Hi everyone,

there's a lot to know about science videos: Some work better than others with respect to making their audiences reflect on the presented topics. Some are more useful for supporting learning efforts than others. And some are just terrible and spread false information, but still YouTube promotes them (and therefore attracts Extinction Rebellion's criticism).

Speaking of it: We're not happy that this 9th »Science & Video« newsletter is so YouTube-heavy. But there seems to be just no escape.

Thilo Körkel, Kerstin Hoppenhaus and Sibylle Grunze

What's going on

YouTube’s support for climate denial under attack by Extinction Rebellion

While serious science communicators engage in spreading truthful information about science, YouTube thwarts their efforts by promoting video content that supports conspiracy theories. On October 16, a group of reportedly some dozens of Extinction Rebellion activists therefore blockaded the entrance to Google’s Headquarter in London. (Google is YouTube’s parent company.)

One of the activists’ banners said: »YouTube Stop Platforming Climate Denial«. But the most immediate reason for the protests may have been the recent exposure of Google’s donations to climate denial organizations. Investigations of The Guardian revealed that Google gave unknown sums of money to the Cato Institute, to the Koch brothers-funded Mercatus Center and to the Competitive Enterprise Institute among others. These names and associations are well known as proponents of anti-science and climate denial positions. Some of them are also lobbying for the fossil fuel industry.

For its assessment of YouTube’s strategies to disseminate climate denial content Extinction Rebellion relies on a study of Joachim Allgaier, which was published in July 2019. In this publication the senior scientist at RWTH Aachen University in Germany states »that the majority of videos [from the climate change related sample investigated in his study] propagate conspiracy theories about climate science and technology.«

See also our our newsletter #7 for a report on Allgaier’s study. (tk)

Read more:

- The Guardian: »Extinction Rebellion defies protest ban and targets Google«, October 16, 2019
- Extinction Rebellion: »UK Mothers and babies, and youth blockade Google and YouTube«, October 16, 2019

How to stimulate reflection on science

Scientific outcomes can have huge effects on society. Gene-editing methods affect our DNA, climate research can lead to changes in our way of life, and technology can harm the world we live in. Therefore, a main focus of European Union's »Horizon 2020« program is »Responsible Research and Innovation« (RRI). This term describes »scientific research and technological development processes that take into account effects and potential impacts on the environment and society« (Wikipedia).

Here we present a paper from 2017 from which we learned which role videos could play in motivating citizens during moderated RRI processes to thoroughly reflect on a specific subject, in this case synthetic biology. Among other things this thorough reflection can inform policy makers on how to make responsible decisions.

For their study Marjoleine G. van der Meij, then at the Athena Institute for Research and Communication at the Vrije Universeit Amsterdam in the Netherlands, and two of her colleagues had designed a series of videos about different ways of seeing synthetic biology. They then presented them to test groups, examined which reflection processes the clips initiated and analyzed which types of video narratives generated which types of outcome.

The reported results are promising: The videos induced »valuable reflection processes« and helped participants to understand other people's views as well as appreciate the diversity of perspectives. Some narratives also proved to be more inclusive than others, since they lowered »the threshold for people to interact and say what they think«.

The videos were scripted, but left some creative freedom to the four performing actors. Each actor recorded several videos, covering different subtopics of synthetic biology, like »What is Synthetic Biology according to you?« or »What is the relationship between human beings and technology?«

Some participants were shown videos with only one actor talking about different subtopics, some were shown videos with four different actors talking about the same subtopic. According to the study's authors the latter experiment stimulated second order reflection much more often: »participants became more aware of their reasons for agreeing or disagreeing with particular aspects of the video-narratives«.

There is little hope that scientific institutions have the resources to develop comparable setups in the context of video production. The mere fact, however, that some types of videos do stimulate more reflection than others could be a good guideline for any video about a controversial topic. (tk)

Original paper:
van der Meij, M. G., Broerse, J. E. W., & Kupper, F.: Supporting Citizens in Reflection on Synthetic Biology by Means of Video-Narratives.
Science Communication, 39(6), 713–744. 2017.

Supplementary information to the paper:

- Introduction movie into synthetic biology
- Transcripts of video narratives
- Selection from the study's test videos (each covering one subtopic):
    - What is synthetic biology according to you?
    - What will be the role of synthetic biology in our (future) society?
    - What is the relationship between human beings and technology?
    - How to approach synthetic biology ethically?

Share your knowledge about online video-sharing for science communication

Do you have profound expertise in the role of science videos for science communication, either as a media communication scientist or as a practitioner? Then you should have a look at this call for papers.

Three open access journals – Frontiers in Communication, Frontiers in Environmental Science and Frontiers in Human Dynamics – jointly invite to submit abstracts related to »Understanding the Role of Online Video-Sharing and Online Video-Sharing Platforms for Science and Research Communication«. In a guest post on blogs.nottingham.ac.uk the Frontiers editors report on their motivation to cover this topic.

Abstract submission deadline is January 1, 2020. No open access fees will be charged. (tk)

What makes a good knowledge video?

German science YouTuber Jacob Beautemps, moderator of »Breaking Lab«, got inspired by the question to what extent YouTube videos can support learning efforts. In his video »YouTube vs. Schule - Wo lernt man mehr?« (»YouTube vs. school – where do you learn more?«) he presents relevant studies, but also invites to participate in his survey »Was macht ein gutes Wissensvideo auf YouTube aus?«.

The survey is part of Jacobs PhD thesis. He is currently developing an artificial intelligence tool, which analyzes emotions, cognitive load and learning progress of video audiences to find out: What makes a good knowledge video?

Good question. We're waiting for answers, too! (tk)

Upcoming events

Wissenswerte, November 25 - 27, 2019, Bremen, Germany. The German conference for science journalists includes sessions with science YouTubers Mai Thi Nguyen-Kim, MrWissen2go, Klugscheisserin and others.

360 Polytech International Film Festival, November 22 - December 2, 2019, Moscow, Russia. This annual film festival is dedicated to science and technology and organized as an educational project by the Moscow Polytechnic Museum.

Reading material

1st German Youtube-Channel hits 10 million subscribers

»10 Millionen Abonnenten: Erster deutscher Youtube-Kanal erreicht diesen Meilenstein«, t3n.de about »Kurzgesagt – In a Nutshell«, November 5, 2019 (tk)

YouTube impacts the youth – and science isn't part of it

Science could benefit from the enormous reach of science YouTubers. Maybe they even should, since otherwise their messages might remain unheard. But mostly, the

former don’t trust the latter.

In an interview for the edition 2019#04 of »medium«, a German magazine for journalists, Joachim Allgaier of RWTH Aachen University recently proposed that private foundations could support those science YouTubers who »do a serious job«.

But still »people in the funding agencies don’t take YouTube seriously«, he states. Allgaier is right, this may be a great mistake: YouTube has an enormous impact on young people. If we think that there is no serious science stuff on YouTube, we should aim at putting our own serious stuff on the platform.

Read the complete interview »Kooperiert mit Influencern!« for free on pages 17 and 18 of the magazine preview or buy the issue. (tk)

Videos only look good if you watch them

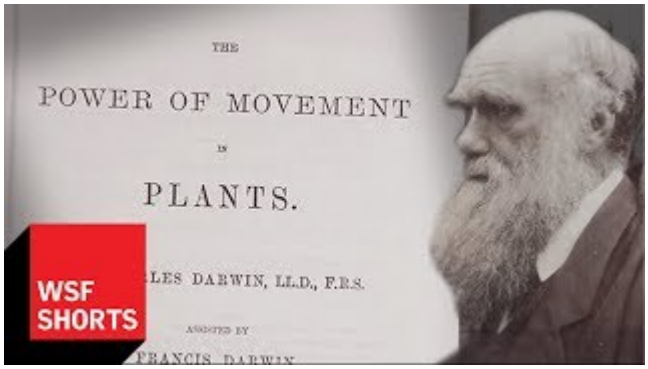
Back to the basics

»Can a Plant Remember?«
By World Science Festival

Monica Gagliano, an evolutionary ecologist and book writer at the University of Western Australia, has a most charming and heartwarming way to talk about plants, in this case *mimosa pudica*, and focusses on a very interesting research question: Can plants remember?

This video is a good example of how little cinematic language you can get away with if and only if you have a great protagonist and story. It is no more than a recording of a podium discussion in which Gagliano simply describes her experiment and outcome. Never had I thought I would include these in our video list but she just outcharmed me! (sg)

Great footage, great video



»The Roots of Exploring Plant Intelligence«
by World Science Festival

What would we do without the 70's? The music, the films, the clothes… Now they even help us to better understand plant science. The great historical footage – dug up and put into context by Michael Pollan who narrates this video – is what I enjoyed most in this video. It sheds light on why the science of plant intelligence has such a bad name and what questions are driving the field today. (sg)

»Science & Video« is a newsletter for science communicators. In »Science & Video« Thilo Körkel (tk), Kerstin Hoppenhaus (kh) und Sibylle Grunze (sg) pool their long-standing expertise in the field of science communication and moving images. We joyfully welcome the effects of digital disruption, are committed to defending high quality standards, and hope to be part of a future in which science communication via digital media has an increasingly powerful impact on society. Contact us at thilo.koerkel@nature.com, hoppenhaus@hgmedien.com, grunze@hgmedien.com.

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