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On fake news, gatekeepers and LIS professionals: the finger or the moon?

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Abstract

Purpose – The purpose of this paper is to reflect on the meaning of fake news in the digital age and on the debate on disinformation in scholarly literature, in the light of the ethics of library and information profession.

Design/methodology/approach – Revision of a keynote address at the BOCATSSS2020 conference, this paper offers an overview of current literature comparing it with a moment in the past that was crucial for information: post-Second World War time, when Wiener (1948) founded cybernetics and C.P. Snow advocated for "The two cultures" (1959).

Findings – The complex issue demands a multi-disciplinary approach: there is not one solution, and some approaches risk limiting the freedom of expression, yet countering the phenomenon is a moral obligation for library and information science professionals.

Originality/value – Comparing the present digital revolution with the past, this paper opens questions on the ethical commitment of information professionals.

Keywords Librarians, Fake news, Library ethics, Consequences of misinformation, Library and information science (LIS), Media and information literacy

Paper type Viewpoint

The occasion for this paper was the invitation to give a keynote on *fake news*. Considering that the topic is almost a buzzword nowadays, offering breakthroughs seemed pretentious[1]; therefore, the goal was set on building a common ground for every participant and stimulating a debate in the library and information science (LIS) field. While rearranging those ideas for print, the COVID-19 pandemic broke through and became, inevitably, part of the reflection, though not its focus.

The article moves from dictionaries to offer a definition of some key concepts. Next, it sketches the trends of the scholarly debate and the reasons which make it necessary. Subsequently, it advocates for an interdisciplinary approach drawing an example from a time of big changes and, finally, it analyses the position of LIS professionals, closing with some questions.

Fake news and related words: vocabulary definition

Fake news, post-truth, disinformation in dictionaries are defined neutrally. According to the Oxford English Dictionary (OED), the compound "*Fake News*" means "*news that conveys or incorporates false, fabricated, or deliberately misleading information, or that is characterized*

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as or accused of doing so. Dated in late 19th century, it was popularized in 2016 (*OED Online*, 2019). In 2017, it became Collins Dictionary word of the year (Collins Dictionary, 2017), short-listed with *echo chamber* and *Gig economy*. In short, fake news implies the determination to create false information and the intent to harm.

Much literature points to 2016 as the beginning of the debate, when "*Post-truth*" was declared word of the year by the OED, in connection with the Brexit referendum in Britain on June 23 and the presidential election on November 8 in the USA. Donald Trump is well known for using the phrase to dismiss reporters' claims, yet the coiner seems to have been Hillary Clinton (Wendling, 2018). The occurrences of the phrase, at least on English-speaking web media sources, undoubtedly skyrocketed after 2016 (Davies, 2016).

OED word of the year in 2016 was "*post-truth*," an adjective defined as "Relating to or denoting circumstances in which objective facts are less influential in shaping public opinion than appeals to emotion and personal belief," an example sentence is "in this era of post-truth politics, it is easy to cherry-pick data and come to whatever conclusion you desire." Basically, it refers to the quality of truth being reconstructed by appealing to the emotional sphere and to biases. In this sense, it is linked to "alternative facts," an oxymoron created by Kerry Conway and defined in Collins Dictionary as a statement "intended to contradict another more verifiable, but less palatable," which implies leaving the Age of Reason for the Age of Sentiment, where truth is imbibed in feelings.

Ten years earlier "truthiness" had been chosen as Merriam-Webster's Word of the Year by their dictionary users ("Truthiness," 2019). It expresses a "*truth*" deriving from a visceral feeling rather than from any known facts. No need to" *know what is true*," as you "*feel it in your gut*," ironized Stephen Colbert (*The Word – Truthiness – The Colbert Report*, 2005), who, according to the OED, coined its contemporary sense.

Another keyword in the BOBCATSSS2020 title was "*disinformation*," defined in OED as "*False information which is intended to mislead, especially propaganda issued by a government organization to a rival power or the media*." originating in the 1950s and formed on the pattern of Russian *dezinformatsiya*. Like *fake news*, it is created intentionally, though here the emphasis is not on broadcasting but on causing damage to a political or geopolitical enemy.

Somehow, all these related concepts are connected to both realms of news and politics; furthermore, they bring to the surface the weight of personal and individual reactions to political facts and situations – see the example of "*Truthiness*," not what happens and why, but what people choose to believe about facts.

Intent should be added to the keywords list, as it clarifies the differences among various degrees of disinformation. The UNESCO handbook *Journalism, "fake news" and disinformation* (Ireton *et al.*, 2018), defines *misinformation* as simply misleading content; *mal-information* as something produced with harmful goals – leaks, harassment, hate-speech – and *disinformation* as something in the middle, made of both components. Not all sources agree on this distinction, though, the OED does not list *mal-information* and explains *misinformation* as "*False or inaccurate information, especially that which is deliberately intended to deceive*," therefore, very close to *disinformation*, apart from the political propaganda scope. A deeper study on the differences in the various dictionaries and sources would be beyond scope, here it suffices to point out that the meaning is still evolving.

Key points in scholarly literature (humanities and social sciences)

The great interest this topic has raised since 2016 produced a large amount of scholarly literature. Each contribution brings a different angle, though they almost unanimously

begin with 2016, OED Word of the year, Brexit and the US election. It is possible to sketch other major, strictly intertwined, patterns:

- The phenomenon may not be new, but it acquires a different dimension in a digital environment, where communication happens via social media.
- Money and power are key movers: news is fabricated because the process is lucrative, the gain may be either financial revenues or political power or both.
- The concept of authority will never be the same. Communication happens many-to-many, individuals have a chance to weave their own narrative. Citizen journalism, new, unofficial information sources find their way out to the public as never before.
- The social dimension is extremely meaningful, both as igniter and fuel to fake news. At an individual level, the need to feel included enhances the tendency to adhere to common beliefs and decreases objectivity; at social level, troubled times are fertile ground for false information to take root.
- The spread of false information affects the individuals' self-representation, identity and their view of the world around them.

Why a debate today

Having defined more clearly the keywords, the question is why there is so much talk about them now. False information is not a contemporary phenomenon, the Donation of Constantine is a well-known ancestor. Described by Encyclopaedia Britannica as "the best-known and most important forgery of the Middle Ages" this fake document was used to retrospectively support that the Emperor Constantine himself had bestowed secular power to Pope Sylvester I and the Church. The trick worked until Lorenzo Valla uncovered the truth in the 15th century – though this did not un-make history.

Creative stories may provoke reactions if believed to be true. The 1926 BBC fake report about Bolshevik workers attacking London and destroying the Big Ben (The Riot That Never Was, 2005) provoked mass panic reactions. G.W. Bush's administration – mocked by Colbert – used the narrative on the presence of weapons of mass destruction in Iraq to justify a war whose consequences are still felt.

If there is nothing new maybe the debate is so wide because, obvious as it may sound, it is happening now, touching people's lives. In January, people might have been worried for the future consequences of the Baghdad airport attack (Chulov, 2020), now that the world is shaken by the COVID-19 pandemic, global worries are elsewhere. 2016 might have demonstrated the effect of disinformation on political communication, but in the past months it became clear that fake news can actually kill: rumours, superstitions, conspiracy theories in the ongoing pandemic are causing deaths and the spread of the virus.

Colbert spoke of "gut feeling." Speaking to the "gut" can give fuel to the fire of populism and aid the spread of intolerance and hate speech; yet, the phenomenon should not be seen as a cause, but rather as the symptom of some underlying unease: "fake news and populism point to issues that are not fake but real and need to be addressed [. . .] – says Žiga Turk, member of the European Commission's High Level Expert Groups on European Open Science Cloud and on Fake News – *If the politics chooses to treat the symptoms of the disease we may forget about the real issues*"(Turk, 2018). It could be deduced that, if politics is to deal with the real issues, someone else is supposed to treat the disinformation symptoms: education and culture could do that, with the support of politics and science.

In our digital information age, the phenomenon has a bigger relevance than in the past because of the multiplier effect, when the scope and impact of any piece of information, the

number of people it can reach, the number of times it can be retold and resuscitated even after it has died out grows exponentially. Zanni (2019) defines the internet as a multiplier of whatever we put inside it, Jaron Lanier underlines this effect in social media (Lanier, 2019, p. 116). Following the same trend outlined by Moore's Law for transistors, even the product computers convey, information, grows exponentially in mass and speed of circulation. Theoretically, and leaving aside the challenge of defining what is *good*, if humans could *put* on the internet only good things, then the multiplying effect could be all to social advantage; unfortunately, nasty stories draw many more clicks than fair ones, and clicks are the new gold.

In the dreams of its founders, the internet was meant to be a free place, a tool to foster the circulation of ideas. Swartz claimed there were "two polarizing perspectives: 'everything is great', the Internet has created all this [. . .]. Or 'everything is terrible'. [. . .] all these tools for cracking down and spying and controlling what we say" (Knappenberger, 2014), the outcome depending on humanity. The internet was supposed to be a place for everyone to access information and to express ideas in spite of isolation or political regimes, Turk reports about "*waging an information war on what was really happening in Slovenia and Yugoslavia*" on the platforms: the truth spread – he explains in a footnote – "*The other side would call [. . .] fake news*." (Turk, 2018). The question is who is to decide what counterparts are noble and what are bandits. After all, in Second World War, the *Resistance* was considered little more than terrorists by Nazis.

The line between freedom of speech and reliable information is thin, the balance of these rights, according to Žiga Turk, demands "*content neutrality, which would require the social media platforms to treat all content equally*." (Turk, 2018); instead, Lanier underlines, the platforms show a bias in favour of those users who promote and increase their use; Trump did, Clinton did not, and "*People who worked on the social media strategy of the Trump campaign have claimed that Trump gained hundred of times more access for a given spend than did the Clinton campaign*" (Lanier, 2019, p. 116).

Turk demands that platforms foster individual responsibility, offering incentives to those who use their real identity – though "*anonymous accounts which might be fighting oppressive regimes should remain an option as well*" (Turk, 2018) to protect people from violent counterparts.

Snowden would definitely agree with respect to the identity protection issue. When he described the Internet of the 1990s as a pleasant anarchy, something "*made of, by, and for the people*," whose purpose "*was to enlighten, not to monetize*," he also recalled that "*the anonymizing or pseudonomyzing features brought equilibrium to all relationships, correcting their imbalances*," so that he could disassociate from his previous, inexperienced selves (Snowden, 2019, Ch. 4) and reinvent himself anew. Regarding identity, it should be considered whether users should be able to disassociate from their previous selves or whether their Facebook profiles will forever influence their job interviews and their right to be forgotten.

This discussion might lead to the relativist position that there are no facts, only interpretations, which Ferraris (2017) attributes to post-modernist philosophers. Ferraris makes the point that, in the digital world, it is not possible to understand truth without considering that technology is a mediator between epistemology (what we know) and ontology (what is there).

Far from entering a philosophical dispute, the intention here is to underline some sensitive ethical issues before reflecting on the shift in power and weight that news and information – fake or real – assumed after the onset of the internet and especially after the social media revolution, the Web 2.0. Enthusiastic expectations greeted the participative

approach of the Web 2.0: "*Yes, you. You control the Information Age*." proclaimed Time Magazine (2006). Far from controlling the Internet, individuals who found a way to bring their opinions in the open were turned into goods (Lanier, 2010). Subscription-based services might be the solution, people becoming actors on the market would pay and be paid, the economic model could be sustainable for all (Lanier, 2019, pp. 93–106).

Baricco (2018) maintains that the whole discourse on post-truth is outdated, a pitiful relic of 20th-century élites scared of losing the arbitral position they used to hold. In his reconstruction, the digital world is a *Game* which people like and use because it is playful, a low-density environment where success is determined by the aerodynamics that brings certain truths to the surface, while others sink. These truths, or this truth, he defines a "*verità-veloce*", a *fast-truth* which "*in order to emerge to the surface of the world re-designs itself aerodynamically, losing exactness and precision along the way but gaining synthesis and speed*"(Baricco, 2018, p. 285). He seems to suggest this is the way it is, better to come to terms with it.

This may sound matter-of-factly, but Morozov (2011) would say that, in spite of solutionist illusions, the whole of the WWW is just turning into a system for mass surveillance, the possibility for individuals to really impact on big decisions is negligible and infringement of people's rights because of political and economic reasons is blatantly carried out with impunity by totalitarian governments and big corporations. Carr's (2010, 2014) views may be less pessimistic, but they are definitely closer to Morozov than to the Web-optimists.

Pariser (2012) was among the first to point out that, with the web revolution, the old gatekeepers – editors, publishers and media companies – had been replaced by the algorithms and that each person could know only a personalized part of the whole internet, the *bubble* filtered through marketing-based criteria.

More literature could be referred to, but this selection is enough to reflect on the reasons underlying the renewed interest in fake news and disinformation. Probably, it is simply time that humans reflect retrospectively on the ethical implications of phenomena that changed their lives. The answer demands a multi-faceted perspective.

Multi-disciplinarity: a historical view

Snowden wrote that "*the fundamental rule of technological progress* [says that] if *something can be done, it probably will be done, and possibly already has been*" (Snowden, 2019 chap. 16 – Tokyo). Science and technology move on, it is part of their nature, but it is up to human societies to decide what innovations to embrace, and to reflect on the consequences of their choices. Now it is time for us to reflect on the world we have in front of us after 50 years since the beginning of the internet, 30 since the onset of the World Wide Web.

Such a reflection implies a multidisciplinary approach, as in the engineers' mantra "*Complex problems need integrated solutions*"; disinformation undoubtedly *is* a complex problem, it requires that experts from different fields look at it from various angles, as Lazer proposed along with others: founding a *Science of Fake News* (Lazer *et al.*, 2018), that would include sociology, psychology, philosophy, computer science and more.

A similar approach was embraced by Norbert Wiener. In the 1940s the Western world was changing: racial laws had pushed many scientists to leaving Nazi Germany, Second World War had boosted cryptography, big science had produced both powerful computers and *the bomb*. In this context, Wiener inaugurated a different angle on the theory of messages with *Cybernetics: or, Control and communication in the animal and the machine* (1948), foreseeing that, "*in the future development [. . .] messages between man and machines, between machines and man, and between machine and machine, are destined to play an*

ever-increasing part" (Wiener, 1950, p. 16). In his words, the spirit of those times made it necessary for the new theory to include:

> [. . .] not only the study of language but the study of messages as a means of controlling machinery and society, the development of computing machines and other automata, certain reflections upon psychology and the nervous system, and a tentative theory of scientific method. (Wiener, 1950, p. 15)

The son of a Hungarian linguist, a prodigy mathematician, he defined himself a "*scientific artist*" (Wiener, 1950, p. 135), his multidisciplinary approach was not surprising. Yet, it did not necessarily belong to the time or to the global community, if C.P. Snow was to vouch for a collaboration between the *two cultures* eleven years later, in his Rede Lecture (1959).

Dominique Dubarle, in *Le Monde* on December 28, 1948, hailed *Cybernetics* as the foundation of a new science. Constructing the large US computers had requested multidisciplinary efforts: specialists in algebra, geometry, logic, statistics, electricity, communication engineering, biology had met on common ground specialists in the nervous system and psychopathologists. The new machines, underlined Dubarle, could be used to solve human problems, from playing chess to helping blind people read, or creating bibliographies. Proceeding from data, machines could calculate the solution to a given problem more quickly and effectively than human beings, the anti-aircraft artillery control in the war had shown that they were able to reason not only deterministically, but also according to probability. The issue, therefore, was merely what problems they would be asked to solve.

Dubarle provocatively wondered whether a "*machine à gouverner*" would compensate the manifest ineptitude of traditional politicians. Maybe a mechanic manipulation of human reactions would create the best of many possible worlds, "*le meilleur des mondes*" (Dubarle, 1948). Assimilating human government processes to Von Neumann's games, the machine would define the State as the best-informed entity in the "*jeu de l'homme*," the human game, confronting human players with the dilemma between individual choices for immediate results or cooperation for final success.

The situation reminds of our present moment: a technological revolution rewrites the rules of the game of communication; there is concern for the consequences on civil society; a multidisciplinary approach is proposed to face a complex problem related to human behaviour.

Dubarle underlines that, in human societies, rules vary not only depending on the situations engendered by the game itself, but also on the psychological reactions of the partners. He brings the example of the blatant mistake in the Gallup poll for the Truman-Dewey presidential election in the USA: Gallup's analysis relied on the results of polling, which had stopped too soon. This, combined with the time constraints of printed press, caused an extraordinary piece of *fake news* when on 3 November 1948 the Chicago Tribune headlined the wrong name for the new USA President. Dubarle holds this as proof of the threat the excessive faith in machines poses for social inequality; the involvement of serious anthropologists and philosophers might help.

Nowadays the new machine is the Web 2.0 transforming information and the media. Again, what matters is how society plays with it. Ferraris underlines the substantial influence of technology on the creation of truth at a social level, Floridi (2014) analyzes its effects on human beings in the light of the philosophy of information. The digital revolution changed individual self-representation: lives happen onlife meaning that the line between virtual and real-world events is blurred. Humans have become *inforgs*, semantic engines transforming data into information, a process comparable to cooking (Floridi, 2019). The

individual has many digital selves, depending on the relations with others and the contexts, and they are potentially eternal, since on the Web 2.0 social media profiles remain online even after death.

Librarians

So far, this paper has discussed the creation of fake news, but no librarians have come into the narrative, though LIS literature on the issue is rich. LIS professionals may be rarely mentioned outside their field, yet they feel involved. The profession pursues fundamentally two goals, traceable back to Ranganathan's laws: to collect and organize information and to make it easier for citizens to use it. In essence, dealing with information is their job. Naturally, in 1931, Ranganathan referred to books, but he also underlined that "*A library is a growing organism*" (Ranganathan, 1931). His lesson inspired the recent Five Laws of Media and Information Literacy (UNESCO, 2019) within the scope of UNESCO MIL initiative, stating "*We are travelling towards the universality of books, the Internet and all forms of 'containers of knowledge.' Media and information literacy for all should be seen as a nexus of human rights*."

Even assuming that libraries should deal only with what is "published" and that at least what happens on the Web 2.0 should have nothing to do with them, the distinction is becoming blurred: publications are in digital format, newspapers publish on social media, library catalogues are on the web, open access makes science available online and new professional figures, as the data librarian, are emerging in response to new needs, different missions for the library.

The IFLA Code of Ethics for Librarians and other Information Workers (IFLA FAIFE, 2012) refers to information, regardless of the format, since article 19 of the Universal Declaration of Human Rights (1948) "*expressly sets out a right to 'Seek, receive and impart information and ideas in any media and regardless of frontiers'*." The concept of "information" is at the core of the service librarians provide to communities and citizens; their responsibilities comprise promoting information literacy "*including the ability to identify, locate, evaluate, organize and create, use and communicate information*." Moreover, LIS professionals "*provide the best possible access for library users to information and ideas in any media or format*." If that were not enough, the *IFLA/UNESCO Manifesto for digital libraries* extends the principles underlying the library service to digital libraries and collections.

To sum up, their ethical commitments make library and information specialists feel involved in the fake news and misinformation debate, as IFLA (2017, 2020) initiatives prove, for example the infographic "How to spot fake news" (2017) and its COVID-19 update (2020).

It is not a surprise, therefore, that much research on the topic comes from this field, and that much emphasis is placed on the role LIS can play in finding solutions. Information and media literacy is considered the key contribution libraries can offer. Helping people raise their awareness when using information might help them assess information they find on the Web – though it might be objected that competence is not necessarily transferred from context to context (Anderson and Johnston, 2016). To be most effective, critical thinking soft skills should be inoculated from school age on: school librarians are particularly well placed for this, and, where schools libraries are not established, the task could be shared with public libraries. Academic libraries should work on shaping students' and staff awareness not only in the selection and use of information, but also in managing information and data for their own research, writing, collecting data and sharing their results in large research communities, aware of plagiarism and copyright issues.

Another contribution would be of course to preserve and make accessible valuable information, digitizing collections, advocating for open and free access for all – this point includes tracking and making available open knowledge, from scholarly publications to Open Educational Resources (OERs).

Given their field of expertise and skills, this is the contribution librarians could give. They may be too slow for the press – fact-checking time might lose them precious clicks (Seife, 2014) – but quiet and slowness foster creative and critical thought, the enemy of misinformation. Their value lies in the historical view:

> Libraries provide continuing access to the records of our time. As a non-partisan space, [. . .] trustworthy, the library provides a space for reflection, a haven for civility and rationality, and a home for contrarian thinkers. (Lor, 2018)

Though this might not speak to people's gut.

At BOBCATSSS2019, a paper analysing the digital strategies of four countries and of the EU observed that libraries were perceived as spaces where information is stored rather than as partners (Fontanin, 2019), but this is a waste. Lazer *et al.* (2018) does actually mention information literacy in libraries, but he is rather skeptical of the results, though being aware of the risks of leaving control to the algorithms: Pariser (2012) had underlined that the shift from human gatekeepers to automated gatekeepers needs careful consideration.

"*Why librarians can't fight fake news*" (Sullivan, 2018) is a LIS article that sings a different song: USA-focused, it disagrees with 2017 ALA resolution for placing the problem *out there*, as if fake news producers came from outside the libraries, which on the contrary only provide quality information. Sullivan deems ineffective the traditional approach – reaffirming library values on the one hand and enhancing information literacy on the other – because it misses the findings of the psychology of information, that is what fake news does to our mind (Ecker *et al.*, 2014). Once *out* false information cannot be taken back, it is remembered and affects individual vision, therefore offering more and better information is counterproductive because of the confirmation bias:

> [. . .] understood only as a tendency to consciously seek out or avoid information based on prior beliefs, rather than a larger unconscious process whereby we also understand, interpret, favor, and remember information. (Sullivan, 2018)

In a nutshell, mis-informed, rather than dis-informed, individuals, when reading information confuting their beliefs, will read selectively. A counter-narrative denying false facts will cause a reinforcement of the fact rather than a sinking in of the truth, the negative will simply be overlooked.

Technological solutions are discussed as well: attempts at machine-reading tweets to identify rumours, using sentiment and semantic analysis. Given the amount of information available on the web, this seems a more feasible solution. Skeptical as LIS professionals may be, Sullivan urges them "*to engage with and contribute to what can assist in identifying unverified or outright false information.*" To do so, "*librarians will need to reengage, rather than simply reaffirm, some of their core values—specifically the tension between providing unrestricted access to information and 'providing epistemological protection'*" (Sullivan, 2018), meaning that if the first amendment is taken literally, any form of selection might be seen as censorship. The dilemma is between pursuing the quality of the collection and the right of anyone to express themselves.

A mental illness educator might argue that books on the power of angels, that give false hope of healing, should not be allowed a space in public libraries: they distract families of ill children from confronting reality. A librarian might answer that people who read them are

mostly those in need of improving their literacy. The dilemma is not easy to solve, anyway librarians should be aware they bestow authority to the publications they include in their collections.

Sullivan (2018) wonders that "*for-profit companies and their propriety algorithms." be left to solve the problem*, allowing them "*to mark their own homework*" (Great Britain. Grand Committee, 2018). Certain goods are commons: DNA (Castellucci, 2017) should never have owners. The past few months saw the international community sharing research to speed up the discovery of a vaccine. Scholarly, fee-based resources were open to anyone. Now this is over, though the pandemic is not, but it was possible to feel what it would be like to have knowledge at our fingertips – though at the same time social media were bursting with fake stories about bats and empty coffins (Phillips *et al.*, 2020).

Sullivan's article undoubtedly presents deep questions with a dissonant voice. Building on Lazer *et al.*'s (2018) approach, the conclusion could be that no one can *beat* fake news alone and librarians are no exception; yet, it is definitely their task and ethical commitment to *fight* it, but not alone.

Discussion and conclusions

Many questions remain open: how far librarians have to go; whether they should become social media watchdogs or be engaged in devising technological solutions; or maybe focus on teaching people how to evaluate information and hope the attitude will resist in front of confirmation biases, personal beliefs, misinformation and any unconscious impulses.

There cannot be a univocal answer, exactly like there cannot be one umbrella definition of fake news:

> [. . .] a single research paper may interrogate only one aspect of what is a complex misinformation machine, making it tempting to see other papers as providing competing views, when they are, in fact, often entirely complementary windows into a much larger process. (Ruths, 2019)

The mission of individual librarians might be situated according to their experience, the kind of institution they are serving and will undoubtedly vary over their career as they find practical solutions in different contexts. Yet, the commitment to dealing with the problem, to meeting other experts on common ground advocating for information awareness should not be questioned.

The point is whether the goal is the moon or the finger: the ultimate ethical doubt is whether library and information professionals are aiming at justifying their existence in the changing informational landscape or are ready to rethink their role and also become as invisible as libraries are becoming, should this serve the cause of fighting disinformation and contributing to an informed and more aware society.

Note

1. Adapted from the Keynote address to BOBCATSSS2020, "Information Management, Fake News and Disinformation", Paris, 22-24 January 2020, Université Paris-Est Marne-La-Vallée.

References

Anderson, A. and Johnston, B. (2016), *From Information Literacy to Social Epistemology: Insights from Psychology*, Chandos Publishing, Amsterdam.

Baricco, A. (2018), *The Game*, Einaudi, Torino.

Carr, N.G. (2010), *The Shallows: What the Internet is Doing to Our Brains*, W.W. Norton, New York, NY.

Carr, N.G. (2014), *The Glass Cage: How Our Computers Are Changing Us*, W.W. Norton, New York, NY.

Castellucci, P. (2017), *Carte Del Nuovo Mondo: banche Dati e Open Access*, Il mulino, Bologna.

Chulov, J.B.M. (2020), "US kills Iran general QassemSuleimani in strike ordered by Trump", The Guardian, 3 January, available at: https://tinyurl.com/vmkhnbz (accessed 30 October 2020).

Collins Dictionary (2017), "Collins 2017 word of the year shortlist", Collins Dictionary Language Blog, 2 November, available at: https://tinyurl.com/y68jzxjr (accessed 30 October 2020).

Davies, M.E. (2016), "Fake news in corpus of news on the web (NOW): 3+ billion words from 20 countries", NOW Corpus (News on the Web), Database, available at: https://corpus.byu.edu/now/help/fake-news.asp (accessed 30 October 2020).

Dubarle, D. (1948), "Une nouvelle science, la cybernétique:vers la machine à gouverner", Le Monde, 28 December, available at: http://hdl.handle.net/2042/32621 (accessed 30 October 2020).

Ecker, U.K.H., Lewandowsky, S., Fenton, O. and Martin, K. (2014), "Do people keep believing because they want to? Preexisting attitudes and the continued influence of misinformation", *Memory and Cognition*, Vol. 2, p. 292.

Ferraris, M. (2017), *Postverità e Altri Enigmi*, Il mulino, Bologna.

Floridi, L. (2014), *The 4th Revolution: How the Infosphere is Reshaping Human Reality*, Oxford University Press, New York, NY, Oxford.

Floridi, L. (2019), *The Logic of Information: A Theory of Philosophy as Conceptual Design*, Oxford University Press, Oxford, New York, NY.

Fontanin, M., (2019), "Warriors, allies or spectators: a look at stakeholders' perception of the role of libraries and librarians in the fake news phenomenon", in Gordana, G, Mirna, G.R, Jure and Z, Madeleine. L. (Eds), *Information and Technology Transforming Lives: Connection, Interaction, Innovation*, Faculty of Humanities and Social Sciences, University of Osijek, Croatia, Osijek, pp. 228-240.

Great Britain. Grand Committee (2018), "Disinformation and 'fake news': interim report: fifth report of session 2017–19 – digital, culture, media and sport Committee – House of commons, no. HC363", Authority of the House of Commons, London, p. 89.

International Federation of Library Associations and Institutions (IFLA) (2017), "How to spot fake news", 8 May, available at: www.ifla.org/publications/node/11174 (accessed 30 October 2020).

International Federation of Library Associations and Institutions (IFLA) (2020), "How to spot fake news – COVID-19 edition", 27 July, available at: www.ifla.org/publications/node/93015?og=7407 (accessed 30 October 2020).

Freedom of Access to Information and Freedom of Expression (IFLA FAIFE) (2012), "IFLA code of ethics for librarians and other information workers", available at: www.ifla.org/publications/node/11092#responsibilities (accessed 30 October 2020).

Ireton, C. and Posetti, J. and UNESCO (2018), "Journalism, 'fake news' and disinformation: Handbook for journalism education and training", available at: https://en.unesco.org/fightfakenews (accessed 30 October 2020).

Knappenberger, B. (2014), "The internet's own boy: the story of Aaron Swartz (must watch documentary 2014)", available at: www.youtube.com/watch?v=Dv6t21xXogY (accessed 30 October 2020).

Lanier, J. (2010), *You Are Not a Gadget: A Manifesto*, Alfred A. Knopf, New York, NY.

Lanier, J. (2019), *Ten Arguments for Deleting Your Social Media Accounts Right Now*, Vintage, London.

Lazer, D.M.J., Baum, M.A., Benkler, Y., Berinsky, A.J., Greenhill, K.M., Menczer, F., Metzger, M.J., Nyhan, B., Pennycook, G., Rothschild, D., Schudson, M., Sloman, S.A., Sunstein, C.R., Thorson, E.A., Watts, D.J. and Zittrain, J.L. (2018), "The science of fake news", *Science*, Vol. 359 No. 6380, pp. 1094-1096.

Lor, P.J. (2018), "Democracy, information, and libraries in a time of post-truth discourse", *Library Management*, Vol. 39 No. 5, pp. 307-321.

Morozov, E.V. (2011), *The Net Delusion: The Dark Side of Internet Freedom*, Public Affairs, New York, NY.

OED Online (2019), "Fake, n.2 and adj", Oxford University Press, available at: www.oed.com/view/Entry/67776 (accessed 30 October 2020).

Pariser, E. (2012), *The Filter Bubble: What the Internet is Hiding from You*, Penguin Books, London.

Phillips, T. Agren, D. Collyns, D. and Goñi, U. (2020), "Tsunami of fake news hurts Latin America's effort to fight coronavirus", The Guardian, 26 July, available at: https://tinyurl.com/y6ns45y5 (accessed 30 October 2020).

Ranganathan, S.R. (1931), "The five laws of library science", The Madras Library association, Madras, available at: https://babel.hathitrust.org/cgi/pt?id=uc1.$b99721 (accessed 30 October 2020).

Ruths, D. (2019), "The misinformation machine", *Science*, Vol. 363 No. 6425, pp. 348-348.

Seife, C. (2014), *Virtual Unreality: Just Because the Internet Told You, How Do You Know It's True?*, Viking, New York, NY.

Snowden, E. (2019), *Permanent Record*, Henry Holt and Company, New York, NY.

Sullivan, M.C. (2018), "Why librarians can't fight fake news", *Journal of Librarianship and Information Science*, Vol. 51 No. 4, pp. 1146-1156.

The Riot That Never Was (2005), "Factual (archive)", BBC – Radio, 16 June, available at: www.bbc.co.uk/radio4/factual/the_riot_that_never_was.shtml (accessed 30 October 2020).

The Word – Truthiness – The Colbert Report (Video Clip) (2005), available at: https://tinyurl.com/nhndsho (accessed 30 October 2020).

TIME Magazine (2006), "TIME magazine cover: person of the year: you - Dec. 25", available at: https://tinyurl.com/psrsv63 (accessed 30 October 2020).

"Truthiness" (2019), "Truthiness': Can something 'seem,' without being, true?", Merriam Webster. Words at Play, 18 April, available at: https://tinyurl.com/y5xo6fg6 (accessed 30 October 2020).

Turk, Ž. (2018), "Tackling 'fake' news matters – growth, jobs and more", 12 January, available at: https://zturk.blogactiv.eu/archives/391 (accessed 30 October 2020).

United Nations Education, Scientific, and Cultural Organisation (UNESCO) (2019), "Five laws of MIL", 24 May, available at: https://tinyurl.com/yay4wtd6 (accessed 30 October 2020).

Wendling, M. (2018), "The (almost) complete history of 'fake news'", BBC News, 22 January, available at: www.bbc.com/news/blogs-trending-42724320 (accessed 30 October 2020).

Wiener, N. (1948), *Cybernetics*, J. Wiley, New York, NY.

Wiener, N. (1950), *The Human Use of Human Beings; Cybernetics and Society*, Houghton Mifflin, Boston.

Zanni, A. (2019), "Il web è un moltiplicatore", *The Game Unplugged*, EINAUDI.

Further reading

Snow, C.P. (1959), *The Two Cultures and the Scientific Revolution*, University Press, Cambridge.

United Nations (1948), "Universal declaration of human rights", available at: www.un.org/en/universal-declaration-human-rights/ (accessed 30 October 2020).

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