Science journalism needed now, more than ever

Communicating Science to Common and non-Technical Audience

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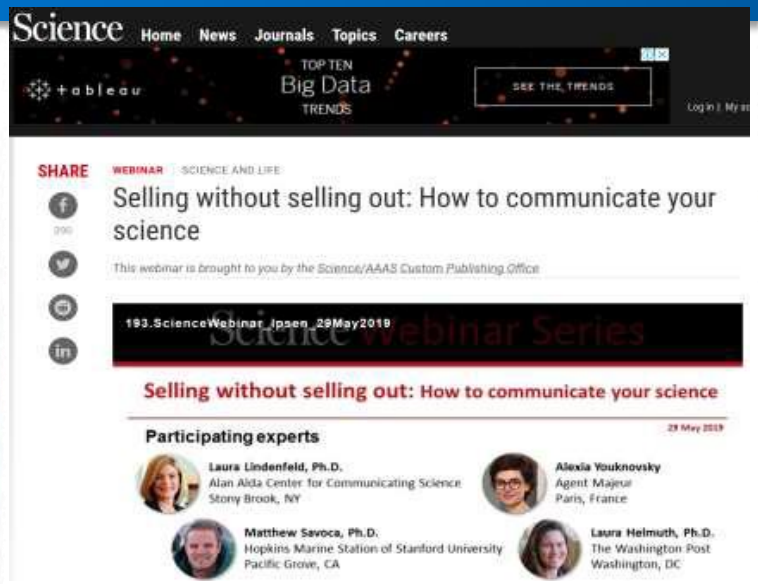
Science is the engine of prosperity. The cars and trains that got us here today, our smart phones, the energy that lights this chamber, the clothes we wear, the food we eat: All of these were developed and improved through research and science.

Science can fuel/fire our imagination!
Science is humankind's greatest enterprise

We need Science, more and better science, not for its technology, not for leisure, not even for health or longevity, but for the hope of wisdom which our kind of culture must acquire for its survival – Lewis Thomas

Growing Importance of Science Communication



Broad understanding of science communication:
all communication from and about science, including a diverse set of communicators & content as well as uses & effects

12 Quality Indicators for Science Communication

Trustworthiness
and Scientific rigour

- Scientific
- Factual
- Balanced
- Transparent

Presentation
and style

- Clear
- Coherent and contextual
- Spellbinding
- Interacting with the audience

Connection
with the society

- Purposeful and targeted
- Impactful
- Relatable
- Responsible

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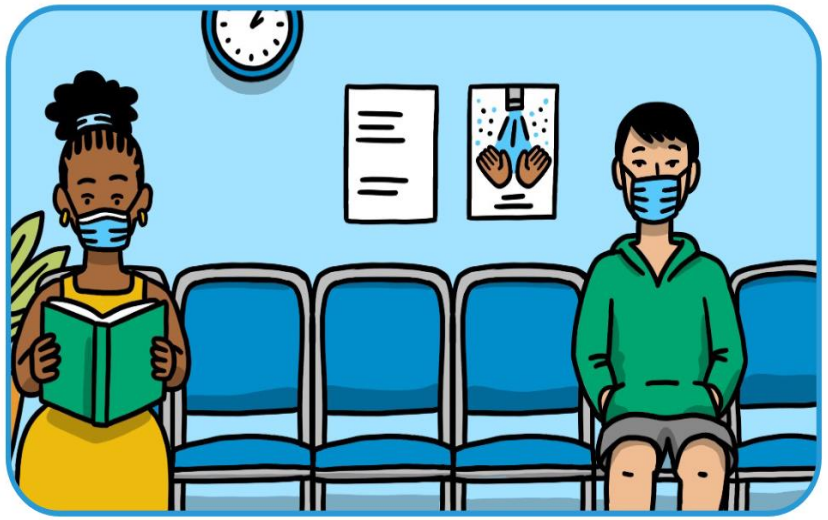
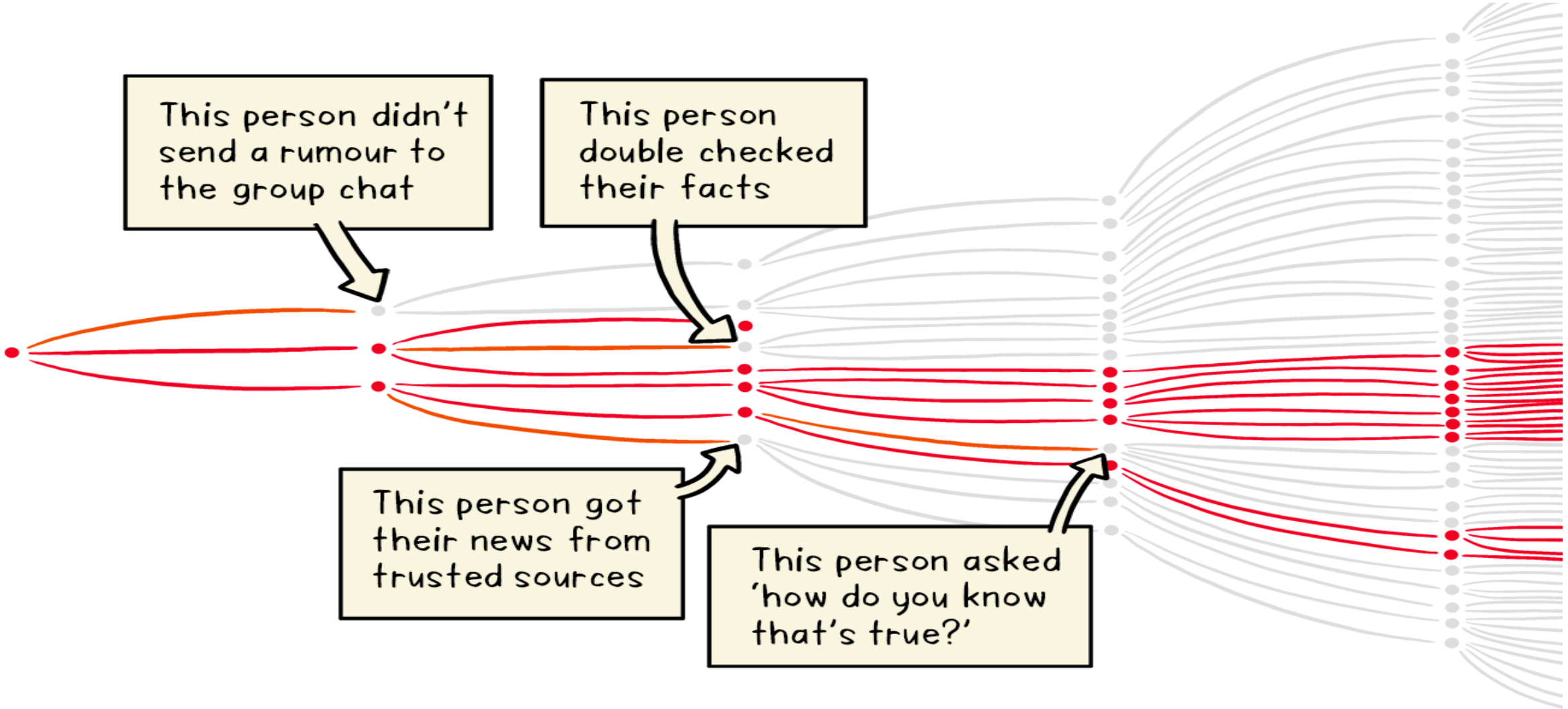
A strong demand for science communication during the pandemic

There is a very strong demand for science journalism. There is a thirst for information, a burning desire among people to understand the world in which they live and the challenges the world faces.

Science communication has come to the fore during the Covid-19 pandemic, as the world struggles to understand the calamity that has befallen it. Science communicators have served as a bridge between decision-makers and the general public



Infodemic and Disinformation



A need to build trust in science in the face of the 'infodemic'

More than half of respondents to UNESCO's World in 2030 Survey in 2020 described 'not knowing which information to believe or who to trust' as being a top concern. These findings led UNESCO and its partners to make 'trust science' the theme of the International Day of Light this year, on 16 May 2021.

We have also seen an 'infodemic', an epidemic of disinformation about Covid-19.

The United Nations Secretary General, Antonio Guterres, has lamented that, 'as Covid-19 spreads, a tsunami of misinformation, hate, scapegoating and scare-mongering has been unleashed'

The spread of disinformation through this 'infodemic' led more than 130 countries to sign a Cross-Regional Statement on the 'Infodemic' in the context of Covid-19 in 2020, under the auspices of the World Health Organization. In this Statement, they observe that 'the spread of the "infodemic" can be as dangerous to human health and security as the pandemic itself.

Tackling disinformation

UNESCO's approach is that freedom of expression and press freedom, combined with targeted training, are essential for journalists and scientists to speak out authoritatively against lies and in favour of truth.

In order to counter the spread of disinformation, UNESCO has been promoting open educational resources, networks of fact-checkers and resources promoting media and information literacy.

UNESCO has organized multilingual massive online open courses (MOOCs) for journalists to help them cover the science around Covid-19 and the vaccination debate. More than 7000 journalists worldwide have benefited from this training.

UNESCO collaborated with the Sci.Dev.Net (one of the world's leading source of reliable and authoritative news on science and development in the developing world) and other regional partners to organize a panel discussion for African journalists and health experts documenting lessons learnt in how to overcome fear, panic and fake news related to Covid-19.

Science museums and science centres

Science centres and science museums are UNESCO's main partners in promoting a science culture and popularizing science.

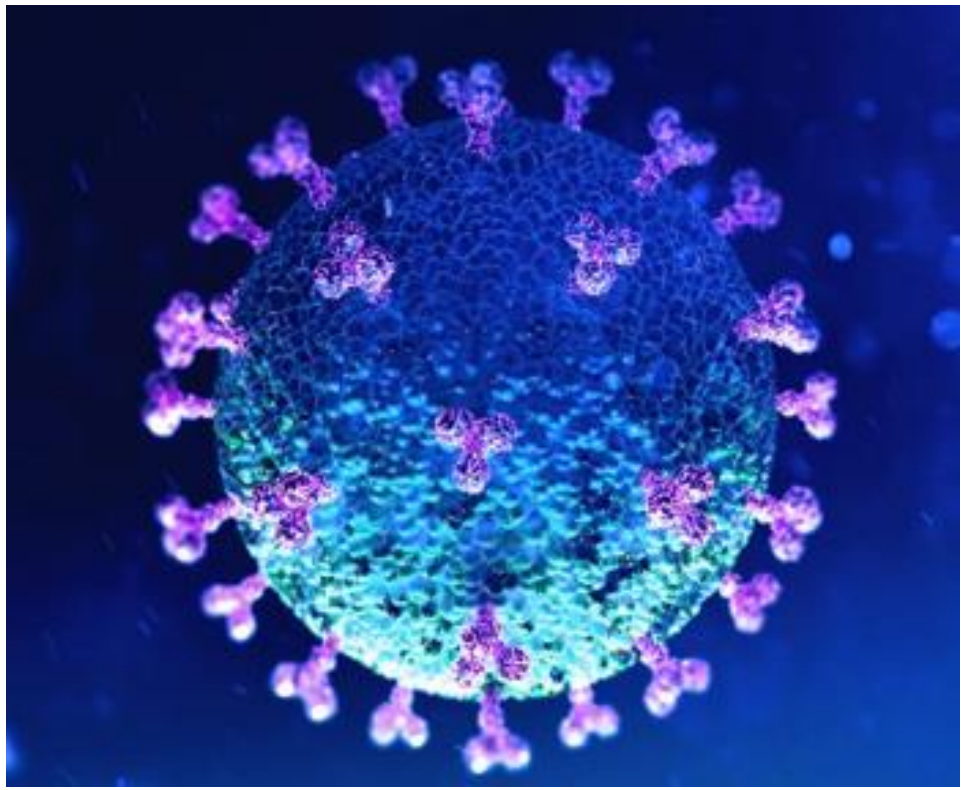
UNESCO provides technical assistance to help countries develop and manage science centres and science museums. For instance, UNESCO works with science centres and museums to promote World Science Day on 10 November each year.

Given the difficulty in providing technical assistance during the Covid-19 pandemic, UNESCO, in cooperation with science museum/centre networks, is elaborating a manual for Setting Up a Multifunction Science Centre and Science Museum.

Furthermore, the challenges for interactive science centres and science museums that are based on hands-on experiences have been huge during the Covid-19 pandemic. There is a need to innovate by developing a new (safe) interactive method to use and operate exhibits. The "manual" will not only help countries set up the new science centres and science museums but will also serve as a tool to assist existing science centres and science museums in re-developing their safe interactive exhibitions.

The Future of Science

Lessons from the COVID 19 pandemic:



Need for Open Science

- Importance of timely and free access to scientific data, publications, information
- Importance of scientific collaborations and sharing of information at all levels
- Importance of science-policy-society dialogue
- Importance of the human right to enjoy the benefits of scientific progress

Lessons from the Pandemic

On 27 October 2020, **UNESCO, WHO and the Office of the United Nations High Commissioner for Human Rights** issued a **Joint Call for Open Science**

COVID-19 RESPONSE

On 30 March 2020, Online **Ministerial Dialogue on COVID-19 and Open Science**

Open science will support the wide dissemination of science knowledge

UNESCO is currently developing a Recommendation on Open Science that is due to be adopted by member states in November this year. Open science can help to 'disseminate scientific knowledge to scholars in other research fields, decision-makers and the public at large' (Recommendation)

The Recommendation affirms that dissemination of scientific information through scientific journalism and media, popularization of science, open lectures and various social media communications builds public trust in science while increasing the engagement of societal actors beyond the scientific community'.

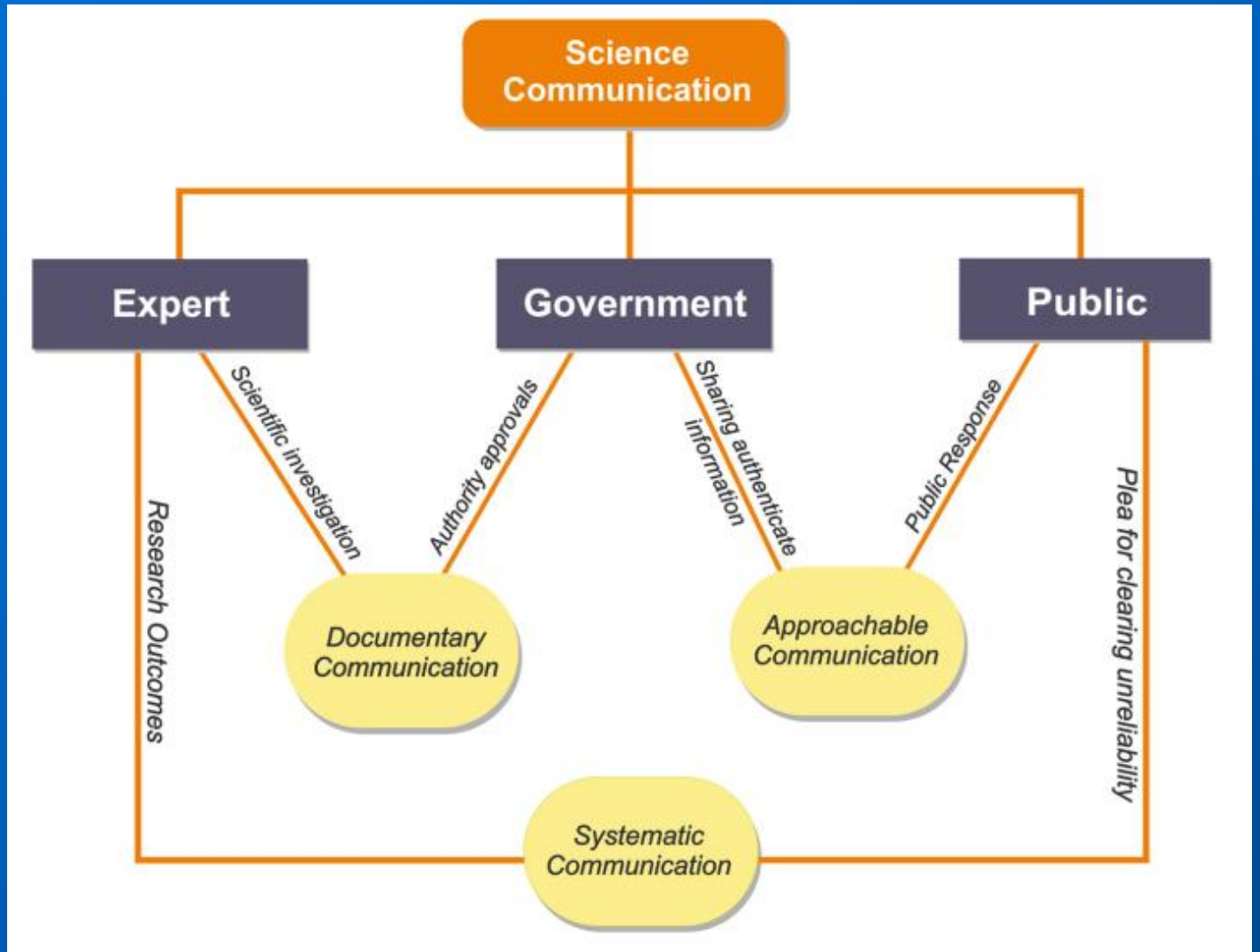
The Recommendation observes that 'to avoid misinterpretation and dissemination of misinformation, the quality and appropriate citation of original sources of information are of paramount importance to science communication as regards open science.'

One key challenge is that 72% of scientific publications are not yet available in open access.

A trend towards more scientific publishing and more international scientific collaboration

The UNESCO Science Report identifies a trend not only towards more scientific publications but also greater international scientific collaboration. The number of scientific publications produced globally in 2019 was 21% higher than in 2015. Among low-income countries, the number of scientific publications surged by 71% over the same period.

Key issues to pay attention to



Science is always advancing

Initially there was no treatment protocol for COVID-19 but when scientists started understanding the virus started using drugs originally developed to treat Ebola in treating COVID-19 patients.

The WHO has put together advice for the public based on the available scientific evidence.

However, some of this can be modified when scientists produce new evidence.

It is normal practice in science to adjust when new evidence emerges and there is scientific consensus on it.

And today we have several vaccines which is approved for use by WHO, but now many people started discussing about efficacy. It is the duty of science journalists to make it clear to public first and foremost is getting vaccine not to see all the results of efficacy and other tests.

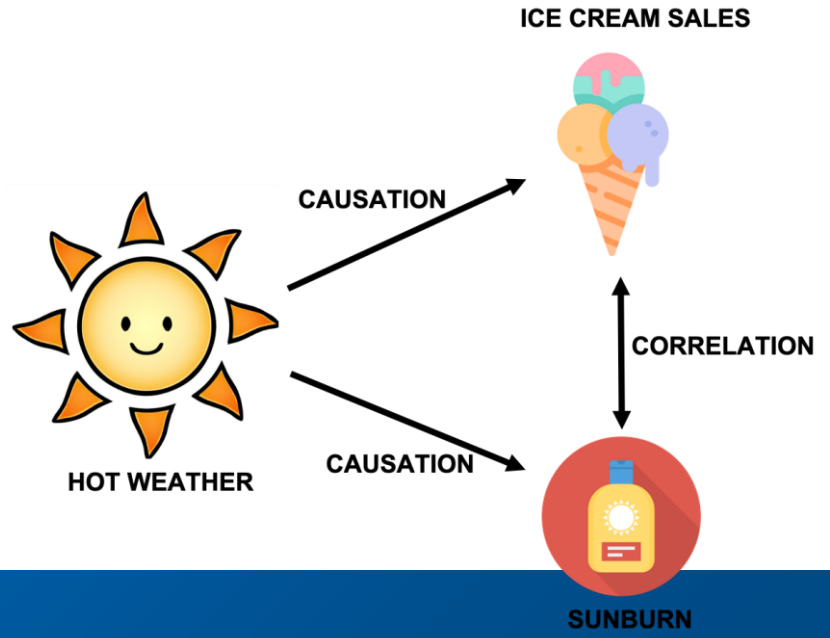
WHO is a competent authority to make decision on this issue.

Correlation is not causation

In research, the terms correlation and association are used in reference to two things that are related to each other.

However, the fact that two things are related doesn't mean one causes the other. In March 2020, the internet was awash with claims that the TB vaccine, commonly known as BCG might protect human beings against COVID-19.

These claims originated from three research papers showing that COVID-19 was less prevalent in countries that use the BCG vaccine. Indeed, WHO issued a report clarifying that there is no evidence that the BCG vaccine protects people from COVID-19.

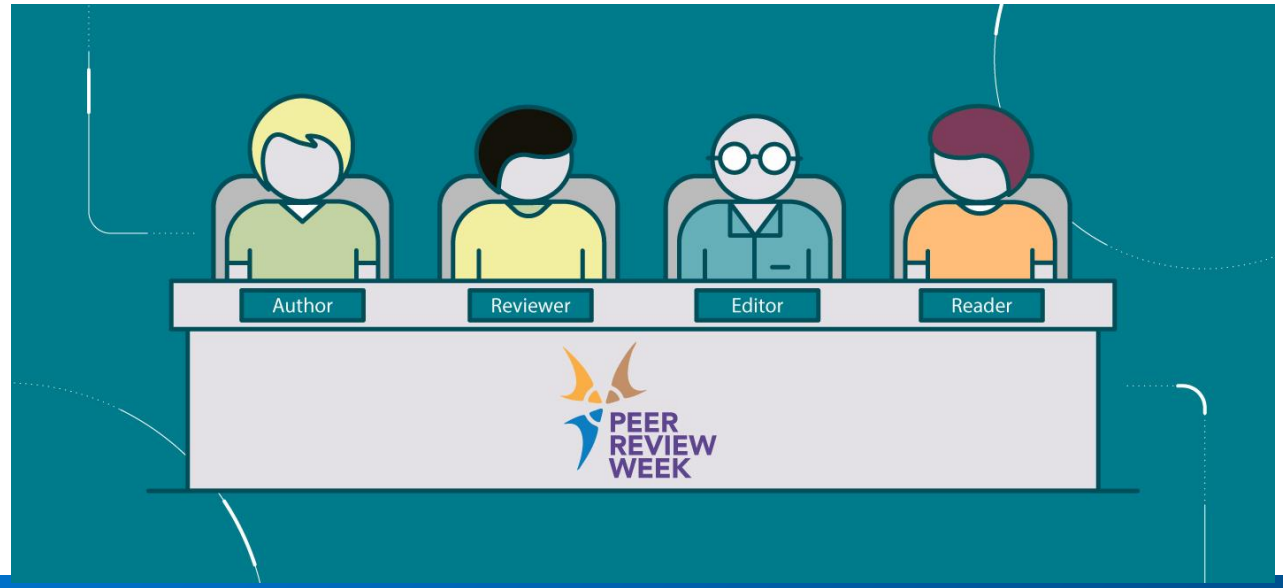


Peer review

These days, more and more research organisations release papers before peer review has been completed.

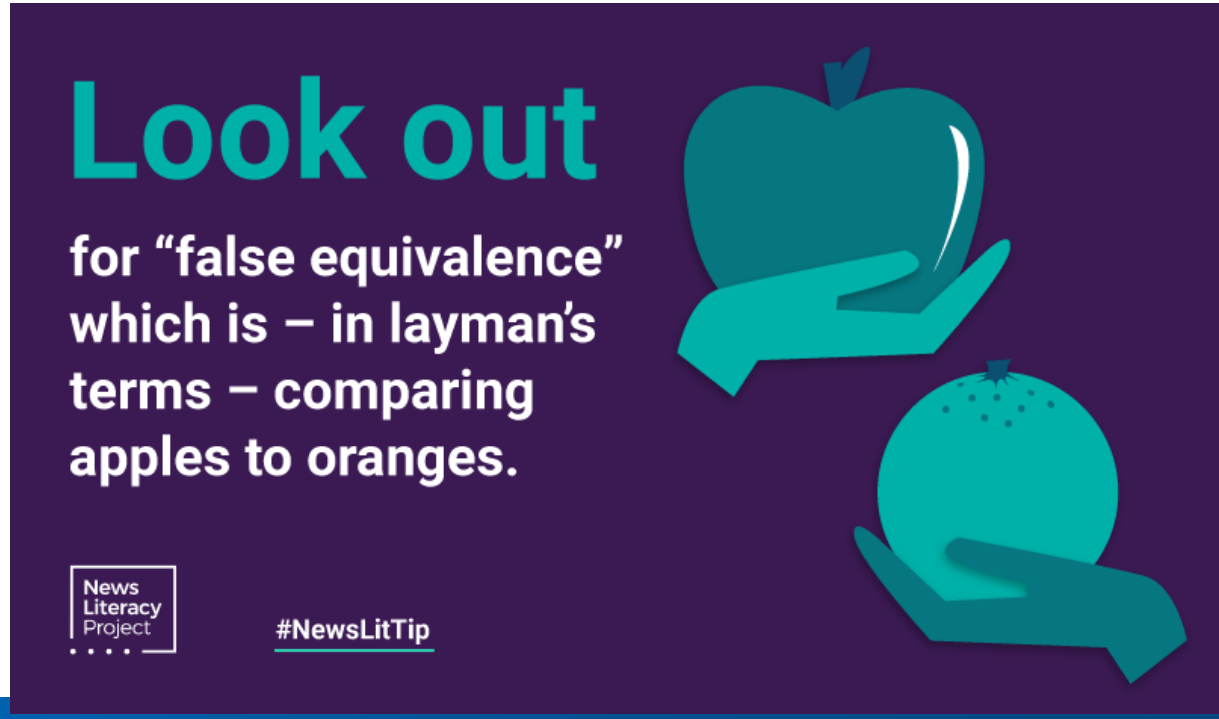
It means that, as a journalist, you must be sure to check whether a paper has been peer reviewed before you rely on it for your reporting.

The WHO report points out a fundamental flaw in the research papers that linked BCG vaccination to lower COVID-19 prevalence. The papers were posted online without going through the expected peer review.



Scientific consensus and false balance

Regarding COVID-19, dissenting views are already emerging.
For example, some scientists are doubting whether all reported deaths are due to COVID-19.
Some argue that COVID-19 is no worse than seasonal flu.
Dissident scientists have a right to their opinion, but that does not mean they are right.
Most often they do not have strong evidence for their claim, which is why the majority scientists disagree with them, yet they can be very good at convincing journalists that they have a hot story.
A consensus position changes only if scientists find clear evidence.



Speed science

The speed with which research has been done and papers published on COVID-19 is unprecedented. It raises concerns that some scientists might be doing an unpolished job.

Indeed, a Reuters analysis published in February 2020 indicates that, while some journal publications on COVID-19 are credible, many of them may be questionable or even plain wrong.

Absence of evidence is not evidence of absence

On 24th April 2020, WHO reported that there was no evidence that recovered COVID-19 patients cannot be reinfected.

This does not necessarily mean they can be reinfected. It simply means that at the time of making that statement they didn't have any evidence.

The International Journalists' Network has put together definitions of medical terms that you are likely to encounter when reporting on COVID-19. It can help you in interpreting and simplifying the terms.

Fake COVID-19 news

The internet is awash with unverified and outright fake claims about COVID-19.

A Reuters Institute report indicates that about 59 percent of the misinformation they sampled was misrepresentations of existing facts, while 38 percent was completely fabricated.

Whereas only 20 percent of the misinformation came from politicians, celebrities, and other public figures, these accounted for 69 percent the social media engagement.

It is therefore important to fact-check any COVID-19 information you find on the internet or social media.

Policy actions to improve Science Journalism

1. Designing a Practical and Continuous Educational and Training Programme for Journalists and Scientists on Science Journalism
2. Encouraging and Developing Ways of Interactions between Science Professionals and Journalists
3. Reiterating the role of States in supporting Science Journalism

Thank you

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