

Rethinking Scientific Communication: Perspectives from East Africa and India.

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ABSTRACT

Modern-day science is defined by a frustrating dichotomy: despite exceptional investment in research, published findings often fail to reach their intended audiences and subsequently reflect little to no real-world impact. This crisis is not one of volume but of visibility and impact. This editorial, drawn from two case studies on the experience at the East African Journal of Neurological Sciences (EAJNS) and the multilingual landscape in India, explores how multimedia platforms, community-centred dissemination and vernacular storytelling can help bridge the gap between research output and real-world impact.

Keywords: science communication, multimedia, graphical abstracts, vernacular

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INTRODUCTION

If a report is published and no one reads it, does it really make a difference? (1) This was a thought-provoking question posed by an article that highlighted a very sobering reality of present-day research: a lot of published work goes unread for a long time. For example, a report by the World Bank reported that many of their policy briefs were downloaded less than a hundred times over five years (2), and another recent report by the United Nations reported that almost no one reads the organisation's reports (3). This experience is no different for academic journals worldwide, where many published articles remain unread and often fail to reach their intended audience. In contrast, something that may seem less important overall, like a TikTok dance video, can easily gather millions of views in just a few hours. This highlights a mismatch between research investment and the real-world impact it has. This disconnect is not merely a publishing problem; it reflects a systemic failure within the

scientific ecosystem in how we communicate scientific knowledge, and it calls for a rethink of how we disseminate our science.

For a long time, scientific communication has relied on text-heavy, jargon-laden formats that remain locked behind paywalls or buried in dense academic journals. This framework prioritises the rigid formatting of peer-reviewed manuscripts over the cognitive engagement of readers. In an editorial article, the Sage Journal editor Parker (2023) draws a sharp, witty contrast between academic journals and popular magazines (4). While magazines actively woo their readers with compelling glossy covers, beautiful pictures, readable prose and engaging layouts, academic journals often function as dry repositories designed for padding scholars' resumes rather than for actual reading. Parker argues that instead of treating the magazine format as unserious,

journals should actively aim to emulate it to attract and retain readership.

On the flipside, this systemic stagnation in science communication presents immense opportunities for creativity and innovation. Scientific communication should not be seen as the final, tedious step of research but as a key component of the scientific process. By integrating more

artistic and creative principles like graphic design, digital storytelling and various multimedia formats makes it possible to distil complex concepts and methodologies into accessible, engaging content that can resonate better with practitioners, policymakers and the general public (5).

CASE STUDY: THE EAST AFRICAN JOURNAL OF NEUROLOGICAL SCIENCES (EAJNS) EXPERIENCE, KENYA

The EAJNS is a diamond open-access journal (meaning no fees are charged to authors or readers) based in East Africa that focuses on advancing neurological research within the region and beyond. At EAJNS, we have recognised a critical gap in localised science communication, which has led us to create a multifaceted dissemination strategy that goes beyond traditional printed work. We have been actively leveraging social media to share research findings, where we transform neurological studies into accessible and easily digestible bites of information. We've adopted an approach that includes the production of creative, engaging animated video summaries tailored to a digital audience. We also have a dedicated author podcast, aimed at humanising the researchers behind the data and getting them to explain the process behind their work in a simplified manner. Recent studies confirm that this medium of creating engaging video summaries significantly enhances both the comprehensibility and perceived credibility of complex scientific content for broader audiences (5).

Additionally, we actively utilise graphical abstracts, which help audiences visually and rapidly grasp the main takeaways from the published research studies. These graphical abstracts combine visuals with words and convey only the essential study information with the main takeaway points. Evidence strongly suggests that these visual summaries accelerate translational research by improving knowledge transfer to practitioner communities (6). Through these efforts, we have found ways to integrate creative and artistic work into our editorial process, better enhancing the output of our journal.

Beyond digital media, our approach has also centered on community engagement through our EAJNS Journal Club (7), which has actively brought together medical professionals, early-career researchers and students to dissect and discuss locally published research. These efforts have grown the local readership of our regional journals and helped cultivate an actively engaged audience for our journal.

CASE STUDY: THE INDIAN SCIENCE COMMUNICATION LANDSCAPE

India presents a peculiar paradox for the science communicator. The 42nd Constitutional Amendment (1976) placed the duty to "develop the scientific temper, humanism and the spirit of inquiry" on every citizen, making India one of the very few democracies in the world to codify curiosity as a civic obligation (8). Nearly fifty years on, the institutional infrastructure that is capable of realising that mandate remains fragmented, underfunded, and deeply unequal. India's scientific institutions produce research; they rarely speak.

The first fault line is linguistics. Science in India operates almost exclusively in English, a language that functions less as a neutral medium of knowledge than as a form of inherited social

capital. With over 22 officially recognised languages and hundreds of regional dialects, the country's communicative terrain is staggering in its diversity. Yet the vast majority of research outputs, policy briefs, and institutional communications remain locked behind English. Studies have found that approximately 70% of Kannada speakers, who are residents of Karnataka, the federal state that includes Bangalore, cannot meaningfully access scientific content produced in English (9). What appears to be a communication problem is, at its core, a colonial inheritance: the English-medium scientific establishment was not designed to reach a vernacular public, and this is evident.

Compounding this linguistic exclusion is the social composition of Indian science itself. Research published in *Nature* found that nearly 98% of faculty positions at India's five leading Indian Institutes of Technology (IITs) are occupied by upper-caste academics (10). In this sense, the inequalities of India's knowledge infrastructure mirror those of Indian society (11). It is worth sitting with this uncomfortable arithmetic: the people least served by the scientific ecosystem are, by a wide margin, the communities most impacted by the problems that science is meant to address, such as climate vulnerability, air quality, water security, and public health. Science communication in this context is not merely a craft challenge; it is a political one.

A counter-tradition has nonetheless always existed, and recently it has gathered momentum. The People's Archive of Rural India has built arguably the most serious model of vernacular knowledge journalism in the country: documenting science as lived, embodied experience across hundreds of communities rather than as a product of elite institutions. Podcasts like *Janasuddi* in Kannada and popular science initiatives through *The Wire Science* have demonstrated that vernacular-medium communication can find and grow audiences without requiring translation into an elite register (12). Short-form digital content through reels, infographics, visual explainers, scrollytelling initiatives, etc., has created new entry points, particularly for audiences for whom a journal abstract is both inaccessible and, frankly, beside the point.

This shift from institutional to distributed science communication is something I have tried to navigate practically. Working with the *Khanabadosh Foundation*, I have conducted heritage walks in cities like Hyderabad and Bangalore and on the Malabar Coast, specifically for Malayalam language speakers, narrating and discussing history and culture through the historical monuments in the region. I also engage with English readers with bylines in *The Wire*, *People's Archive of Rural India*, *Siasat Daily*, and *The News Minute*. I try to engage with topics

CALL TO ACTION

The future of scientific communication is undeniably digital-first, coupled with open access models that eliminate barriers to scientific communication. Multimedia formats of research as well as simplified and contextualized versions of research publications should therefore transition

around policy issues, climate, international relations among others. A recent piece on Bengaluru's tree-fall crisis in *The News Minute* (13) attempted to frame a systemic urban governance failure through the sensory texture of a familiar monsoon evening: the smell of wet earth, the crack of a rain tree on a commuter road. I also create video content on my Instagram page and soon will be launching a YouTube channel for science storytelling specifically for issues India faces.

The data alone, however, rarely breaks through. At the Centre for Study of Science, Technology and Policy (CSTEP), a Bengaluru-based think tank where I currently work in communications and policy engagement, I have witnessed both sides of this problem from the inside. CSTEP produces rigorous, evidence-driven research on clean energy, climate resilience, and urban air quality. My team sits at the intersection to produce and build a narrative for the institution revolving around the scientific outputs we produce through engaging content and other means and formats of research dissemination. Yet the gap between producing that research and actually shaping public understanding is substantial and persistent. Science does not become simpler; it becomes relevant.

India's science communication challenge is, in this sense, simultaneously structural and creative. The barriers to knowledge access are structural because they run along fault lines of caste, language, and geography that better content production alone will not dissolve (14). Creative because, within those constraints, practitioners are building serious, impactful work at the grassroots, mostly without institutional recognition or sustainable funding. The future of science communication in India will not unfold in academic journals. It will be decided in the fragmented, multilingual, algorithmically mediated space of the internet, in a language that audiences actually speak, about problems they are already living.

from being optional supplements to expected standards within the publication pipeline. For this transition to be sustainable, academic institutions should also actively support and adopt more effective and engaging science communication.

Additionally, researchers who actively translate research work for broader audiences should be recognized and incentivized. A shift from the traditional “publish or perish” ethos to “publish and engage” will help encourage researchers, publishers and research communities to see the value of actively disseminating scientific

knowledge. By valuing accessible dissemination of knowledge just as highly as the research itself, scientific communities can cultivate a culture that prioritizes real-world impact which will ultimately help build a more scientifically literate society.

CONCLUSION

The purpose of science is not merely to be published but to be consumed, understood and ultimately applied in order to make the world a better place. Scientific communication must therefore adapt to become more captivating, inclusive and contextual. By adopting contextualised and innovative multimedia platforms for communication, scientific communities can bridge the gap between research publication and real-world impact.

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