**Project title:**

Natural history films raise species awareness—A big data approach

**Researcher profile:**

Male, Irish researcher in my early 30s. At the time of the project I was a postdoctoral researcher in University College Cork. I had experience writing research papers for traditional ecology-focussed journals. My background was in zoology but with a MSc in Science Communication. As such I was familiar with qualitative as well as quantitative methods. I was working with a colleague on this project who was a PhD student at the time (Darío Fernández-Bellon). His skills, experience and interest were similar to my own though he had previously worked on natural history documentaries which added some extra insight.

**Context:**

The overarching aim of our work was to assess if and how nature documentaries affect their audience in terms of raising awareness of conservation issues and changing public behaviour to something more pro-environmental. Our work took us outside of our traditional workspace and led us to encounter new problems and perspectives. Working in a digital space we interfaced with scientists, the media, stakeholder networks and the public, to collect data on hundreds of species which were featured in the BBC documentary “Planet Earth 2”. This show aired between November and December 2016. Our project began in mid 2017 until the publication of our paper in 2019 and involved interacting with many organisations in the anglophone world.

**Problem encountered:**There had been long-standing criticisms levelled at the documentaries arguing they weren’t doing enough to motivate the audience to adopt pro-conservation behaviours. An overarching problem was translating our skills (both with backgrounds mainly focused on biology with some social science training) to a new (related) area of research. Indeed, one of our initial difficulties was coming up with a measure of heightened awareness and/ or behavioural change.

We agreed that raising awareness is an easier aspect to achieve and thus to measure than behavioural change. We reckoned that online activity on social media (Twitter, Facebook, Instagram etc.), and Wikipedia would show audience engagement in direct response to the show which indicates clear awareness. The difficulty here was that some websites make their data freely available whereas others charge or provide a summary that is too coarse grained to relate to the show.

We identified donations to pro-conservation organisations as a potential indicator of behavioural change – e.g., a person views the plight of a tiger and donates to the WWF. We assumed that conservation charities as charities would be forthcoming with donation data. But this was only true of some of the smaller organisations. Further, even getting in contact with relevant people proved much harder than we had anticipated. Some colleagues expressed surprise at *our* surprise at how reticent the organisation was.

**Process/method:**

We learned about the various methods we could apply to our data to identify changes in awareness or signatures of behavioural change e.g., causal models, time series analysis, anomaly detection etc. It was unclear whether we could download the various data sources for the period we were interested in. And although there is a suite of R packages that interact with Twitter/ Google Trends and Wikipedia through APIs, it was only by delving into each that we could identify any shortcomings or restrictions. We read up on previous attempts in social science to do something similar to us – these approaches often used qualitative rather than quantitative data analysis**.**

**Outcome/cost/consequences:**

We faced a steep learning curve because we were working in a different field for the first time. Beyond this we were delayed in conducting our analysis while waiting to hear back from the various agencies about data accessibility. We spent a lot of time contacting potential target organizations if it became obvious that their data weren’t readily available online. We tried to communicate that they could stand to benefit what was effectively market research. When this came to naught e.g., our attempts at getting daily donations from WWF, we had to resort to smaller charities where we felt any signature wouldn’t be as obvious because they’re not as well known, skewing our analysis. These delays meant a paper that touched on similar ideas, though as a perspective piece, was published before our own work.

**Lessons for practitioners:**

There is a clear trade-off in switching research areas. You will be less familiar with the literature, methods and even the data. There is probably a naivety to how smooth your research project will be that doesn’t survive contact with reality. Taken together, it’s worth considering bringing in someone with expertise in one or other of the aspects to speed up the process. This comes with its own difficulties though – you may not have a network of collaborators in the area, it will slow things down if you end up working with someone you don’t know, there may be issues of ‘too many cooks’ etc. The various speedbumps we encountered also speak to the value of open data and open science – we could pick out a clear signal from Wikipedia using freely available software (R and associated packages) but paywalls or even aggregated summaries were a major hindrance.