

Evaluating digital sources: trust, truth and lies

How do you evaluate the contents of a wiki, blog or discussion forum? How do you distinguish fake news from legitimate reporting? Information professions are often required to evaluate the veracity of sources that have relatively poor provenance. Yet the bases on which these judgements are made are often poorly understood. We sometimes fall back on established checklist approaches to explain the decisions we have already made. But new research into the nature and flaws of human reasoning suggests that a more organic approach to evaluating digital information might be better. Mercia & Sperger's *The Enigma of Reason* (2017) explores the evolution of human reasoning as part of a social process, and perhaps suggests new ways of understanding information evaluation.

Evaluation has a long history in library and information science (LIS); over time the methods that have been developed have tended to rely on analytical approaches. These analytical approaches generally involve disaggregating source materials into a number identifiable attributes which can be individually evaluated and compared to ascertain the reliability of the source material itself. These attributes are sometimes presented in the form of a checklist, and typically focus on characteristics such as: source; accuracy; authority; balance; content and coverage; currency, and so on. Underpinning analytical approaches are a series of indices of quality, reliability and authority. We should prefer current information to old information; authoritative sources to informal sources; impartial or disinterested information to partial or interested information; attributed information to unattributed information; superficially accurate information to superficially inaccurate information and so on. In many ways these analytical categories can be reduced to the idea of provenance: securing the source and its trustworthiness against characteristics that we have traditionally associated with trustworthy sources.

This approach to evaluation reflects the habits of the printing and broadcasting tradition. In the recent past information was predominantly disseminated through a limited number of media and publishing channels. The limited bandwidth of the information infrastructure acted to filter information prior to publishing or broadcast. As a consequence provenance became synonymous with quality and reliability.

But the digital age presents specific challenges to this approach; the proliferation of recorded information via digital networks complicates traditional methods of evaluation. Over the recent past the volume of recorded information in existence has grown exponentially (Baeyer, 2003; Conway, 1996). Cheap and easy to produce, information now flows through countless shallow channels scored into the web, social media, and mobile communications. But while digital culture has largely moved away from pre-filtering approaches to publication turning instead to post-publication filtering through algorithms and user behaviour, the vestiges of authority, authenticity and trust established in the age of print remain. Those vestiges of provenance have become open to appropriation by the new digital sources of information.

One example has been the growing problem of fake news. Designed to be disseminated via social media, fake news is content that presents itself as traditional journalism (either by mimicking the style and presentation of traditional news sources or appropriating the reputation of respected news organisations) but that presents a partial, inaccurate, and politically motivated account. It has chiefly been associated with the right of politics. The influence of fake news in the 2016 US presidential election and the 2016 Brexit referendum has

been of widespread concern, and many of the leading social media companies have pledged to tackle the problem. Fake news has now also become a political tool used to discredit reputable journalism. The US president Donald Trump and his supporters have for example accused a host of mainstream news organisation of fake news. The then education secretary Michael Gove courted controversy when he declared in 2016 that “people in this country have had enough of experts” (cite). Some followers of the British labour party leader Jeremy Corbyn have used the label to describe mainstream journalism that they disagree with. Uncertainty about the veracity of information generally is open to be used as a political tool to discredit public scrutiny of policy, and in some sense all claims to truth are undermined.

Fake news presents an interesting case study of the problem of evaluation in the digital age. On the one hand by abandoning and pretence at impartiality it violates the traditional professional codes of journalistic practice. But on the other hand it can be seen as part of a spectrum of content in which all “news” and all information is irrevocably partial and biased either in selection or presentation, and reflects the political motivations of those creating, disseminating and to a lesser degree consuming it. The existence of this spectrum from publications of record to outright fabrications means that naïve notions of securing both journalistic standards and evaluation of content against undisputed facts, unbiased reportage, or political balance break down. Fake news plays to the bias of its audience by reinforcing their existing values and beliefs and discrediting information that might challenge those values and beliefs, yet fake news is not always easy to identify from its source alone. Swaine has observed that:

readers are now being confronted with an even tougher challenge: decoding the work of writers whose track records of faulty reporting are occasionally interrupted by stories that are actually true. (cite)

The challenge of inaccurate information and misinformation on the internet is therefore more significant that it appears at first glance. There is no clear-cut differentiation between reliable and unreliable sources; no blanket tests that we can apply; all sources of information on the web blend truths and mistruths to varying degrees and each has to be taken on its own merits; and all claims over the veracity of particular sources will themselves be contested. And this widespread assault on questions of truth and trustworthiness in digital culture makes evaluation both more vital and more problematic.

Truth, lies and human reasoning

There is however a more fundamental reason why analytical approaches to evaluation sometimes fail. Humans are spectacularly bad at reasoning. Although individuals may vary in their ability to reason effectively we are all similar in our inability to recognise bias in our thought processes.

The ways in which human reasoning fails are relatively predictable and well understood. Some of the most common biases in our thinking habits relevant to information evaluation are outlined below (cognitive biases have been widely research and written about, but a useful overview is provided by Sutherland (1992):

- **Ambiguity effect:** the tendency to perceive unambiguous, clear and straightforward information as more truthful than ambiguous information. Ambiguity effect has an influence on how information is reported and prepared for reporting; the tendency within journalism for example to eradicate ambiguity can distort the truthfulness of what has been reported. Not only do we seek unambiguous accounts but we are also likely to be misled by accounts that falsely lack ambiguity.
- **Authority bias:** the tendency to attribute more significance to statements from authority figures even in regards to areas beyond the scope of their authority. We are drawn to trust the statements of figures or organisation we perceive as authoritative and subject them to less scrutiny than those of figures whose authority we cannot judge, or are in doubt about.
- **Availability bias:** we tend to overestimate the significance of information that is easy to come by and underestimate the significance of information that is scarcer. This is particularly a problem in any kind of research process, including commercial information research where much information that is readily available may be untrustworthy. For example, a typical approach to reputation management is to drown-out negative reporting with planted positive news stories.
- **Bias blind spot:** the tendency to believe that we are individually better at spotting bias than other people (including our own biases) and that other people are less good at recognising bias than we are. Everyone does this even people who know that everyone does this.
- **Clustering illusion:** the tendency to attribute false significance to clusters within random distributions, or to see patterns of cause and effect that are not there. This is particularly a problem when there is a limited amount of data available, and exacerbated in digital contexts where content providers sometimes rely on republishing material from other sources.
- **Cognitive dissonance effect:** the tendency to reduce inconsistency in our values and beliefs by exaggerating our confidence in the choices we make between equally weighted options, and discounting further information that contradicts those choices. Or in other words once we have decided on the truth or otherwise of something we look for reasons to further justify that belief.
- **Confirmation bias:** the tendency to attribute more significance to information that confirms our existing beliefs or that confirms what we would like to believe than to information that disconfirms either of those things.
- **Focussing effect:** the tendency to explain all phenomena through the lens of a particular issue or belief with which we are preoccupied.
- **Illusory truth effect:** the tendency to form the belief that information or claims to which we have been exposed repeatedly must be truthful.

The fact of these biases complicates the issue of information evaluation in three ways. In the first place these kinds of cognitive biases exist *within* the resources that we might be evaluating. Secondly when evaluating information we are in danger of being misled by our own intrinsic capacity to look for patterns that do not exist. Finally, the fact of cognitive biases is a resource to be exploited by those who are seeking to manipulate the ways in which we think about the world, as in the case of reputation management described above.

Cognitive bias is so ingrained in our habits that in some ways it is a mistake to think of them as biases at all; they are just the ways in which we make sense of the world around us. Understanding why we think in these kinds of ways may help us develop new ways of approaching information evaluation. In a recent series of research, Mercia & Sperber (2011, 2017) account for the well-documented failures of reason by framing its evolution in response to a social context of persuasion and social trust. Reasoning functions, they argue, not to help us ascertain the truths of a situation per se, but to supply us with *good reasons* in advocating for particular ways of seeing the world. In this process the truths of the matter barely play a part. They suggest:

“The main function of reasoning is argumentative: Reasoning has evolved and persisted mainly because it makes human communication more effective and advantageous” (2011: 60).

One consequence of this is that the kinds of cognitive biases discussed above can be seen as not a flaw in reasoning but as a tool in persuasion; if as Mercia & Sperber imply our task is to advocate for particular ideas then we are better searching for good reasons than balanced arguments. The argumentative function of reasoning distances evaluation from notions of truth. Thus Sperber argues bias in reasoning evolved to *improve* our reasoning processes, making us better equipped to advocate for our beliefs a point rather than to recognise a truth.

More important perhaps is the implication of this social persuasive function of human reasoning is that all reasoning is necessarily situated; there is no such thing as a neutral argument – arguments are always seeking to persuade us of a particular state of affairs and always relying on rhetorical tricks in maximising that persuasiveness. It does not matter how trustworthy or authoritative the source, how steeped in accolades, qualifications, or expertise, they are still trying to persuade us to particular ways of seeing the world and truth is only one weapon in their arsenal. It follows that there is no such thing as neutral information; all human information exists because it was produced for a purpose, for specific ends, and to support specific and defined world views, and much information exists explicitly as a part of a process of persuading us about the truth of particular states of affairs. This is in fact rather like what we see in digital publishing, where the structural limitations on disseminating information of a previous age have largely been removed.

Understanding the flaws in human reasoning makes it clear that analytical approaches to evaluating information can sometimes do more harm than good. Rather than as we might imagine eradicating bias, they may merely give the *impression* of its eradication, leaving us overconfident not only in the choices we make, but the reasons we ascribe to those choices. That is to say that such approaches furnish us with a series of *good reasons* to defend the choices we make in evaluation, while doing little to guide or aid those choices. The analytical

method is from this perspective another rhetorical tool in the art of persuasion, a way of securing our opinion against some putatively objective framework.

Nevertheless while we are in some sense hard-wired to extrapolate from incomplete or limited information we can also use this understanding to our advantage. At the heart of effective information evaluation are a series of softer skills and competencies that are impossible to delineate, but that arise from experience, aptitude, and outlook. All evaluation in the kinds of contexts in which commercial information professionals works is driven by context, and an important component in that context is the subjective outlook and experience of the individual themselves. Mercier & Sperber's account of the evolution of reason contains the observation that bias has an important function in the ways in which we think about the world. Our cognitive biases are not flaws in thinking, but advantages in advocacy, in which context reason takes on a more pragmatic function. Good reasons become the most persuasive reasons that we can marshal in support of an argument, rather than necessarily the most truthful.

And there are two aspects to the ways in which cognitive bias functions that serve us well in evaluation. The first is the well documented fact that we are far better at spotting the obvious bias in other people's arguments than we are in our own. Mercia and Sperber note:

there is an asymmetry between the production of arguments, which involves an intrinsic bias in favor of the opinions or decisions of the arguer whether they are sound or not, and the evaluation of arguments, which aims at distinguishing good arguments from bad ones and hence genuine information from misinformation [...] people are good at assessing arguments and are quite able to do so in an unbiased way, provided they have no particular axe to grind (Mercier & Sperber, 2011: 72)

The aspect second is that where reason fails us, instinct and intuition are often more reliable than we assume them to be. Kahneman (2012) has distinguished between two kinds of cognitive systems involved in deliberation which he calls system 1 and system 2. System 1 is the fast, automatic, emotionally driven part of cognition that we often think of as gut feeling or instinct. System 2 is the slow and deliberative part of cognition that we often think of as reasoning. These two parts of our thinking processes often come to very different conclusions about the world, and are often therefore somewhat in conflict. However the surprising factor is that the fast, emotionally driven system 1 in many cases proves to be more reliable than the more deliberative system 2.

Emerging from this are two tests that we can apply to digital information sources (coherence, and persuasiveness), and two habit we need to re-learn: trusting our professional instincts and experience, and approaching evaluation from a disinterested position. As outlined above, pre-cognitive instincts tend to be more reliable than not, especially in areas where we can profess expertise, and have no particular vested interest. It is in searching for *good reasons* to justify our existing beliefs or desires that reasoning fails us.

The evaluation of information in the digital age is deeply rooting in matters of trust: whether we trust what we are being told; whether we trust those who are telling us; whether we trust the means by which this information has come to us. And this process involves an emotional response as much as an intellectual response. Trust arises from applying what we already know: our professional expertise and experience – that tacit knowledge concerning what makes a

reliable source that we cannot fully articulate and that when articulated is transformed into the kinds of reductive checklists that eradicates the value of that expertise and reduces reliability to provenance. This can be expressed in relation to two ideas:

- The internal coherence of information: whether it agrees with itself; whether it agrees with what we would expect of that source; whether it agrees with everything we already know and believe about the topic or the wider context.
- The persuasiveness of information: whether it tells an account that – regardless of any bias we might also be aware of – is intrinsically persuasive given what we already know.

Checklists and analytical approaches come in perhaps after the fact, when we are seeking to persuade someone else of the professional opinion about the veracity and trustworthiness of the information in question.

But most importantly, the very fact of the information professional as an individual who usually sits outside of the contexts within which information is exploited – of is in other words usually *disinterested* in the information that they are evaluating – is a critical component in effective evaluation. There has been in recent decades a tendency to put research tools onto the desktops of end users. But if research and evaluation is performed from a situation in which there is a vested interest in the outcome then the influence of cognitive bias will tend to increase. One series of *good reasons* for the involvement of information professionals in evaluation and research derives from both their disinterested status, and professional experience of undertaking such evaluations.

December's Business Information Review

December's edition of *Business Information Review* contains the usual mix of academic and professional articles. First is an article by Judi Vernau, founding director of Metataxis Ltd which specialises in building ontologies and taxonomies. Entitled *Using ontology to improve access to information: the New Zealand experience*, Judi's paper described the development of an ontology intended to support findability within an enterprise content management system in the New Zealand Department of Conservation. It explores in detail both the ontology itself, and also the comparative benefits and advantages of this approach.

Next is Ali Rezaeian & Rouhollah Bagheri's paper exploring knowledge networks, a means by which to with which to support knowledge sharing and creation. Entitled *Modelling the Factors Affecting the Implementation of Knowledge Networks*, the paper looks at the state of research around knowledge networks, and draws out the success factors in their implementation. Next is a paper by Antonio Muñoz-Cañavat entitled *Competitive Intelligence in Spain: A Study of a Sample of Firms*. This paper reports on a survey of Spanish firms to explore the ways in which they approach the challenges of competitive intelligence, and reveals the degree to which benchmarking and SWOT analysis still factor as significant tools in real world corporate settings.

Our final article this issue comes from Cerys Hearsey as part of the *Out-of-the-Box* strand of tech-related articles. In her paper Cerys explores the growth of Artificial Intelligence in the workplace. Also in this issue is Martin White's *Perspectives* column, which this issues addresses the role of meetings, remote working. information culture and collaborative information seeking.

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