



*Why “Just the Facts” is not
enough: Rethinking agricultural
science communication*

Prof. Marina Joubert | Stellenbosch University



Why “Just the facts” is not enough

Rethinking Agricultural Science Communication



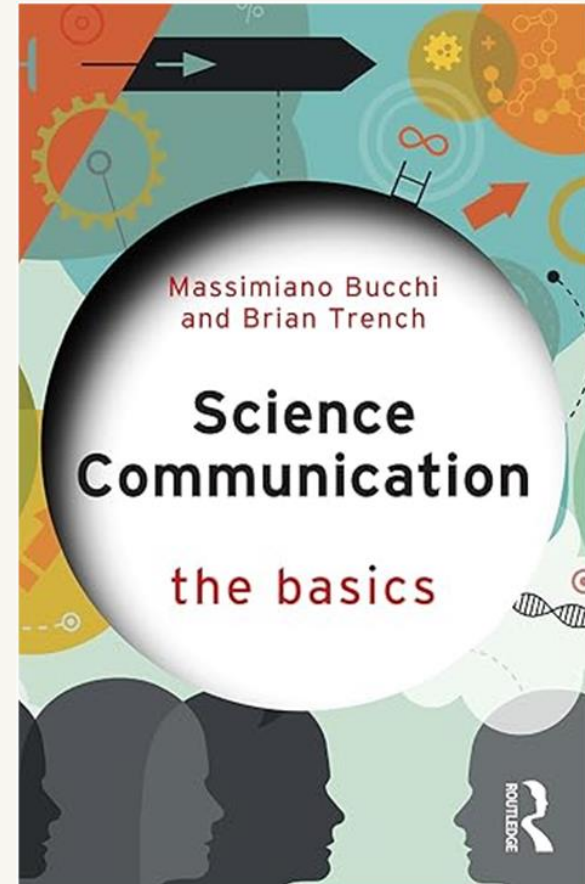
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Hortgro Symposium | 25 May 2026



Science communication is about ...

- Making science visible and accessible in society and culture.
- Social conversations about science with interested and affected communities.
- Good science is essential.
Effective science communication makes it relevant and useful.



JESSICA EISE AND WHITNEY HODDE

The Communication Scarcity
in
Agriculture



- Stories about food (and how food is grown) are close to everyday life - high public demand.
- Farmers, scientists and agri-business are often 'too busy' to engage with society.
- If we don't tell these stories, someone else will fill the void.

Eise, J., & Hodde, W. (2017).
The communication scarcity in agriculture. Routledge.

Fast-evolving communication landscape in agriculture

Not long ago -
few channels, consistent,
trusted voices

Extension officer

Direct farm visits

Co-op

Regular member meetings

Agri-media

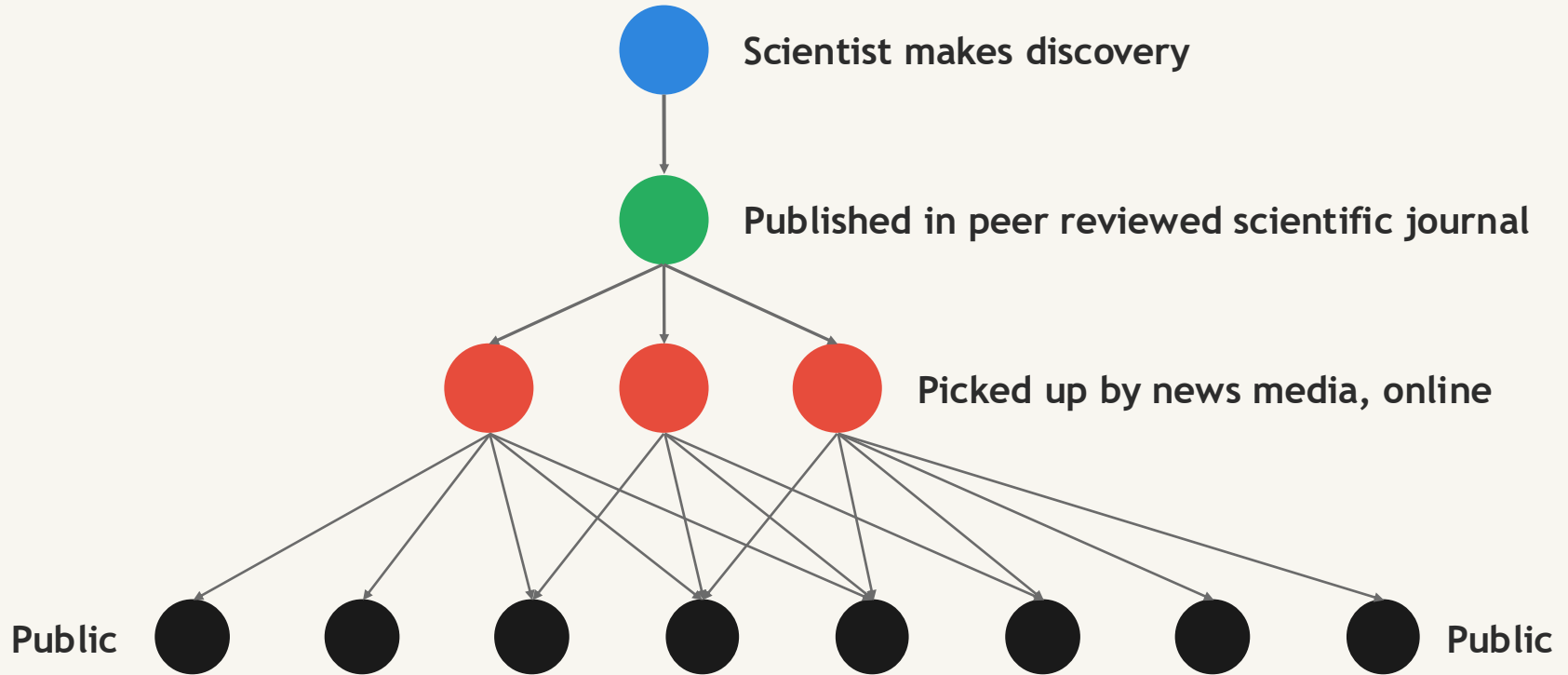
Farmer's Weekly, radio

NOW

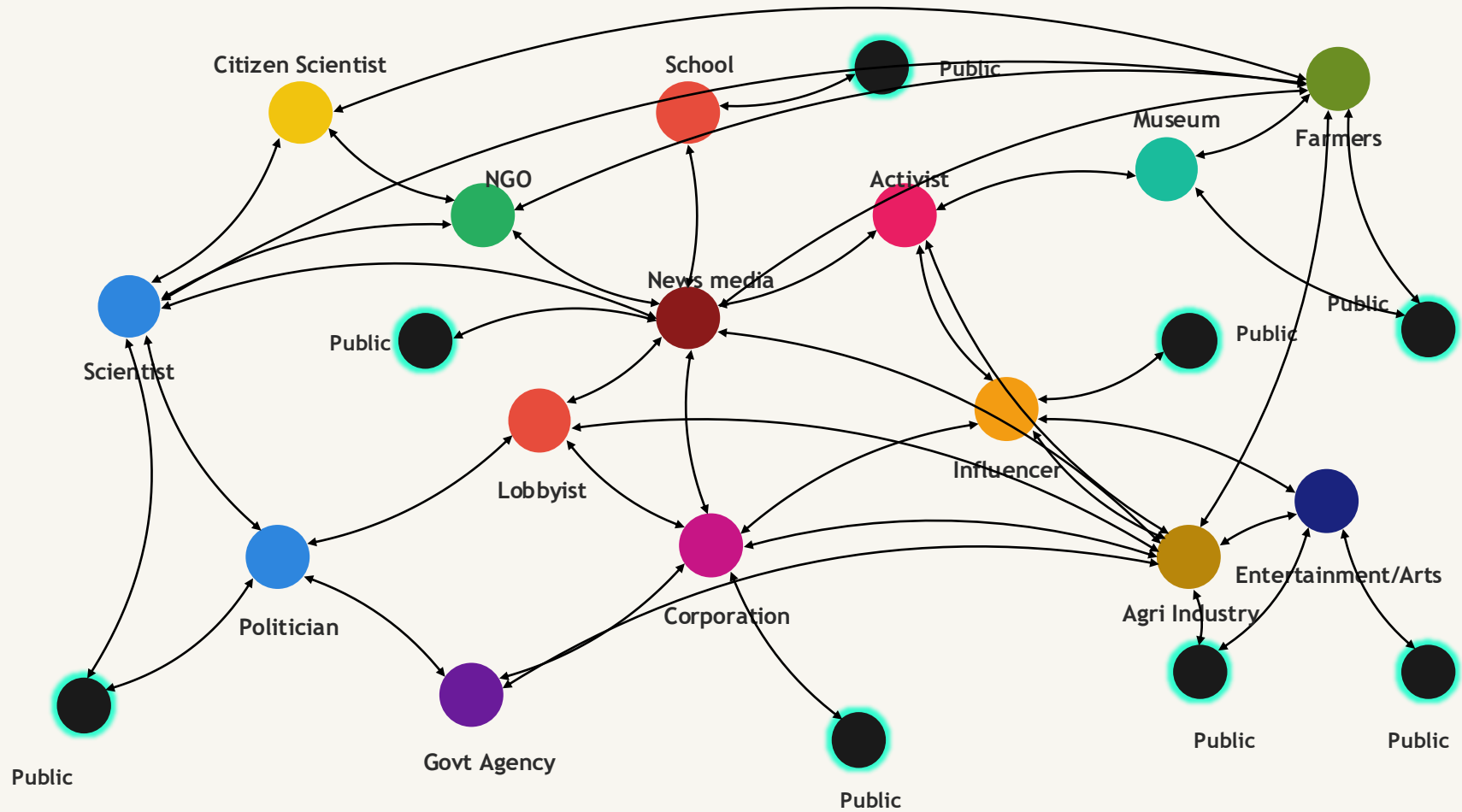


Often overlapping · frequently contradicting

Many scientists think science communication happens like this



But the reality looks a lot more like this



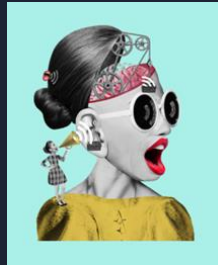
The “dark side” of science communication

- **Misinformation**
 - false, but shared in good faith
- **Disinformation**
 - fabricated & deliberate; designed to deceive
- **Malinformation**
 - true, but weaponised to cause harm
- **Conspiracy theories**
 - Blending false and true information with intent to deceive



The amplification engine

How social media and algorithms turbocharge the spread of disinformation



Algorithms: sensational content is boosted



Filter bubbles: confirm prior beliefs



Revenue models reward clicks & shares

**PENIS
ENLARGEMENT**



078 632 1436

EFF
ECONOMIC FREEDOM FIGHTERS

**PENIS
ENLARGEMENT**



078 632 1436

JULIUS MALEMA
Son of the People

EFF
ECONOMIC FREEDOM FIGHTERS



X

Spotting trustworthy information

Look for these trust cues

- Credentials and expertise (published research)
- Affiliations with scientific institutions
- Transparency about methods and limitations
- Disclosure of funding sources

Quick checklist

1. Source?
2. Expertise?
3. Who benefits?
4. Can the evidence be verified elsewhere?

Red flags



- Promotion with financial motives (special offer / stock running low / expires Friday!)
- Scare tactics; sweeping claims; miracle solutions (snake oil)
- Vague statements that contradict scientific consensus
- Pseudoscientific language: '100% natural' / 'totally safe' / bio-energy / frequencies
- Anonymous testimonials or influencer endorsements
- Sloppy writing

Example: Managing Sunburn in Pome Fruit



Research & Technology



OCTOBER / NOVEMBER 2019

Apple Tree Water use under Shade Netting



Tree water relations and sunburn in pome fruit

Crop Production | Growing Season Climate

✓ CREDIBLE SOURCE

Research reports with details about trials and results
Tested under Western Cape climate conditions
Clear recommendations per cultivar



ISSUE 21 | 2018-2019

Can shade nets reduce water use?

By Fresh Quarterly



Research shows that netted apple orchards used less water - but growers should read the fine print. By Anna Mouton.

Deciduous fruit growers are adopting nets to protect their crops against everything from hailstorms to sunburn. Can nets also help trees use less water? And how much less? A project funded by Hortgro and the Water Research Commission provides some answers.



GREENLIFE CROP PROTECTION AFRICA LTD

February 21 · 🌐

...

🌱🍌 OPTIMIZER – THE ULTIMATE SUNBURN SHIELD 🌿

During hot weather 🔥, trees lose a lot of water 💧. To survive and sustain their fruits, they may shed leaves 🍃 so the fruits can absorb enough water and nutrients.

That's where Optimizer steps in ✅ — easing heat stress and giving the tree the strength and momentum it needs to continue nurturing fruits to full maturity 🍎🍌 without shedding leaves.

It's important to note that as long as fruits are exposed to direct sunlight ☀️, sunburn is inevitable.

🌱 Why Optimizer?

Optimizer helps the plant maintain sufficient, healthy foliage 🌿 to naturally shield fruits from harsh sunshine, keeping sunburn at bay and protecting quality.

Never underestimate the power of Optimizer 💪 — it beats all odds to deliver safe, uncompromised, high-quality yields every time 🌿🌟.

#Optimizer #SunburnShield #HeatStressSolution #CropProtection #HealthyFoliage #FruitQuality #HighYield #SmartFarming #AgricultureInnovation



Never underestimate the power of Optimizer 💪 — it beats all odds to deliver safe, uncompromised, high-quality yields every time 🌿🌟.

Social media style
Overpromising
No evidence to back up claims

When scientists avoid public dialogue

The silence problem 1

People don't read journals; don't go to academic conferences.

Who fills the gap 2

Anti-science campaigners, disinformation networks, and ill-informed voices move fast.

What's at stake for agriculture 3

Public trust in agriculture and food is shaped in social conversations (WhatsApp groups, Facebook feeds and TikTok feeds).

If scientists (or experts) don't speak up, someone else will — and often louder



**The science of
science
communication**

**Why facts
alone are not
enough!**

Have you ever thought?

“Surely, if only people knew about this and understood the science, they would be willing to accept it!”

Or... “We can stop this misinformation and conspiracy theories by giving people the facts!”

This is 'deficit' model thinking



Top-down, one-way,
linear communication
from experts
to 'ignorant' audiences
to 'fill empty heads'.

Why one-way communication (often) fails ...

The problem is not 'providing information'.

The problem lies with the assumption that simply providing more information will change public attitudes and behaviour, correct public misunderstanding, and lead to public support.

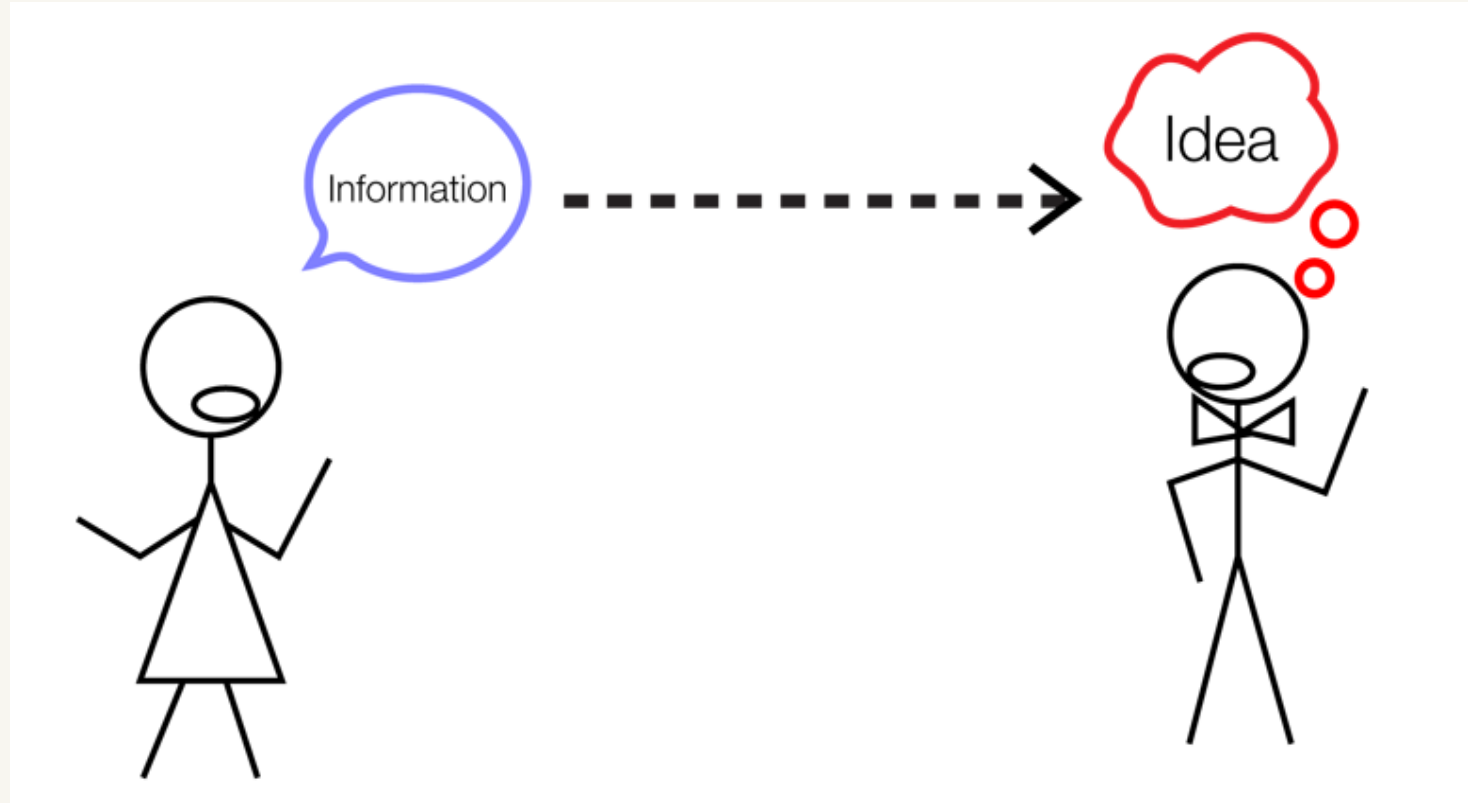
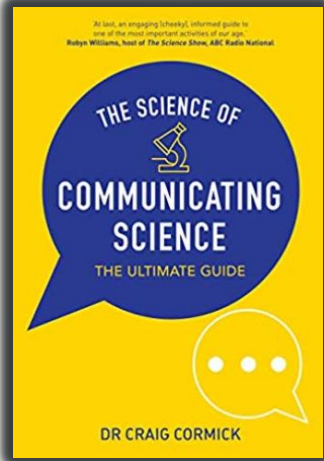
People have diverse views, concerns and beliefs that will directly influence how they respond.

Now what?

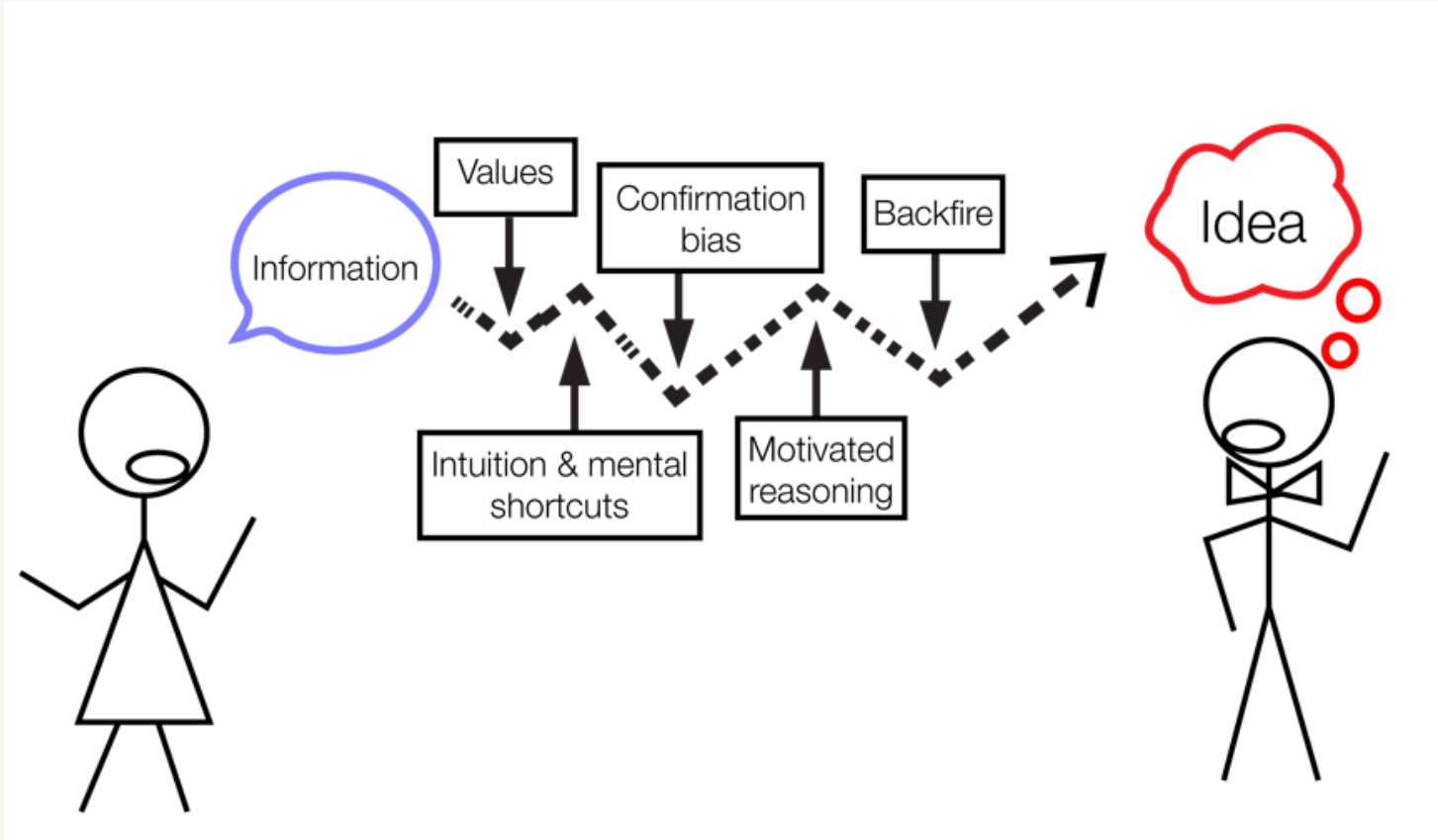
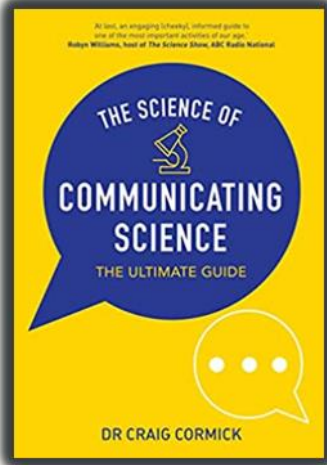
Effective science communication
starts with communication science*

*(*understanding how communication really works and how people process information about science)*

The imagined path of information to attitude



The actual path of information to attitude



What we know from the 'science of science communication'



- More knowledge does NOT equal more support
- People respond based on their values and feelings
- Opinions not formed by facts are not changed by facts
- The messenger matters
- People like information that aligns with their individual and group identity
- One lived experience outweighs 100 journal papers

Identity-Protective Cognition *(Prof Dan Kahan, Yale University (Cultural Cognition Project))*

- When scientific information threatens a person's sense of identity or values, they unconsciously and systematically discount it, regardless of the evidence.
- **Therefore, simply providing more facts that people don't like may entrench opposition (the “backfire” or “boomerang” effect).**



Therefore ...

Facts are important, but not sufficient
Effective communication requires trust
Trust is nurtured by ...



Relationships

built over time



Emotional connection

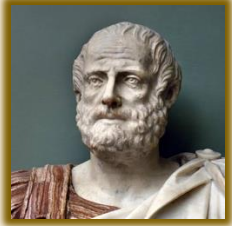
resonance, not just information



Shared stories

remembered, shared, retold

Aristotle's three pillars of rhetoric



Logos

Arguments

Facts, evidence,
logical reasoning



Ethos

Credibility

Trust, expertise,
character of the
speaker



Pathos

Emotional appeal

Emotion, story,
shared values



JOHAN FOURIE

MAY 21, 2026 · PAID



A photograph crossed my Facebook feed last week. Three girls in front of a tent flap. The photograph is from the Frankfort concentration camp, taken between 1900 and 1902.

I looked at it for a long time. They looked somehow familiar. And then I read the caption and turned cold. The three girls had the same surname as me: Fourie.

I was surprised by my own reaction. I have spent the last decade counting people who died young. Most of human history, when written as a graph, is the death of children.

And yet a single photograph stopped me in my tracks.

The three Fourie children, Frankfort concentration camp, c. 1900–1902. Photograph by Tinus le Roux (shared on Facebook), colourised 2017, AI-sharpened 2026

We are moved by faces, not spreadsheets

- Images are grasped instantly; data must be decoded.
- Images make abstract or distant realities feel present.
- Faces activate human attention and care, numbers don't.

“We are visual primates with a face circuit. We do not have a comparable circuit for spreadsheets.”

- Johan Fourie

<https://www.ourlongwalk.com/p/a-picture-is-worth-thirty-four-thousand>

What the evidence shows: Six principles that work



Trusted messengers

Peers and community members are more persuasive than institutional experts. Relationships matter. Trust takes time.



Stories over statistics

A statistic is forgotten; a story is remembered. "Stories are data with a soul."



Emotional connections

Emotionally resonant communication is remembered and acted upon.



Dialogue

Two-way communication produces better outcomes. Ask questions and understand audience values before designing the message.



Transparency

Admitting uncertainty, mistakes, and what you don't know adds to credibility.



Plain language & visuals

Strip out jargon. A clear diagram, photo or short video lands faster than technical prose; and gets shared more.



ELSEVIER

Contents lists available at [ScienceDirect](#)

Biological Conservation

journal homepage: www.elsevier.com/locate/biocon

Why facts don't change minds: Insights from cognitive science for the improved communication of conservation research

Anne H. Toomey^{*}

Article available at:

[https://www.sciencedirect.com/science/article/pii/S00](https://www.sciencedirect.com/science/article/pii/S0006320722004396)

06320722004396

Five golden rules for effective science communication – perspectives from a documentary maker

Published: September 20, 2023 3.20pm SAST



Sonya Pemberton on location filming in Norway. Harry Panagiotidis ©Genepool Productions PL, Author provided (no reuse)

<https://theconversation.com/five-golden-rules-for-effective-science-communication-perspectives-from-a-documentary-maker-210399>