 2006a]

Unorthodox views are not tolerated.

Yet they must all contend with a greater foe: Eric Cartman, a foul-mouthed virulently anti-semitic and manipulative nine year-old who serves as the show's anti-hero, excelling in getting what he wants with little regard for how. Trapped in the future, Cartman recognises that the scientific discourses he encounters in the future are little more than talk, texts he can use and fashion to get back to his present. He plays the factions off against one another, and parrots their rhetoric so far as he can access the technology he needs to return home. While the atheists fight over what the correct answers are, Cartman recognises they are only as valuable as they are useful to him. His approach is borrowed from the soon to be deified Richard Dawkins. Brought into *South Park* to teach evolution, his lesson initiates a chain of events that will, 500 years later, result in the abolition of religion. But his success, as it is narrated in 2546, had little to do with the veracity of his teaching, but rather a chance romantic encounter with the boys' teacher, Mrs Garrison:

Soldier:	It wasn't until he met his beautiful wife that he learned using logic and reason isn't enough. You have to be a dick to everyone who doesn't think like you. Prepare all the troops! [Parker, 2006a]

The town hasn't finally come to understand science, rather Dawkins has found a new way to argue, using violence and intimidation to enforce rationality. Whether Dawkins is right or wrong about evolution is never answered, or indeed asked. The moral standing of the town, making use of and giving meaning to scientific knowledges is what really is at stake, as the town is free to use science however they wish.

A similar characterisation of scientific knowledge is echoed in the episode 'Butt Out', where an anti-smoking Hip Hop Troupe visit South Park Elementary to lecture on the dangers of smoking [Parker, 2003]. Unaware of how excruciating their performance is, they joyfully proclaim that if they don't smoke, the children will grow up to be 'Just like us!'. The effect is instant: the boys start smoking and inadvertently burn down the school, prompting the visit of celebrity anti-smoking campaigner Rob Reiner. Taken to the local tobacco factory by Reiner, the boys are surprised to learn that the factory freely admits the carcinogenic effects of smoking, but stress the necessity of allowing Americans to exercise free choice. By contrast, Reiner's motivation is not the science of lung cancer, but rather a sense of entitlement that, as a celebrity, should allow him to impose his will on others. Things turn violent as Reiner attempts to poison Cartman so he can be held up as a martyr for passive smoking. Again, science is presented as a just a way of talking: where both sides agree what the facts are, their use of science becomes something else, a way of framing a debate about the necessity of free choice for the American public. The tobacco factory's science 'wins' within the episode for being employed to argue the right side of that debate.

South Park, in short, might not be said to offer science communication and scientific understanding will not offer access to its comic world. Asking whether Dawkins' or Reiner's claims are true will do little to explain why evolution and smoking are suitable topics for the show. An answer must instead be sought in the ways that scientific discourses furnish the characters of the town with a means to achieve their ends. While episodes persistently draw from science to tell the story, the knowledge does not remain in the hands of the experts: scientists are impotent in deciding how scientific information will be understood and used by the townspeople, as science becomes manifest in the everyday life of the town. When hybrid cars become fashionable in the episode 'Smug Alert', whether the cars will help to mitigate climate change matters very little. Recognising the social capital tied to ownership, the value of hybrids is lauded:

Gerald:	… [talking to an SUV driver] You know, the emissions from a vehicle like yours causes irreparable damage to the ozone. I drive a hybrid; it's much better for the environment. Thanks.
Kyle:	Dad, can we go home? All you ever do since you got this car is drive around and show it off!
Driver:	Hey, is that a hybrid?
Gerald:	Oh yes. You've got one too, I see.
Driver:	Yeah, I like to be a part of the solution and not part of the problem. Well, anyway, good for you! [Parker, 2006b]

While Gerald communicates a scientific staple concerning o-zone depletion, the contrast he evokes is not between hybrid and gas-fuelled cars, but rather gas-fuelled cars and himself: as a hybrid owner, he is a better person. He revels in ventriloquising the science behind hybrid technology, but only to heap scorn on those who don't own such cars, whom he can label as backward, ignorant and lacking a social conscience. Where members of the town wish to express their feelings of superiority, science provides the means. How the town decides to know, rather than what they know, will ultimately decide what science comes to mean.

The hypocrisy and self-interest of the town is imprinted on how the town negotiates science. In the episode 'Cherokee Hair Tampons', Kyle is diagnosed with kidney failure. Afraid of the risks posed by surgery, his mother seeks a cure in holistic remedies, sold by 'Miss Information'. Miss Information's shop quickly gains popularity, despite the fact it is shown (to the audience) to be a scam, selling useless remedies under the banner of Native American medicine. Stan's attempt to advocate surgery to his mother fall on deaf ears:

Stan:	Isn't it possible that these Indians don't know what they're talking about?
Sharon:	You watch your mouth, Stanley! The Native Americans were raped of their land and resources by white people like us!
Stan:	And that has something to do with their medicines because…?
Sharon:	Enough, Stanley! [Parker, 2000]

The popularity of holistic medicines is presented within the episode as little more than a way for White Americans to position themselves favourably within what they see to be a desirable Native American narrative. The desire to be seen as culturally sensitive means Sharon has wilfully left herself open for manipulation and, as a mother, failed to fulfil her proper role as a parent. Only when the sham is exposed is the town free to reject holistic medicines — unburdened by guilt — and return to the medicines they want to use.

In *South Park*, science comes to mean almost anything, as the town decides why scientific knowledge is important. Needing a means of demonstrating the hollowness and self-interest of American social discourse, science provides the language. The town's ability to ignore science, and reframe scientific debates in terms that suit them, is highlighted to illustrate just how much is going wrong. *South Park* does not merely provide a space for scientific ideas to be expressed, but rather uses science to tell a highly political story about the world, where rationality and common-sense are under threat, even by the supposed 'rationality' of American scientific culture. While there may well be an implicit appeal to the benefit of science communication — does *South Park* suggest that the town would be better off if they understood what science said rather than decided what they wanted it to say? — this is not the point of the show. Seeking to tell a story about the world, science plays its part: the use of scientific claims is not to broadcast their veracity but rather to demonstrate why they matter.

Conclusion

Asking whether *South Park* is 'successful' in communicating science would mischaracterise the show: how can an animated comedy that has no intention of teaching science be judged for its efficacy? For *South Park*, success comes not from greater understanding of science, but rather the enrolment of the audience within a worldview separating what is obvious and common-sense from the ridiculous, the hypocritical and the incorrect. The story of science in *South Park* is to communicate this view and show that, in a world detached from common-sense and dogged by self-interest, science can mean anything. To look only at whether the knowledge contained within the show is correct, or easily understandable, would be to neglect the highly political stories told about science and its place in the world. As Oliver Marsh and Hauke Riesch have both noted in examining Bright Club, the way in which comedic narratives are constructed, and scientific ideas are used for the

purpose of being funny, will communicate very specific ideas about what science is and why it matters. The format of stand-up, where the speaker is elevated and the audience largely silent (other than when cued to laugh) configures science as an activity where the public has little role in the creation of knowledge, potentially reinforcing downstream and linear forms of communication [Marsh, 2013; Riesch, 2015]. To focus only on successful communication in terms of knowledge transmission would be to neglect the narratives about science that give knowledge meaning.

The benefit of studying comedy and science within popular culture is that the narratives are exposed: examining *South Park* forces the question of why science is there at all, and how it is used to tell stories that are intended to be laughed at. These are questions that could only benefit the study of science and comedy within explicit communicative and educative practices. Though it may be obvious why scientific ideas and images are present in science comedy outputs, this does not mean that the stories these narratives tell are clear-cut: when we talk science, are we really telling the story we want to tell? Paying greater attention to the transformation of science within comedy, and the conditions of the comic world that draw on science, allows for a much richer analysis. As comedians create narratives, scientific knowledge might come to mean many different things. Discerning whether these meanings are narratives we want to share seems crucial for making doing comedy a way of doing science.

References

Arp, R. (2007). 'Sucking Balls and Fucking Off: An Introduction to the Bothersome South Park and Philosophy'. In: South Park and Philosophy: you know, I learned something today. Ed. by R. Arp. Oxford, U.K.: Blackwell Publishing.

Bultitude, K. (2011). The Why and How of Science Communication. Ed. by P. Rosulek. Pilsen: European Commission.

Colatrella, C. (2015). 'Scientific Cooperation and Social Progress in Call the Midwife and The Bletchley Circle'. In: *International Conference on Science, Research and Popular Culture*. (Klagenfurt, Austria, 17th June 2015). URL: https://www.youtube.com/watch?v=paiMgjL4UYQ (visited on 25th February 2016).

Heyman, K. (2008). 'Talk Nerdy to Me'. *Science* 320 (5877), pp. 740–741. DOI: 10.1126/science.320.5877.740.

Li, R. and Orthia, L. A. (2015). 'Communicating the Nature of Science Through The Big Bang Theory: Evidence from a Focus Group Study'. *International Journal of Science Education, Part B*, pp. 1–22. DOI: 10.1080/21548455.2015.1020906.

Marsh, O. (2013). *A funny thing happened on the way to the laboratory: science and standup comedy*. URL: http://blogs.lse.ac.uk/impactofsocialsciences/2013/07/12/a-funny-thing-happened-on-the-way-to-the-laboratory/ (visited on 5th December 2015).

— (2015). 'People seem to really enjoy the mix of humour and intelligence: Science fandom in online social media'. In: *International Conference on Science, Research and Popular Culture*. (Klagenfurt, Austria, 17th September 2015). URL: https://www.youtube.com/watch?v=jmcPV4HpXa4 (visited on 5th December 2015).

Parker, T. (2000). *Cherokee Hair Tampons*. South Park. Production Code: 0407. Comedy Central. New York, U.S.A.
— (2003). *Butt Out!* South Park. Production Code: 0713. Comedy Central. New York, U.S.A.
— (2006a). *Go God Go XII*. South Park. Production Code: 1013. Comedy Central. New York, U.S.A.
— (2006b). *Smug Alert!* South Park. Production Code: 1002. Comedy Central. New York, U.S.A.
Riesch, H. (2015). 'Why did the proton cross the road? Humour and science communication'. *Public Understanding of Science* 24 (7), pp. 768–775. DOI: 10.1177/0963662514546299. PMID: 25138269.

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