{Dis/ /information}

Why it works and what can we do about it?

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Introduction

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Disinformation seems to have become the main preoccupation of the whole world – and not just the media. Disinformation represents an all-encompassing social crisis, generating new (while also exposing existing) issues in multiple social systems.

Disinformation is a problem on all educational levels – general education, civic education, science education, and in the case of scientists themselves adopting the disinformation agenda, education for science. Since the crisis is present on many fronts, the (lack of) responses are also multidimensional.

The crisis is a problem of political literacy.

Trust in democracy cannot be separated from the trust in some of the key actors of democracy. These actors also include the media, who are key to monitoring the process of democratic decision-making, as well as transferring and clarifying it to citizens[1]. In addition to regular and peaceful government transition, the democratic system is specifically defined by a free and independent media, and the reciprocity of the processes taking place in the media and in society has become painfully obvious, in Croatia as well as in other countries, especially in central and eastern Europe.

The crisis is a problem of media (and digital) literacy.

Social media has become the prevailing environment for socialisation, information and entertainment, as well as education, fulfilling those roles primarily for the younger generation. Their unrelenting adoption by the youngest population has unfolded as an unprecedented social phenomenon, while the issues stemming from the rise of disinformation and the lack of adequate digital literacy are especially prevalent in this population, who spend the majority of their time interacting on social media.

The crisis is a problem of science education.

The prevalence of the belief in pseudoscientific claims in a society reveals the degree of scientific literacy of that society, opening up the space for conspiracy theories and non-scientific practices, often in areas where they

1 All gender-specific terms used in this manual refer equally to every gender.

are especially dangerous – in medicine and psychotherapy. These practices cause the most harm to the most vulnerable groups – those in need of assistance, wasting their financial resources by feeding these scientifically unfounded practices.

The crisis is a problem of civic education.
Disinformation does not spare a single social sector – it aims to undermine the trust in decision-makers, as well as the certainty of the decision-makers on situations they need to deal with. Targeting institutions and the public simultaneously, propagators of disinformation aim to create both *real* and *perceived* chaos in a society, dissuading citizens from achieving constructive social objectives.

In such an environment, it is becoming increasingly obvious that the struggle for public interest and fulfilling important democratic functions, which are at the core of journalism, are what still separates the media from the social networks and other platforms. Even though online platforms are increasingly forced to consider public interest or preventing malicious occurrences such as disinformation when ranking, moderating and distributing content, it is completely apparent that tech giants will never have public interest as their top priority – in fact, content moderation need not be anything more than one way of defending themselves against lawsuits. In a time of attention economy, where attention is the scarcest resource everyone is fighting over, serious news, analyses, reports and investigative stories remain buried under mounds of trivial content, which is more attention-grabbing and light-hearted, but ultimately completely meaningless. For the media to be able to assert itself with quality content, increasing citizens' trust in the media and journalism is imperative.

About the manual

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Firstly, this is not a manual on *how to be a journalist*. There are textbooks, manuals, entire university courses and a vast wealth of professional practical knowledge used every day by journalists working as true media professionals.

Furthermore, the primary purpose of this manual is not to discuss fact-checking methods and techniques. Numerous manuals exist on that subject, while information on the main tools and methods used by fact-checkers is readily available through various online sources.

Instead of dedicating more space to fact-checking methods, this publication aims, on the one hand, to reflect on the *characteristics of disinformation* and us as *receivers of information and disinformation*, and on the other hand, to reflect on the *structural conditions* hindering the fight against disinformation and making it more difficult than it would seem, despite all the tools available to journalists.

Regarding professional standards, with this manual, we wish to highlight the large number of negative trends significantly obstructing the professional work of the media. From political and advertising pressures, publishing quotas, the constant race to get the most clicks and views, to the lack of capacities to conduct fact-checking as part of everyday journalism – professional journalism is struggling to avoid pressures from multiple sides. We believe that it is impossible to discuss the fight against disinformation without addressing some of these conditions, which we will analyse on multiple levels – from what is applicable to everyday journalism to possible actions to be taken by actors with a broader influence on the profession.

The content for this publication was chosen based on the fact that not even the best journalism driven by the purest of motives will survive in a hostile political environment, with censorship and self-censorship, competing with widespread political disinformation, without a stronger profession and informed and responsible citizens. This is why we want to warn about the numerous economic, political end even technical obstacles to actually making use of this literacy.

Furthermore, we wish to discuss the audience consuming media content – citizens. Shifting the focus away from the competencies for critically engaging with the media (i.e. media literacy) to other, bigger processes, we believe that we cannot think of ourselves as neutral receivers of information, but accept that we are influenced by a whole series of mechanisms in the process of receiving and filtering information, and then reaching conclusions based on the existing knowledge and competencies. Heuristics and reasoning processes based on incomplete data, prejudice, confirmation bias, emotional reactions... they all make it difficult to distinguish disinformation from credible information, with formal education alone offering little protection.

Finally, we would like to draw the attention of our readers to some of the tools, which at the time of writing this manual, still represent good practices for basic fact-checking. Disinformation technology and fact-checking are competing in a sort of 'arms race', and even more sophisticated tools for journalists will surely be developed in the future.

The manual does not follow a linear structure as linearity would imply that the issues addressed here can be easily broken down into parts with relatively simple solutions. On the contrary, disinformation is currently one of the key issues precisely because it is reduced to a simple, targeted and sector-oriented response. It is a problem of the *state and decision-making structures*, because it hinders meaningful governance and strategic planning. It is a problem of *media systems*, because instead of informative work, it shifts the focus to content selection, exploiting the work of journalists in an environment in which quality journalism enjoys little support. It is a problem of *society* because it successfully exploits multiple social vulnerabilities: the lack of awareness of the threat of disinformation itself, the lack of knowledge of the way our systems function and the low levels of trust in those systems. Such a complex problem as disinformation is impossible to resolve only on one level. However, for the purposes of this manual, experts in various fields offered their perspectives on this burning issue of the media sphere.

We would like to give special thanks to the participants in the pilot training programme Journalism Against Misinformation, which took place in Zadar in October 2022, for their feedback, which significantly helped shape the contents of this manual.

The Disinformation Phenomenon

PART ONE

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DISINFORMATION — WHAT THEY ARE DOING TO US AND HOW THEY ARE DOING IT

Disinformation can be defined as inaccurate information that was intentionally created to mislead the public; harm a certain person, organisation, social group, state or objective, and achieve some sort of interest (e.g. economic or political).

An equally popular term for disinformation, if not even more so, is fake news. This term is problematic for at least two reasons: firstly, it is an oxymoron and insufficiently substantiated – if something is fake, it is not news; secondly and even more importantly, it is particularly abused by politicians in an attempt to discredit the media and journalists who report on them critically. Politicians frequently, and often unfoundedly, use the term fake news, further eroding the already low trust in the media. Furthermore, most content contributing to information disorder is not entirely fake, but taken out of context, consists of rumours, is exceedingly biased or certain key information has been deliberately left out, making it harder to grasp the entirety of the disinformation.

It is important to note that not all incorrect information is at the same time disinformation. On the contrary, as the media keep publishing information on a daily basis, journalists and editors are prone to making unintentional mistakes and spreading incorrect or insufficiently verified information and claims. It is therefore necessary to distinguish between *misinformation* and *disinformation*.

Both cases involve incorrect information; however, the key difference lies in their intention. While misinformation can be an unintentional mistake, the same cannot be said for disinformation. A key feature of disinformation is that it is *deliberately* false, purposefully placed in order to mislead the recipients of the disinformation, encourage emotional reactions and achieve certain political or financial goals. In other words, disinformation is never an accident.

The spread of disinformation is planned. As much as it appears to be chaotic and decentralised, the background of disinformation involves unexpectedly extensive planning, with narratives, prepared arguments, audio-visual materials and implementation schedules – just like any other well-coordinated project. It is worth bearing in mind the different formats it appears in, since not all deceptions are equally complex or malicious.

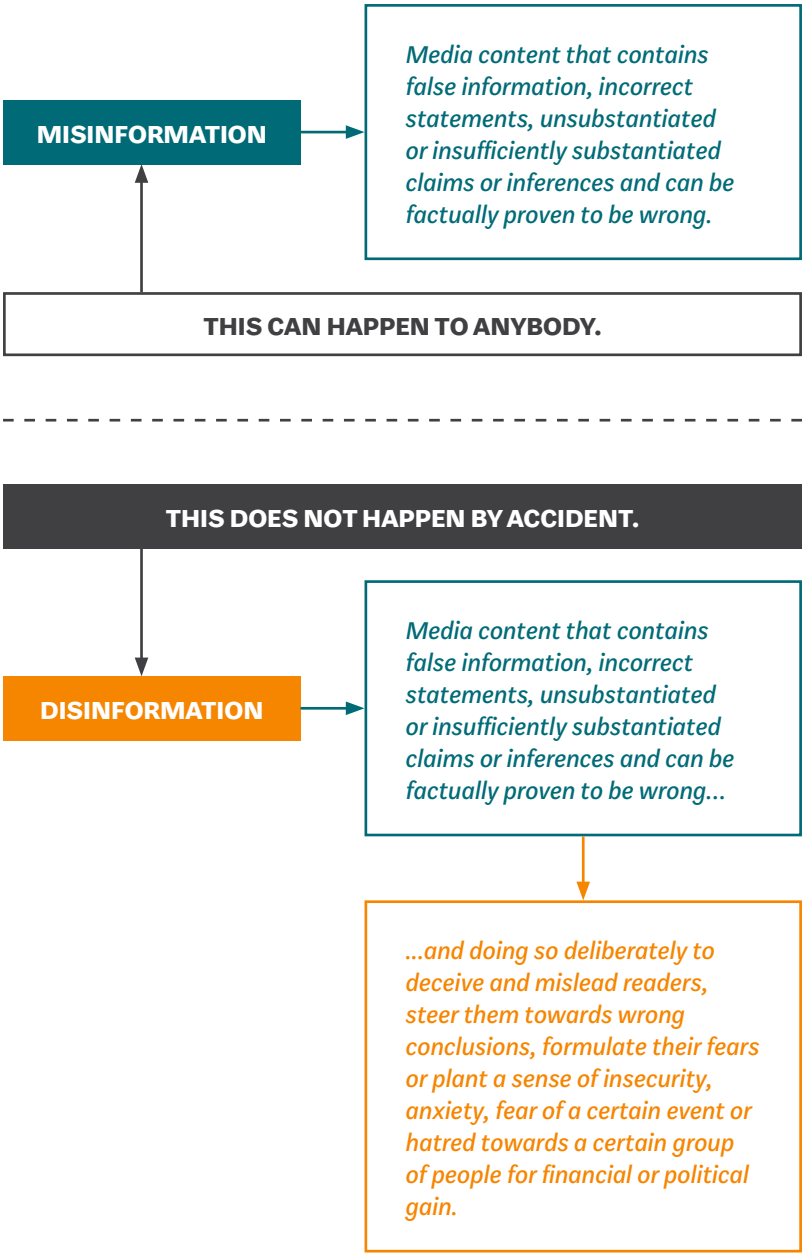

Image 1 – Difference between *misinformation* and *disinformation*.

The international organisation for the promotion of media literacy *European Association for Viewers Interests* (*EAVI*) lists multiple types of misleading news. They ascribe five possible motives for it: financial gain (*money*), political influence or power (*politics/power*), humour or entertainment (*humour/fun*), causing emotional reactions (*passion*), providing information or misinformation/disinformation (*(mis)informing*). The chart demonstrates that in the case of spreading false information, we are dealing with a phenomenon that cannot be described using just one motive or manifestation. Nevertheless, false information with the intention of appearing truthful is of special interest to us.

Furthermore, disinformation spreads fastest and is most readily 'received' in the case of political news and political events (e.g. elections) and in extraordinary circumstances (e.g. during the COVID-19 pandemic or natural disasters such as earthquakes). If in such situations, the relevant institutions do not react in a timely manner and do not adequately inform citizens through all relevant communication channels, media and social networks, this opens up space for the spread of speculation and panic, often unintentionally, but sometimes in a targeted manner.

From the beginning, the coronavirus pandemic has been followed by an *infodemic* (WHO 2020) – too much information circulating in public spaces, some false and some deliberately manipulative (disinformation). An infodemic appears during high-intensity events when, in a short period of time and due to high public interest, the volume of information is significantly increased and it is difficult to distinguish rumours and disinformation from credible news – especially on social networks with no editorial control. Too much information can sometimes make it difficult for people to find reliable sources and necessary instructions, and in such a situation, misinformation can directly endanger lives (e.g. claims that masks offer no protection, the virus is fake, there is no need for physical distancing etc.). COVID-19 has proven to be a 'continuously breaking' topic on a global scale. From the first recorded cases at the end of 2019 until today, it has attracted a rarely seen intensity of the production and dissemination of disinformation.

In politics especially, controversial multimedia content attains a greater level of *virality*[2] than non-political content, with the more controversial and provocative political opinions regularly achieving greater reach. This is connected to another algorithm characteristic, especially on YouTube, which includes favouring current videos, especially those that achieve enviable viewing figures in a short time period. These viral videos are a high priority for YouTube's algorithm, they are additionally prioritised and shown as many

2 Virality is frequently used to describe content with a high number of shares on social networks and other online platforms.

times as possible in the shortest possible time, in the hopes that their popularity drives the number of clicks and opportunities for ad revenue.

Finally, dramatic non-political events that capture the attention of the media around the world will inevitably have political repercussions. At the time of writing this manual, we are witnessing in real time a very dangerous characteristic of disinformation – its ability to attract and engender political mobilisation. Pandemic deniers in the USA, together with other conspiracy theorists, have found themselves in similar occasions of mobilisation with other politically radicalised groups encouraged by various conspiracy theories and other actors openly or covertly supporting the mobilisation against the government and scientific authorities.

DIAGNOSIS — MEDIA MALAISE

Losing trust in almost all institutions and authorities has been a widespread trend for many years now. Many scientists believe that it is often the media who are responsible for this loss of trust, leading to the theory of *media malaise*, which essentially describes the negative consequences that television news have on civic trust and engagement because of the repeated negative framing of events and political content (Norris, 2000: 6).

Negative content, growing sensationalism, tabloidisation and infotainment[3], the general increase in entertainment and trivial content in the media with the intention of expanding their audience now seems like a dead end. In terms of entertainment, it is becoming increasingly difficult for the media to compete with social networks, where millions of users produce huge amounts of new content every second, often more dynamic and engaging than anything television has to offer. Quality journalism, public interest and fulfilling democratic functions represent both opportunities and barriers for the media, as the production of content that meets these criteria is more demanding and costly, often attracting fewer audiences than trivial content and entertainment.

Nevertheless, the media should insist on verified, factual, informative and analytical journalism. While we are all aware of the fact that journalistic practices are in need of improvement, when it comes to everyday practices and real-life situations in which journalists and editors are operating without sufficient and financial resources, often without adequate knowledge and skills necessary to function in a complex and oversaturated information

3 A portmanteau of the words 'information' and 'entertainment', representing media formats attempting to fulfil the informative and entertainment functions at the same time; often used pejoratively, alluding to the loss of relevance with the aim of pleasing a wider audience.

environment, under time and various other pressures, producing content for several different platforms simultaneously, the final product often includes unverified information with a sensationalist headline that has little to do with the content of the text itself, accompanied by a photo that shocks, but does not accurately depict etc.

This imperative to publish following journalists at every step is the first among many factors contributing to the reduced ability of the media to address the current information disorder.

WHY WE SHOULD NOT GIVE UP ON THE MEDIA

Despite these challenging times for journalism, as media organisations are trying to find the balance between public interest and profit, the importance of the media and journalism in the eyes of the citizens is evidenced by data from the Eurobarometer[4] survey in which respondents were asked who should be responsible for the fight against disinformation. Most respondents (45%) replied that it should be the responsibility of the media, with public administration in second place, followed by social networks, the citizens themselves and finally educational institutions. Following the Trump era and the popularisation of the term 'fake news', many Croatians also think that the media is disseminating disinformation and are therefore responsible for fighting it. At the same time, some citizens certainly believe that quality and professional media is one of the prerequisites of a quality democracy. This is an opportunity that the media should grab, especially in a time of great global crises, such as the pandemic, the war in Ukraine and information disorder, and rebuild the reputation they deserve.

Following this brief discussion on the phenomenon of disinformation, we would like to open a number of topics related to the fact that it has become challenging to use journalistic tools to fight against disinformation. On the one hand, political and advertising pressures are reducing the resistance of the producers of media content themselves to disinformation. On the other hand, pseudoscience and conspiracy theories are taking up public space and are becoming impossible to ignore. Our own reasoning mechanisms are often not helpful in selecting information that is credible, while the logic of digital platforms selects content, giving us merely an illusion of choice.

We will begin with the decline of journalism facilitating the spread of disinformation and preventing it being published in the media in a timely manner.

4 https://cyberpolicy.nask.pl/wp-content/uploads/2019/04/Flash-Eurobarometer-464_en.pdf

Working Conditions in the Newsroom

PART TWO

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JOURNALISM UNDER POLITICAL AND ECONOMIC PRESSURES

There is no research that gives us precise information on whether the political and economic pressures on journalists in the Republic of Croatia have increased since the country was founded until today; however, there are many indications that the profession is in decline, that the government is avoiding the regulation of the legal framework and the strengthening of the profession, as well as the position of journalists, while the corporate segment of media outlets is gaining strength at the expense of content creation. In general, journalism is growing weaker, and under such conditions, political and economic pressures are more successful in finding their way to journalists, or becoming more difficult to recognise, expose and condemn.

Legal framework for the media

The Republic of Croatia has a legal framework guaranteeing the independence of the media. This includes the provisions of legislation relevant for the media (for example, the Media Act or the Electronic Media Act), as well as the Constitution of the Republic of Croatia.

"Censorship shall be forbidden. Journalists shall have the right to freedom of reporting and access to information.", as stated in Article 38 of the Constitution of the Republic of Croatia guaranteeing freedom of thought and expression. The Constitution also includes the "freedom of the press and other media, freedom of speech and public opinion, and free establishment of all institutions of public communication". Therefore, we could say that in the foundations of the legislation in Croatia, journalism is considered important for safeguarding democratic values and thus the political determination for free and strong media was set out in principle.

Furthermore, the Media Act defines the conditions for exercising the principles of the freedom of the media, the rights of journalists and other participants in providing public information, placing journalism in the role of a guardian of democracy. However, the Act was adopted in 2013 and many of the provisions are outdated, for years it has been noted that no sanctions exist for many problematic

situations negatively affecting journalism, the Act neglects to define who is responsible for the violation of provisions, while many solid solutions are not being implemented at all and no one is held accountable. At the end of 2021, the Ministry of Culture and Media announced that it was prepared to draft a new Media Act or amend the existing one and a working group was established – with journalist representatives in the minority – but only one meeting has been held so far.

In general, we can say that the legal framework, lacking as it is, positions journalism as an important pillar of democracy. However, these legal provisions have by no means helped journalism achieve respect, public recognition or the understanding of complex mechanisms to elevate the quality of journalism. Not even once during her term as the minister of culture and media has Nina Obuljen Koržinek mentioned the possibility of censorship in certain media outlets or that it is a problem that should be addressed. **"I don't believe that there is any censorship going on in any media outlet in Croatia today"**, she stated in an interview for N1TV in January 2019.

ATTITUDES TOWARDS JOURNALISM — FROM POLITICIANS TO STREET LEVEL

The disrespect for journalism has not declined since the 1990s: attacks, insults and contempt start from the most prominent politicians, but are present in all segments of society.

Below we highlight some of the statements made by two of the most prominent politicians with executive power – prime minister Andrej Plenković and president Zoran Milanović. They include statements given directly to journalists, statements quoted by the media made during a media conference or other public address, and statements made off-camera with no intention of being aired, which does not change the fact that those words were uttered in a space where the media could record them.

“What you’re doing right now, you allowed yourself to be a bit rude, but it won’t happen again”
(Plenković, June 2021).

“Are there any more questions, smarter questions, more relevant for the Croatian public than this one”
(Plenković, January 2022).

“Just don’t interrupt me as much. No, no, no, we’re not doing this interview for your sake, we’re doing it for the public. Just so you know upfront. I’ll kick your ass if you’re rude, I’m dead serious, don’t constantly interrupt me”
(Plenković, before the interview with Mislav Bago for Nova TV – first aired during Prime Time on N1TV, September 2022).

What can we observe in these examples? A patronising attitude, lecturing journalists on how to do their job, obvious threats in the case of Mislav Bago, which, given that they were recorded on camera, the editorial staff at Nova TV must have been aware of.

“What journalists? Those people writing for Index are not journalists.”
(Milanović, October 2020.)

“You are worse than Yutel”.
(Milanović, May 2021)

“They keep following me, like a rash, like a skin infection. Some things are simply impossible not to notice. This is dreadful. The educational standards have declined tremendously. We are talking about a completely decayed profession”
(Milanović, April 2022).

These are just some of the examples of statements made by the president disparaging the entire profession or individual journalists.

When two of the most prominent state officials display this sort of attitude towards the media – both highly publicly visible, and in the case of the prime minister, with arguably the greatest power in the executive branch of government – there is a high risk that other actors in decision-making positions will emulate this attitude towards journalists and the media, believing they can insult, threaten, blackmail and pressure them into not doing their job.

This attitude towards journalists and journalism coming from the political leadership is turning into 'tangible' hostility at the level of society. For example, the number of lawsuits against media outlets is on the rise. "At least 951 lawsuits against media outlets and journalists are currently active, with plaintiffs demanding almost HRK 77.4 million" (Croatian Journalists' Association, March 2022). There are numerous threats and insults on social networks and in public spaces. One of the most drastic examples is the case of a journalist writing for Jutarnji list, who, after being asked by a taxi driver what she does for a living, received the following comment: "Anyone who writes against Croatia deserves a bullet to the forehead".

Whenever attacks on journalists are reported in the media or disparaging comments are being discussed, we often hear that journalists are too preoccupied with themselves. That is, of course, not the case: if journalism is considered an important instrument for safeguarding democracy and advancing democratic standards, then the constant disrespect, especially from the highest positions of power, can and must be treated as an attack on the democratic values of the country. Given the main topic of this manual is disinformation, we can say that by constantly and repeatedly disparaging journalism as a profession, the picture is becoming blurrier and it is getting harder to distinguish which media outlets and journalists use verified information in their work, how information should be presented, and what disinformation is.

MEDIA STRUCTURE AND THE SHIFTING BALANCE OF POWER

All media outlets, regardless of how they publish their content, can roughly be divided into the corporate segment and the newsroom. The *corporate segment* includes the owner (publisher) and the management responsible for guiding and shaping business processes, managing income and expenses, human resources, marketing, promotion etc.

On the other side of this divide, we have the *newsroom*, content creators, editor-in-chief, editors, journalists, camera operators, photographers etc. Following the rise of digital production, the newsroom also includes various creative teams for social network support.

The emphasis on *the other side* is by no means accidental. One of the key tenets of journalism should be the independence of the newsroom and the journalists from the corporate segment, that is, the corporate segment of a media outlet should not have any influence on media content, nor should the newsroom discuss the details of their reporting with the corporate segment (the marketing department etc.). The applicable Media Act identifies the position of the editor-in-chief and the newsroom as opposite the corporate segment, i.e. the newsroom is formally independent; however, there are no measures to ensure this independence or sanction media outlets that do violate the independence of the newsroom or journalists.

During the 1990s, i.e. the first decade since Croatia declared independence, there was no such thing as broadcast media pluralism, and internet news sites and digital journalism were just a distant future. This is the environment in which printed media emerged as the main champions of influential and independent journalism, where content creators, journalists and editors took on key roles in media outlets since content was their main source of revenue. We can maintain that at that time, the newsroom had significantly more power than the corporate segment compared to today. Owners of media outlets, or their managers, negotiated with editors-in-chief, and they in turn offered a certain editorial policy and were responsible for its implementation, they had a high degree of autonomy in organising the activities of the newsroom and choosing associates, editors and journalists. Since printed media made their money primarily from the sale of newspapers and magazines, ad sales were in an inferior position.

However, from the year 2000 onwards, and in particular after 2010, most Croatian media outlets experienced a significant decline of the newsroom compared to the corporate segment. First, printed media experienced a significant increase in the share of ad sales compared to copies sold. Marketing and ad sales departments are becoming more powerful, but it is obvious that they could not reach this position alone, the final decision lies with the owner or publisher – but what do they value more? Do they want an independent media outlet? Do they want to invest more in journalism or management, that is, ad sales and promotion?

Over time, a significant structural change occurred with regard to the owner/publisher. They are increasingly uninterested in journalism, as more and more business ventures emerge where media outlets occupy a secondary role, become just an afterthought or an instrument, and the interest of the owner moves to other areas with easier ways to make money (e.g. real estate, conferences etc.). Newsrooms are getting smaller, while the corporate segment is getting bigger: services originally supposed to provide support are getting stronger by the day. We are seeing a declining number

of publishers willing to invest in the development of professional standards or more complex types of journalism such as investigative journalism. Specialised journalism is not encouraged. In many media outlets, marketing managers have a considerable influence on, or entirely dictate the content. At the same time, political and corporate entities, which should be the target of media scrutiny, are increasingly investing in communications and PR services, frequently used to exert pressure or obstruct access to information, instead of providing a 'service' and informing the public and cooperating with journalists. In short, journalism is growing weaker compared to those it is meant to critically evaluate.

ARRANGED JOURNALISM

This environment gave rise to so-called *arranged journalism*, that is, owners of media outlets are making deals with political and corporate entities on their media coverage, discussing advertising packages, services, impact etc. in exchange for reporting in a certain way – only positive representation, omitting or sidestepping awkward topics.

The result: thanks to media outlets adopting the practices of agreed journalism, the reality in Croatia has become distorted and incomplete, and contributes to the disinformation of the public.

Why did arranged journalism get such a foothold in Croatia? We can identify three main causes:

- The lack or dissolution of a clear line between the corporate segment and the newsroom/editorial policy. This is the result of an ineffectual Media Act, among other things, and its influence on arranged journalism is most keenly felt. A newsroom whose work is shaped by corporate decisions loses its credibility and independence to an enormous degree.
- A poorly developed business environment and market: the biggest and most powerful advertiser in Croatia is the Croatian government, its ministries, government agencies and state-owned companies5.
- Private advertisers are dominated by large companies, frequently connected through ownership. This creates centres of power successfully arranging how they will be represented in the media – if at all.

5 See Gong's research on state advertising: https://gong.hr/2021/12/29/drzavno-oglasavanje-milijuni-iz-proracuna-i-drzavnih-tvrtki-slijevaju-se-u-birane-medije/

DANCING AROUND THE BIGWIGS — REAL-LIFE EXAMPLES

If we look at publicly available lists of the major companies in Croatia (e.g. this ranking by the business weekly Lider) or this list of the most powerful entrepreneurs, and we determine that these companies and entrepreneurs are shaping the future of Croatia, we must ask ourselves: are they being covered by the media in that capacity, are their actions reported through a critical lens, and are they being covered by the media at all? No exact studies exist, but a cursory web search shows that these centres of power are hardly ever discussed in the media, and when they are, it is very controlled and never from a critical standpoint.

For example, in July 2022, after several news sites took down a story published by the Croatian news agency HINA reporting on a parliamentary discussion about the possible link between high-ranking Security and Intelligence Agency (SOA) officials, key personnel of the Domovinski pokret political party, and managers employed by companies with ownership connections to Pavao Vujnovac, one of the most powerful entrepreneurs in Croatia, whose business success is linked to the import of Gazprom gas through PPD, a privately owned company, and the public began speculating about who took the articles down (with the Croatian Journalists' Association organising a press conference on the subject), PPD issued a press release maintaining that "PPD never has and never will take down articles published in media outlets, nor has it a manner to do so".

Of course, it is entirely possible that PPD had no direct part in taking down these articles. However, due to the immense concentration of power exerted by Vujnovac through several big companies as advertisers (Fortenova Group, Pevex, PPD etc.), it is highly likely that the internal media mechanisms regulating press coverage have already been activated: ad sales departments demand upfront that such big advertisers are not written about or that they are only presented in a positive light. In this particular case, another possible reason for the removal of the parliamentary discussion from news sites stems from the fact that the discussion included SOA officials. Even though the president of the Parliamentary Committee on National Security, Siniša Hajdaš Dončić, was asked directly by journalists about the problem of possible pressure from the intelligence community, which he concluded would be unacceptable, the fact is that the Committee has never discussed this case, a case that is extremely important for the media scene in Croatia.

The case of taking down articles discussing the connection of SOA officials, politicians and managers employed by companies owned by an immensely powerful entrepreneur is undoubtedly an example of background machinations coming to the surface – creating a media image where chosen actors are purposely overlooked and enjoy a privileged position.

This case represents just one indicator, one example demonstrating that the image of reality presented by the media in Croatia is impaired and unbalanced: certain individuals and entities are untouchable, presented only in a positive light or not covered at all. They are instead treated in line with *arranged journalism*: interviews are conducted in a controlled environment, media outlets publish their PR press releases, making it impossible to critically cover all centres of power equally (of course, there are still individuals, journalists and editors who continue to believe in the values of independent journalism, which is why we are seeing critical texts being published even about the 'most sacred' cows).

Censorship in Croatian media is becoming less visible and direct (there are fewer direct external attacks on authors and journalists), and taking on a more insidious form, snaking its way into newsrooms and hiding in complex relationships. It cloaks itself in the interpretation of business objectives or journalism standards, trickles down the editorial hierarchy and presents itself as part of a normal editor-journalist relationship. The existence of these external pressures is frequently being kept from journalists, while the immediate editors try to present the intervention as part of the task. However, two prevailing lines of attack are exposed in the background:

- first: the owner of the media outlet, through the CEO or other managers, directly sets a 'task' for the editor-in-chief or the responsible editor to be passed down to the journalist;

- second: the ad sales department, or marketing department, communicate with the editorial staff, who function as a sort of tool for satisfying the needs of the largest advertisers or advertisers who pass a certain threshold.

THE INSIDIOUS COVER-UP OF CENSORSHIP

Editors often do not wish to admit to journalists that they are experiencing certain pressures or even consider them to be a desirable and normal part of being an editor, passing on to journalists new 'ideals' of journalism in the form of respect for those who wish to advertise in the media outlet. Journalists are frequently cautioned to be more considerate towards the 'hand that feeds' them and topics are eliminated as soon as they are suggested: "Why this particular topic?", or "Of all the possible companies, why does it have to be this one?", or "Nobody's going to get that!" are just some of the statements heard by journalists who wish to investigate complex cases of corruption involving major advertisers.

Models to demotivate journalists in the newsroom are becoming more complex and the profession is growing weaker economically. Especially in the case of news sites, an increasingly influential type of media, journalism is exceptionally low-cost and working conditions are extremely difficult: It is imperative to produce as much news as possible in the shortest possible time, be the first, the most engaging, get the most clicks, the most views, have the strongest presence on social networks... while employing the fewest people, editors, journalists – who are getting paid less and less. Investing in newsrooms, journalism and especially investigative journalism is declining. Going into the field is discouraged and specialisation is not allowed. Owners of media outlets are more prepared to invest in 'prepackaged' texts from other sources, copy/paste journalism is the dominant form[6], while more investments are being made into social network tools than into journalists or original content creators.

In such an environment, it is getting easier to put direct pressure on journalists from the outside – with almost no judgement or sanctions – as well as from the inside, using hidden mechanisms in the newsroom. Gong discusses these pressures in our pilot-research, demonstrating that companies, major advertisers and their proxies – PR departments and ad agencies – are greater sources of pressure than politicians and political centres of power, with a significant number of the respondents warning about so-called native advertising[7] as a model of exerting pressure, in which journalism and PR are combined and that Croatian regulation still fails to recognise.

6 This term implies the trend of copying content published by other media outlets with minimal or no editorial intervention, and often a simple translation or downloading of content in its entirety – not only in the case of agency news, but also from other media outlets and even social networks.

7 Native advertising includes ads that are only minimally different from the media content they usually cover. They deliberately avoid the appearance of ads and are trying to seamlessly integrate with the user's experience.

More than two-thirds of respondents, who are experienced journalists, answered affirmatively to the question of whether they were exposed to any pressures in the past two years because of the articles they published, while two-thirds of respondents confirmed that in the past two years, they have witnessed pressures in newsrooms where they work from individuals in positions of power and media outlet owners, but also from the marketing department of the media outlet where they work.

The existence of the above practices as everyday occurrences reveals the broader issues plaguing the media scene in Croatia, and they must be identified as systemic issues affecting the entire *media landscape*.

THE CROATIAN MEDIA LANDSCAPE

Paradoxically, despite the fact that Croatia is continuously making progress on the press freedom index, that Croatian society needs quality journalism and recognises it, and that journalists know how to do their jobs and are willing to do it, actors who are often successful in liaising with publishers are continuously shrinking the space occupied by journalism and making it shallow and inadequate. A great number of topics of public interest remain unexplored and hidden, and an even greater number of topics lack proper contextualisation. This also implies a lack of backstory, well-researched and comprehensive stories, as well as follow-up reports on the development of a certain subject after it stops being 'breaking news' or a scandal.

Structural issues follow all forms of media. Journalism students intuitively grasp the concepts of censorship and self-censorship while working for student papers and magazines, if they manage to launch and keep them going. The majority of topics on news sites are subject to the so-called negativity sprint syndrome: as much bad news as possible in the shortest possible time; a certain subject is accepted by editors as long as it is 'gaining ground', if it is explosive and antagonistic.

Radio programming is a separate issue. In most cases, a channel or station lasts for as long as it aligns with the interests of local bigwigs, which are directly linked with the ownership structure of media outlets and business entities.

Numerous Croatian journalists are abandoning the profession and finding other jobs because of inadequate remuneration, overwhelming pressure – editorial pressure from inside the newsroom or political and advertising pressure on the newsroom – as well as the general feeling that journalism is collapsing as a profession. Still, a significant number of journalists are committed to promoting quality journalism and resisting pressure, but the environment is becoming more hostile and it is increasingly difficult

to call attention to abuses of power and the consequences of these abuses within newsrooms.

However, media models in developed European nations have demonstrated resilience and innovation even when faced with radical conditions, with the development of polarising processes favouring exclusion and extremism found in, for example, the United States. Examples of individual media outlets, as well as articles examining them, show us that journalists and theoreticians/researchers clearly formulate insights into problems and that it is possible to find inspiration and support for the journalism landscape in Croatia in numerous media and journalism initiatives.

The arguments should first and foremost include the initiative, or more precisely, the foundation *Web We Want* by Tim Berners-Lee established in 2009[8], which mainly raises awareness of the impact of the internet, particularly on journalism. Important professional choices to preserve independence were also made by Deutsche Welle, DR, Axios or Politico. With regards to theoretical literature, the exceptional book *You are Here*[9] by Whitney Phillips and Ryan Milner addresses precisely this situation, while the fourth edition of *The Elements of Journalism* by Bill Kovach and Tom Rosenstiel[10] addresses the state of journalism following the political events during Trump's term in office.

Also worth mentioning is a journalistic initiative that showed particular resilience, as well as creative development potential – the Danish project *Constructive Journalism*, based on the idea that good journalism can indeed pay off, and that audiences can embrace it despite it not being negative, sensationalistic or gratuitously 'happy'. We will talk more about this initiative in the part of this manual with recommendations and suggestions on how to proceed in the situation faced by journalism today.

8 https://webfoundation.org/about/.

9 Whitney Phillips, Ryan M. Millner: *You Are Here. A Field Guide for Navigating Polarized Speech, Conspiracy Theories, and Our Polluted Media Landscape.* MIT Press 2021, Cambridge.

10 Bill Kovach, Tom Rosenstiel: *The Elements of Journalism. What Newspeople Should Know and the Public Should Expect.* Crown, 2021, New York.

An example of good practice in the newsroom: Axios

Axios provides an example of one of the most valuable and concrete insights into what newsrooms or media outlets can do. The media company Axios based their corporate and professional credo on the complete independence of the newsroom/editorial segment from the marketing and financial segment, as well as exceptional transparency and the clarity with which they communicate their sources of revenue and their editorial policy to the public[11].

Another argument supporting Axios' thorough design of the concept of their influence on the media environment is their role in empowering local journalism[12]. They are present in 24 cities across the US and the strength of their brand (and the content supporting it) ensures that the news local publications would be unable to publish still gets published. On a smaller scale, the news site Telegram.hr found a similar solution in hiring a journalist to whom colleagues from smaller local communities report cases of corruption thereby launching investigative pieces.

MEDIA LITERACY AS A GUIDE THROUGH A POLLUTED LANDSCAPE

The previously mentioned exceptional study *You Are Here* by two junior media theoreticians Whitney Phillips and Ryan Milner analyses the media environment of social networks by comparing it to our physical and ecological environment. One of their main postulates is that the pollution of the media is a social issue, not an information issue, and needs a social solution. By analysing the most common media narratives on social networks, they excellently articulated two main problems: deep memetic frames at the root of conspiracy theories (e.g. QAnon and their claims of satanic/paedophilia cults within the Democratic Party, white extinction theory, Christian fundamentalist and/or antisemitic conspiracy theories etc.) and the fact that thanks to algorithms and reciprocal sharing, they are spreading with uncontrollable speed.

11 https://www.axios.com/about/money

12 https://www.axios.com/newsletters/local „We are committed to helping revive local journalism – and invite local readers to help us best serve their community."

This, they claim, is one of the two main reasons why fact-checking cannot adequately respond to the spread of fake news. The other reason is a sort of good intentions fallacy[13]. People simply do not believe the facts. For it to have any effect on the general population, an emotional shift is needed, stories or narratives, as simply insisting on the facts frequently leads to a boomerang effect.

Aside from the well-known effects on public health (distraction, fragmented attention, inability for deep and long-term focus, self-image issues and resulting anxiety and depression), one of the most problematic characteristics of the social network environment is Poe's Law: social networks lack contextual clues to distinguish satire from violence.[14] The resulting inability to distinguish between satire and serious statements opens up a space for expressing inappropriate radical statements and creating conflict, because if users who do this are called out, they can always claim that they were not serious.

This trolling axiom should be kept in mind when discussing the data on mental health disorders in Croatia: violence in virtual spaces certainly contributes to the reduction of the public's capacity and interest in journalism, itself trapped in a toxic network: a slave to distribution channels and competition for readership.

The journalism space in Croatia, an integral, core part of the public space in Croatia for which it is most responsible, needs help to regain its strength and find the capacity for creation and trust in the rest of society. The capacity is undoubtedly there, as demonstrated by investigative journalism, but it needs to be more strongly linked to other parts, non-fiction and long-read formats, as well as feature journalism, which is losing the race to online news and clicks faster than in other countries. Equally, professional associations are also in need of assistance to strengthen their professional and educational support for newsrooms and/or individual journalists. In certain cases, journalism in Croatia must literally learn to use new tools and relinquish certain worn-out practices leading to hopelessness, low circulation, low readership and ultimately giving up.

That is why all three social strongholds that can help environmental literacy for the media environment are important: **legislative, academic/educational** and **professional** (journalists' associations and grassroots journalism initiatives). Pressure is needed in the case of some of these strongholds, primarily the political, and a relentless demand for the implementation of

13 Fact-checking fallacy: *You are Here*, pp. 169-175. (see note 4)

14 https://www.wired.com/2017/06/poes-law-troll-cultures-central-rule/, *You Are Here pp.* 161-162.

legislation on public media services and electronic media, as well as civic and media education.

Journalism in Croatia owes itself, and the society it covers as its integral part, a courageous, decisive and articulated step forward. Perhaps that step forward should include pressure *from* the newsroom, a proclamation, strike or some other form of action. Further research on individual components of the state of the profession will certainly be important, perhaps for all of the above. In any case, the operation to save journalism starts with coordinating individuals and initiatives towards professional associations and unions. They can then lead to a coordinated and articulated initiative targeted at individual corporate entities who are aware of the need for healthy and strong journalism, demands addressed at legislators and pressure on the most inert and complex branch of the system – university departments and sections educating journalists. The journalism space in Croatia lives and grows – or withers – in all these environments and levels, which is why none of them can remain detached from the efforts to expand that space (which is narrow and getting narrower) and empower it, because although it is alive, it fails to adequately address the needs of the community, represent it in its entirety and empower it to act, instead discouraging and frustrating both itself and the community.

However, the media landscape is not the result of concrete political forces alone – it is also considerably affected by the impersonal, technical aspects of how the information landscape operates.

Digital Context

PART THREE

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DIGITAL PLATFORMS — BEHEMOTHS OF OUR INFORMATION ENVIRONMENT

The role of online platforms in the information environment

The importance of distinguishing false information from real information has never needed special emphasis. Nobody likes to feel cheated. On the other hand, the speed at which information spreads in today's world, the amount of information we are exposed to and is available to us every day are making the task of sorting it into categories of true and false pretty difficult. Even before the internet entered our lives, people were able to recognise the danger of false information. It is not the existence of falsehoods that is the issue, a bigger problem is that they spread faster than real information[15], and the effort needed to debunk them is greater than the energy needed to create them (known as Brandolini's Law or *the bullshit asymmetry principle*; Bergstrom and West, 2020). This is why the manner in which digital platforms that make up the bulk of our information environments function is important.

Today, journalists are generating news in a highly complex and volatile information environment. The main features of this information environment are information oversaturation, the growing role of artificial intelligence and algorithms in the management of online communication, the growing dependence of the mainstream media on the social networks they use to find news and sources, produce news, reach audiences and ultimately get feedback from these audiences. Platforms, by which we mean search engines (e.g. Google, Brave, Yahoo), social networks (e.g. Facebook, TikTok) and messaging apps (e.g. WhatsApp, Viber) are positioned as central hubs of information.

Thus, "platforms are increasingly taking over the role previously occupied by the media, while not producing their own content but sharing the content generated by their users, including the media" (Grbeša and Nenadić, 2022). If platforms play such an important role in information today, the following question arises: what information do platforms spread and how?

Before the advent of the internet and social media, the answer to the question of why certain stories appeared in news programmes, newspapers and radio channels was simple – because the editors made that decision, guided by various criteria, one of which was *public interest*. This relatively simple image of media actors has become much more complicated with the emergence of the so-called Web 2.0 platforms, including social networks. It is

15 Or in the words of Charles Spurgeon (1859), "A lie can travel halfway around the world while the truth is still putting on its shoes" or Jonathan Swift (1710) "Falsehood flies, and the truth comes limping after it".

RANK	BRAND	FOR NEWS	FOR ALL
1	FACEBOOK	57%	74%
2	YOUTUBE	30%	71%
3	WHATSAPP	20%	63%
4	VIBER	15%	52%
5	INSTAGRAM	14%	41%
6	FACEBOOK MESSENGER	12%	46%

Figure 2. Information habits of Croatian citizens.
(Source: Reuters Institute Digital News Report, 2022.)

precisely the social networks that have become media *aggregators*, enabling users to get the results of their individual media choices.

Nowadays, in the online sphere, decisions to distribute, moderate and rank content are usually made by algorithms, driven primarily by commercial rather than by public interest (Grbeša and Nenadić, 2022). In a sea of information constantly proliferating and saturating the online sphere, we all need to ask ourselves why this particular piece of information 'found its way' to us, why these specific items of news and content appear in our feed rather than something else, why *these* sources are among the top search results, and not *those* sources. Answering this question will often lead us to the role of the completely opaque algorithms that make a lot of the choices for us, guided by statistical models based on our past behaviour. We can no longer talk about complete user control over content that 'pops up' on our feeds every day.

Algorithms as unseen 'editors'

Algorithms represent an important element of automated content distribution on online platforms. In general, the term algorithm refers to a handling protocol, i.e. a series of steps that together form an instruction for a machine (computer) to solve a problem.

In our context, the term algorithm refers to a series of steps used to reach conclusions on users' preferences. All major social networks use these algorithms to select content that they will then distribute to users, and it

is very difficult to access a selection of content that is not to some extent personalised.

A number of websites communicate with users' devices, using available information on which content has previously interested the user of that device and, consequently, which content might interest them further. Similarly, advertising services use pre-accessed links to draw automated conclusions on categories of products that may be of interest to users in order to display more similar or related ads – previous web searches, which provide particularly useful information to advertising services.

Content distribution channels, primarily social networks and multimedia hosting platforms[16], use algorithms that perform a vital function for these platforms: reaching relevant conclusions about the content that users wish to access on the basis of their previous choices. One important criterion is the geographical proximity to the user (inferred from the IP address of the device). However, content that has been accessed more frequently and recently by a large number of people (trending content), as well as 'controversial' content, is additionally favoured by the algorithm[17].

Based on what we can observe from the effects of the algorithm, there are three main criteria:

- affinity, or the relationship between the user and the site owner or content provider,
- weight of the interaction (*like*, *share*, *comment*) of the user and their circle of friends with the content,
- decay, favours keeping content with the most interaction for a longer time, despite not being the most recent.

In short, our interaction with individual sources of information is self-reinforcing.

16 An obvious example is the world's largest video-hosting platform – YouTube.

17 Important note: the way these algorithms function is highly confidential since a key element of the platforms' business model is based on this information. It is impossible to reach definite conclusions about the 'weight' of individual criteria on which recommendations are based, but we can make certain conclusions by observing the behaviour of the platform.

What exactly is the issue with algorithms, if websites are unable to draw conclusions about users' preferences in a different manner? Are we ourselves not the 'authors' of our choices, even in the long-term?

The problem is in the cumulative effects of choices and the algorithms reinforcing them by selecting content on our behalf. With choices accumulating over time, future content will further reinforce existing attitudes and expressed interests. Thus, our media habits can more easily be described and positioned within a closed set of media choices.

Algorithms, a step further: data collection and filter bubbles

If the effects of algorithms do not appear too dangerous on an individual basis, we need to be cognisant of the fact that the widespread use of algorithms for content recommendation has consequences for a vast number of users. These consequences need not be dramatic – on the contrary, their relatively subtle but far-reaching effect of shaping a 'unique information universe' for each individual user has already been described. Eli Pariser described these completely different information universes as filter bubbles.

As the choice of content presented to users is based on long-term algorithmic choices, this results in a selection of content that makes it difficult for the user to find their way out. The bubbles enveloping our information universes are becoming more closed and self-reinforcing over time. After a certain amount of time, 'outside' or conflicting information cannot penetrate the bubble, and all content within it becomes congruent with its messages and sources. The bias within the bubble is difficult for the user to notice without actively putting in the effort because they increasingly lack any other standard for comparing and contrasting information. The filter is completely personal and has a tendency for self-reinforcement.

Data collection: the real price of information

With enough time, we will all have supplied the algorithms with enough of our data for them to know us quite well. With every click, view, comment or sharing of content, we 'feed' the algorithms behind search engines and social networks, making it easier for them to draw conclusions about us. And then the real value of the information about us comes into play: it can be commercialised, sold for profit etc.

Detailed information about users enables targeted ads precisely aimed towards those users. This experience is becoming more and more familiar – for example, a piece of furniture we looked at once is now following us everywhere, regardless of the type of content we are reading on a completely different website. Simply put, our stored data about our preferences are following us wherever we go. Other people's browsers are certainly not showing them this piece of furniture.

Data collection with the aim of total personalisation has even more impact. On social networks, it facilitates the selection of messages that are most likely to influence user behaviour. With sufficient knowledge of our interests and attitudes, algorithms will be able to draw enough conclusions about our demographics, financial situation and political attitudes – they will be able to profile us and chose what is of potential interest for our profile.

User data that is sufficient for profiling users carries a lot of weight. For example, in 2016, social network user data – mainly from Facebook – was a highly sought-after commodity and sold to political campaigns in the United Kingdom and the United States. This data was used for *micro-targeting* – sending political messages guided by algorithms directly to the most receptive users with the intention of influencing their voting behaviour. This occurred in campaigns with really high stakes – in the UK during the campaign to leave the EU, and in the US, it was used for the upcoming 2016 presidential election campaign.

Media and Cognitive Processes

PART FOUR

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ON SCIENCE AND PSEUDOSCIENCE

When we talk about false information about science and scientifically unverified ideas, they are frequently cloaked in science without actually being a product of scientific methods. This is called pseudoscience and can be recognised based on certain characteristics. The goal of this chapter is to describe these characteristics and offer an overview of the possible consequences of pseudoscientific beliefs.

Although science as a concept is familiar to everyone, this review will begin with a definition of science, just as a reminder. Science is a *systematised body* of knowledge about the world gathered through the use of *scientific methods*. It is precisely the scientific method that best distinguishes science from other attempts to find the truth about the world around us.

The scientific method relies on *systematic empiricism*, i.e. learning based on the observation of the world by systematically planning, recording and analysing those observations. The scientific method can only answer empirical questions, and not all of the questions we are asking fall into that category. Therefore, science does not answer questions about what is fair, what should be illegal or if there is life after death, but rather questions that can be answered through systematic observation. Science contributes to general knowledge, meaning that scientific knowledge is public and accessible to everyone. This allows for independent verification by other people. In our everyday lives, we are often wondering about similar questions as scientists, but what distinguishes daily observations from scientific observations is the approach and the way we arrive at the answer. Our cognitive capacities are limited, and the way we process information is biased and therefore inadequate as a means of arriving at valid and reliable answers. This is why the scientific method is a vital part of science.

On the other hand, pseudoscience is a collection of all the activities and beliefs that its supporters claim to be scientific, and they may appear so, but they lack one or more characteristics of science – despite their frequently common goal.

Characteristics of pseudoscience that make it easy to identify are listed below (adapted according to Lilienfeld et al., 2012; Lilienfeld and Landfield, 2008). Pseudoscience does not have to possess all of these characteristics, and this 'list' is not exhaustive, but can serve as a point of reference.

- Pseudoscience includes all those statements, hypotheses or theories that are impossible to refute and falsify (Popper, 1959)

Although it may seem that this is in fact describing *science*, that is not the case. Scientific theory is characterised by the possibility of demonstrating that it is *incorrect*. Every scientific claim must be formulated in such a way that it is clear what verification outcome will demonstrate that it is wrong. However, the fact that a claim can be refuted does not mean that it is already refuted – and equally, the fact that a claim has not been refuted does not mean that it will not be refuted in the future. Finally, science is a set of theories and explanations we are more or less sure of, but never completely – their falsifiability remains a possibility with new knowledge gained through the scientific method.

A good illustration of this characteristic of pseudoscience is a quote from a webpage promoting homeopathy: *"Homeopathic remedies may be enough to treat less serious illnesses, but more serious illnesses require a combination of homeopathy with allopathic (traditional) therapy for best results. This why nowadays many Western hospitals use both approaches, including chiropractic, phytotherapy and acupuncture, for the well-being of the patient. The aim of homeopathy is to help the patient, which is why it does not rule out anything that might help achieve that goal*[18]*"*.

A method defined in this manner is impossible to falsify or prove that it does not work. Not because of its effectiveness, but because of a lack of research that does not fit the theory. For example, the ineffectiveness of a homeopathic remedy may be attributed to the seriousness of the illness, requiring the use of traditional therapy. If we are dealing with a less serious illness, even then the above statement does not presume that homeopathy alone will prove effective – notice the use of the hedge *may be enough*.

- Pseudoscience relies on anecdotes, personal experience and individual testimonies.

Usually, pseudoscience does not use scientific research to support its claims, but anecdotal and testimonial evidence. Nowadays, webpages are full of ads for all sorts of preparations or treatment that can help cure various illnesses (e.g. weight loss supplements, magnetic bracelets for pain relief, anti-wrinkle creams etc.) These ads are accompanied by testimonies of satisfied customers as evidence of the effectiveness of the method in question. The

18 http://www.ljubavnadjelu.hr/stranica.php?str=homeopatija&jezik=HRV

testimonies themselves are not necessarily the problem, but if they are the only evidence of effectiveness, then it is a warning sign that we are dealing with pseudoscience.

- Pseudoscience cherry-picks favourable and ignores or reinterprets less favourable evidence.

This characteristic can be linked to a well-known cognitive bias called confirmation bias (see the section on cognitive biases). People are inclined to perceive and remember information that is in line with their previous beliefs and that further reinforces them. Pseudoscience is much the same. For example, the anti-vaccination movement, which gained the greatest momentum after a study was published claiming the existence of a link between autism and a type of vaccine, to this day cites the aforementioned study despite the fact that a wealth of studies have since been published disproving that link. Furthermore, the study was retracted and the author admitted to falsifying data and having a conflict of interest. Science, unlike pseudoscience, considers all available research on a given subject and only then reaches certain conclusions.

- Pseudoscience uses scientific language, but incorrectly

Pseudoscience frequently uses technical and scientific terminology in the wrong context, or newly-invented terms with the aim of impressing the listener but without any meaning. These types of texts, full of inscrutable terms or words that sound too technical, carry a warning sign pointing to pseudoscience. For example, opponents of the COVID-19 vaccine frequently justify their position using medical terms such as 'mRNA codes', 'lipid nanoparticles', 'PEG membranes' and the like, trying to gain the trust of the audience.

Of course, scientific papers also use technical terminology, but they do no rely on it for credibility.

- Pseudoscience is not based on existing knowledge.

Science is based on cumulative knowledge and all new findings are connected to existing knowledge. Pseudoscience frequently fails to connect its claims with well-established findings in a certain field and lacks an explanation of the mechanisms of action, or the explanation conflicts with the existing body of knowledge. For example, one webpage promoting homeopathy includes

the following statement: "Onions are one of the most obvious examples of homeopathic remedies. *Everyone has experienced some sort of effect when cutting an onion. A runny nose, tearing up and sneezing are also symptoms of allergies. This is why onions are a very effective homeopathic treatment for allergies*[19]". Naturally, the fact that the same symptom can have multiple different causes does not mean that removing any of those causes treats the symptom. There are homeopathic remedies based on the notion that water has the ability to retain memories; however, there is no scientific proof and science does not acknowledge the phenomenon.

- Pseudoscience is resistant to change, lacks self-correction and the ability to progress.

Considering the fact that pseudoscience has an established confirmation bias, it is of no surprise that it remains stagnant. After all, if all truths are known to us, why change anything?

It is important to note that if something never changes and the proponents of an idea continue to believe it, this is not evidence in favour of the fact that they are right, quite the opposite. Science is an organised dynamic system that *changes* depending on new information, even radically so, once there is sufficient reason. In contrast, astrology, homeopathy or crystal therapy have remained unchanged practically since they were established.

- Pseudoscience is certain of its claims and makes extraordinary promises.

As stated at the beginning of the chapter, nothing is absolutely certain in science, regardless of the fact that there are scientific theories that remain unrefuted. Science is therefore merely a process of reducing uncertainties. However, pseudoscience starts from the idea that its claims are absolutely correct. Furthermore, it frequently offers grandiose solutions and exaggerated promises. For example, an ad for a bottle that turns water into energised solar water with high healing frequencies lists, among others, the following healing effects: "*Soothes and cools / Relieves all types of inflammation / Relieves all states of overheating (physical, psychological, emotional...) / Relieves and soothes pain / Has a positive effect on skin health / In addition to being extremely healthy, blue solar water helps clear deep negative subconscious patterns, heals injuries and emotions, brings vibrations of peace, relief, harmony and balance*[20]".

19 https://www.bolnicarab.hr/hr/homeopatija/82/52

20 http://www.planet-ayurveda.net/cms/index.php/boce/boca-za-vodu-om-

Another well-known example of a pseudoscientific theory 'explaining' the behaviour of an entire generation of children is the concept of Indigo children (Carroll and Tober, 2009), although there are simpler and scientifically better-founded explanations for some traits and features attributed to that generation (Lilienfeld et al., 2012).

- Pseudoscience makes logical fallacies.

Although there are many more, we will list a few of these fallacies below. *Appeal to nature* is one of them. It is incorrect that if something is natural, it must be beneficial for us. Nature contains deadly dangers for humans, for example certain bacteria, viruses or venomous spiders.

Appeal to tradition is another logical fallacy. The fact that people have always looked to the stars and been interested in what the future brings does not mean that astrology is correct. Additionally, not even its longevity reveals anything about its accuracy.

Another logical fallacy is *appeal to ignorance*. Many pseudoscientific beliefs refer to the fact that science does not have all the answers, thus pseudoscience may and can fill those gaps. We cannot claim that cleansing a person's aura is impossible – because we do not know that it is (we do not know because the aura does not exist, or rather there is no method to prove its existence and, consequently, the ability to cleanse it).

A further example of a logical fallacy is *ad hominem*. Insulting scientists is one method used by pseudoscience to discard the criticism of science. There are plenty of online examples of insulting scientists to prove that science is wrong, especially if the subject is the COVID-19 pandemic and vaccines.

- Pseudoscience evades peer-review.

Sometimes, but not always, pseudoscience refers to other studies. However, unlike scientific research, pseudoscientific studies are not published in peer-reviewed journals, if at all. The purpose of publishing your research is to communicate the results to the public, but also to outline the methodology used in such a way that it can be replicated. This offers an opportunity to other interested scientists to replicate the research and verify the results themselves. The assumption of such a model is that the scientists who conducted the research have nothing to hide.

Although the peer-review process in scientific journals is not without its flaws, it nevertheless offers protection against unverified information

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and poorly conducted research. Studies by authors who are reluctant to publish their work in this manner, or that are not published because they cannot pass peer-review, should not be blindly accepted. On the contrary, this should be taken as a warning sign.

- Any criticism by the scientific community is interpreted as a conspiracy theory.

Alternative treatment methods often claim that the fact they offer cheaper, faster and more efficient solutions is the reason they are rejected by the scientific community. It is further claimed that it would put doctors out of work and reduce the profits of the pharmaceutical industry. In other words, science and industry are purportedly working together to keep the public in the dark about the existence of better alternatives.

This kind of reasoning is typical of conspiracy theories – there is a group of people who secretly control certain events for their own interest. One such conspiracy theory often referenced by proponents of alternative medicine is that the cure for cancer exists, but is hidden from the public. This is, of course, not true, since it is hard to believe that such a massive cover-up could be successfully organised, that all scientists studying the subject are paid off by the pharmaceutical industry and that none of them would be interested in finding a cure for cancer.

- Pseudoscience places the burden of proof on science.

Proponents of pseudoscience often expect the scientific community to prove them wrong, rather than proving they are right. This characteristic of pseudoscience is closely tied to the previously mentioned logical fallacy of appealing to ignorance. The fact that there is no evidence to prove something is wrong does not automatically mean that it is correct.

This is another characteristic of pseudoscience that frequently appeared during the COVID-19 pandemic and the discussion about vaccination, as vaccination opponents made claims about vaccine side effects and an increased death rate, placing the burden of proving them wrong on the scientific community.

ON PSEUDOSCIENCE AND CONSPIRACY THEORIES

Previous chapters demonstrated that to be able to identify pseudoscience, some familiarity with science itself is necessary. Not some specific type of

science, but the principles on which it is based. We could say that identifying pseudoscience requires a minimum amount of science literacy. Additionally, some of the characteristics of pseudoscience described above also reveal scepticism towards science, a lack of trust. Lack of scientific literacy and lack of trust in science are integral to the predisposition to pseudoscientific beliefs. Furthermore, in combination with a distrust of institutions, it easily becomes a conspiracy theory. Conspiracy theories do not necessarily arise from pseudoscience, the opposite can also be true – in an effort to prove their accuracy, conspiracy theories reach for research that frequently takes on characteristics of pseudoscience (especially when it fails to demonstrate what the conspiracy theory advocates).

A conspiracy theory is a relatively simple interpretation of an event, implying that there is a secret arrangement between a group of individuals or an organisation that controls events around the world for its own benefit. We are all susceptible to conspiracy theories, although the degree varies. Some people are more susceptible, depending on certain personality traits and social conditions. Societies with low levels of institutional trust among their citizens, as is the case in Croatia (Čorkalo Biruški et al, 2022), can be especially susceptible to conspiracy theories since citizens feel unprotected, which then makes them more susceptible to the influence of assumed or real interest groups.

The belief in conspiracy theories offers a short-term feeling of control over a new and unfamiliar situation since it purports to offer an explanation, but at the same time, a long-term negative feeling of powerlessness is also present in persons who believe in conspiracy theories. Conspiracy theories also contribute to the polarisation of society because of their negative connotation; they also function as a sort of label applied to those who believe in them, regardless of the strength of their belief. Similar to pseudoscience, there are characteristic features that make it is possible to identify conspiracy theories (Lewandowsky and Cook, 2020).

HOW TO PREVENT THE SPREAD OF PSEUDOSCIENCE?

Fighting pseudoscience and conspiracy theories is a complex endeavour. Although these are two different phenomena, the methods of dealing with them and reducing their impact have a lot in common. Apart from increasing the level of trust in institutions, which is beyond the scope of this chapter, what scientists and the media can do is increase the level of scientific and media literacy.

Scientific literacy refers to distinguishing between science and pseudoscience and everyday observation, to distinguishing between good and

bad science, as well as to the manner in which science is interpreted and covered by the media.

Some of the warning signs pointing to bad scientific research include the following:

- sensationalised headlines about extraordinary discoveries (because science rarely advances in huge and sudden leaps),
- conflicts of interest (authors are not independent researchers),
- reaching conclusions about causal relationships based solely on the existence of correlation,
- making broad conclusions based on small and very specific samples,
- small and unrepresentative samples used,
- no control group when testing the effectiveness of a certain treatment,
- no blind testing,
- selective reporting of data,
- results cannot be replicated successfully,
- no peer-reviews.

In order to identify bad research, it is necessary to check where it was published and, if possible, read it. While this may seem intimidating and people often do not feel competent to assess research outside of their education, these characteristics can be assessed without specialised knowledge. Finally, it is not our job as readers to review and evaluate them, the aim is simply to determine whether there are any warning signs that would signal the need for caution and scepticism.

We need to be familiar with the characteristics of bad research, pseudoscience and conspiracy theories precisely in order to protect against their impact. Methods teaching the audience about the manipulation techniques used by those who spread fake news on social media (e.g. provoking emotional reactions of fear and surprise, referencing authoritative sources, repetition etc.) have shown to provide effective protection against false information and fake news (Roozenbeek and van der Linden, 2019).

The cognitive system and human information processing

The rapid evolution of telecommunications in the middle of the 20th century marked the currently prevailing approach to human cognitive capabilities – human information processing (HIP). HIP treats the human mind as a computer. Similarly to a computer, the mind has a finite number of components or processing systems (for example, attention, perception, short-term memory, long-term memory) and human activity can be understood by studying how information is processed, transferred or stored (represented) in the components of that system. Our receptors register stimuli and transform their characteristics into electrical activity that travels through the nervous system to the brain. In the physical sense, this information is stored in networks of neurons in the brain, while in the psychological – mental – sense, we say that they are coded, imprinted and incorporated into so-called *mental representations*.

Mental representations are the result of our experiences summarised in mental images of concepts, people, events and the world. Mental representation is a set of related information, both semantic (knowledge) and affective (emotions). Our experiences are individual and unique, and so is the content of our mental representations. For example, we all have some general travel experience and we know what travelling represents, but how we actually experience it depends on our internal context, that is, our previous (individual) travel experience, individual expectations and knowledge. Mental representations are the starting point of our mutual understanding, but also a source of diversity of opinion. They bring our previous knowledge and experiences into our interactions with the environment, shaping all current and future learning, communication and emotions. In order to better understand cognitive biases and different opinions in situations where we would not expect a difference of opinion, it is important to keep these differences in mind.

The HIP approach explains how information moves through the different components of the cognitive system and ultimately helps to shape our mental representations about the world (Figure 3). The model shown in the figure is primarily used to help us understand where and how all the information we receive is processed and altered on its way from the environment to our long-term memory, i.e. mental representation. The human information processing model allows us to understand the operation of the cognitive system, understand how people solve problems and why errors occur.

The human capacity to process information is limited. Limitations occur on all parts of the cognitive path: receptors, sensory memory and perception, short-term and working memory[21].

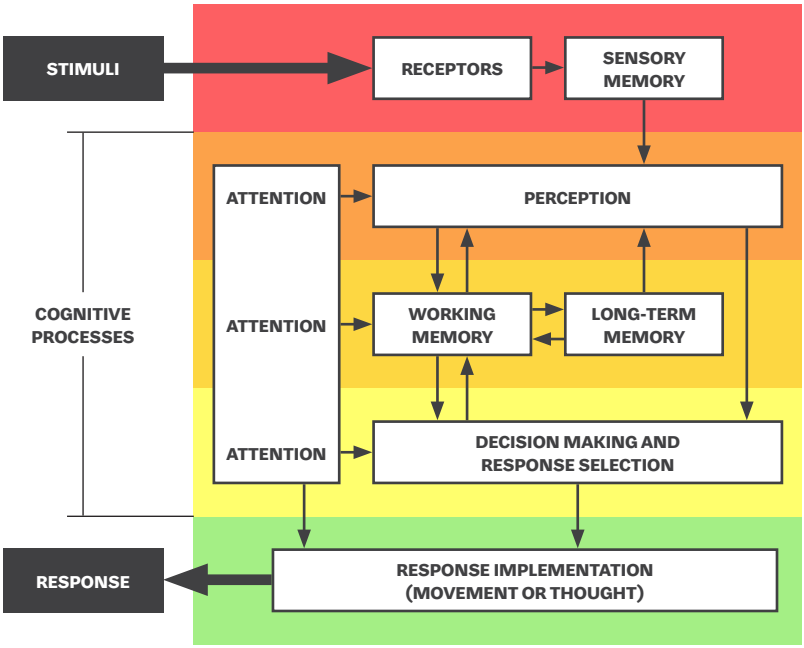

Figure 3. Components of the cognitive system in human information processing

21 Meanwhile, in the case of long-term memory, we encounter the problems of not being able to retrieve and recall information we use less frequently or, for various reasons, have coded in a way that we cannot remember.

- We perceive the world through different senses, and we can only perceive what our *senses* and their receptors can register. We only see the visible spectrum of electromagnetic radiation and only hear within the upper and lower limits of the hearing range.

- *Sensory memory* – where we store available information from the environment – lasts merely a few seconds.

- We can hold 5 to 9 elements (numbers, words etc.) simultaneously in our short-term memory for a few seconds or a few minutes.

- If we are doing more than one thing at the same time, an activity governed by *working memory*, we can remember and process 3 to 5 elements simultaneously. In other words, in a situation where we are talking on the phone while trying to read and remember the news, driving a car or cooking, we will be less successful at these tasks, since our working memory capacity is quite limited.

- No capacity limitations were measured for *long-term memory*. However, long-term memory has the problem of not being able to retrieve and recall information we use less frequently or, for various reasons, have coded in a way that we cannot remember.

At the same time, limitations also occur in the control processes directing the flow of information through this system, for example in the scope of *attention*. Attention is divided into voluntary and automatic. Voluntary attention is a process driven by the meaning of a certain stimulus or item of information, a so-called top-down process, which interprets information according to what we know or have experienced – what is 'up', in our head. Automatic attention is engaged in the case of sudden stimuli and represents the so-called bottom-up process driven by data, where a strong stimulus encourages us to consider what is in front of us. Perception should be data-driven because it must accurately reflect events in the outside world. We want the interpretation of the environment to be determined by information obtained by the senses, not our expectations. In many situations, however, our knowledge or expectations will affect our perception.

As this short list demonstrates, the limitations of information processing are numerous and accompany our every thought. Each of these limitations leads us to use our resources sparingly and whenever possible, to take mental shortcuts – *heuristics* – in order to simplify tasks or choices. In most situations, heuristics are extremely useful and facilitate functioning. However, because of the use of heuristics, certain situations may become oversimplified. Heuristics can lead to biases and cause misconceptions, resulting in bad decisions, as well as incorrect judgements and predictions. *Cognitive bias* implies a systematic deviation from the norm or rationality in judgement.

HEURISTICS AND COGNITIVE BIASES

Biases arise from the way our cognitive system functions. They cause irrationalities in the way we seek, assess, interpret, judge, use and remember information, as well as in the way we make decisions. Biases affect every area of our lives, from the way we shape our memories, to how we shape our beliefs and build relationships with others. In doing so, biases can cause everything from minor issues, such as forgetting a tiny detail from an unimportant past event, to major issues, such as avoiding an important medical procedure that could save our life.

Cognitive biases are explained according to dual-system theory proposing the existence of two separate information processing systems called simply System 1 and System 2. What is the difference between these two systems?

System 1

This system is responsible for intuitive information processing and is relatively rapid, automatic and effortless. It can also process several tasks simultaneously. We use it in making everyday decisions. Since it involves quick and almost automatic task-solving, System 1 is prone to making mistakes. It is a 'hot' system, strongly influenced by emotions and stereotypes, beliefs, habits and impulses – in other words, factors based on which we react strongly and impulsively. For example, it 'switches on' when we are filling in forms with personal data.

System 2

This system is responsible for our conscious reasoning, which is relatively slow, controlled and involves effort. Consequently, the processes in this system are serial,

which means that the system can only focus on one thing at a time. System 2 is activated when making more difficult and complex decisions. This system is reliable precisely because it is slow and efficient. It is also described as a 'cold' system used for evaluating decisions and considering solutions, planning and solving problems. System 2 is not affected by emotions. It is activated, for example, when we are attempting to solve a complex mathematical equation.

A common cause of cognitive biases is the reliance on intuition (System 1) in situations that require analytical reasoning (System 2). This can happen because intuition is relatively quick and easy to use, and can lead to outcomes that are good or sometimes better than analytical reasoning, so people rely on it even when it is not appropriate. The issues related to (not) activating System 2 or the inadequate supervision of System 1 can be attributed to various causes, such as the desire to avoid knowing that you were wrong or due to psychological discomfort. In other words, apart from the limitations of the cognitive system and the use of heuristics, cognitive biases can be influenced by emotions, social pressure and motivation.

One of the most well-known and common biases is the so-called confirmation bias, which can be used to explain biases based on motivation or emotions. Confirmation bias leads people to seek, favour, interpret and recall information in a way that *confirms* their existing beliefs. This bias may arise, for example, when people intuitively reject important information without consideration (based on System 1) because they suspect it might disprove their beliefs. Similarly, it can occur when people analyse information in detail (using System 2), but ignore all the aspects that conflict with their beliefs. Confirmation bias thus arises or is perpetuated due to fear of insecurity, loss or social pressure.

TYPES OF COGNITIVE BIASES

Numerous cognitive biases have been identified and defined. In an attempt to summarise the biases described to date, businessman Buster Benson called on developer John Manogian III for help, and the result was the so-called cognitive bias codex. So far, the codex includes about 180 different biases and is continuously updated. The codex lists four major groups of cognitive biases according to their cause:

Not enough storage space.

There is not enough space in our mind to store all the information in its 'raw' form. Consequently, we reduce the events we remember to their key elements, reject their specificities to get a more general version that is easier to operate, and 'edit' our memories and adapt them according to the facts available to us. This strategy, or bias, is active when remembering all information.

Too much information.

There is a lot of information in the environment that we are missing, that we have not and will not remember. Our cognitive system is selective, so it only focuses on certain people or events at any time. Due to this selectivity, we are prone to biases and drawn to details that confirm our personal beliefs, we are more likely to spot other people's flaws, bizarre or unexpected details or previously known information.

Not enough knowledge.

The process of converting raw information into meaningful units requires linking incoming information with a catalogue of beliefs, symbols and associations that we have stored in our mental representations through previous experiences. Linking information is an imprecise and subjective process. Updated representations are built on top of the old ones, so they always carry shades of past experiences. Since we do not have enough knowledge, what we see is simplified or complemented with stereotypes and generalisations to facilitate further reasoning.

Not enough time.
For most decisions in life, there is simply not enough time to thoroughly consider and analyse all the options to make sure that we are making the right decisions and taking the right actions. To make the process of making decisions more efficient, we prefer simple and complete information over complex and unclear information, we avoid irreversible decisions, finish what we have already invested in and favour immediate solutions. None of these are necessarily the right choice.

MEDIA — BIAS IN ACTION[22]

Biases are involved in the processing of all information in our environment, including in the way we process media content. Using research examples, we will look at how we process headlines and photographs, as well as how information processing is influenced by text formatting or news order.

Headline.
The headline determines how many people will read the news, shapes the way in which the news will be read and remembered, and frames the experience of the entire article. The headline shapes the impression of the text, similarly to how our first impression when meeting someone shapes our perception of them. Similarly to how we can influence the impression we have on others through superficial details, the headline can subtly steer or shape the way in which we understand the text.

The words contained in the headline behave in our minds like keywords in an online search engine; they activate our previously stored knowledge or experience, and define the framework through which we will then experience and remember the text.

The headline summarises the main idea of the text and allows readers to scan a large amount of news to give them a concise overview or to facilitate the decision on what they will read. Headlines are written to attract

22 Partially taken from Vranić, A. (2020). Kako naš mozak čita vijesti?, In A. Vranić, S. Puhovski, A. Gerčar (eds). *Ogledi o društvu iz psihološkog kuta* (pp. 221-227). Zagreb: Zagrebačko psihološko društvo.

attention and raise interest[23]. How do they do it? To maximise their impact and attract more attention, headlines are created according to the bottom-up principle. They have to surprise and scare us, as well as stand out thanks to their colour or size, but also by using alarming words with the aim of grabbing our attention. Headlines are often more negative than the rest of the news, exaggerate the main story or emphasise conflict[24].

A large number of readers spend more time scanning headlines than they do reading the articles because it allows them to maximise information gains in relation to cognitive effort[25]. The headline will often be the first (and sometimes the only) part of the story readers remember, and it also determines which information readers will focus on and which they will ignore. Since the headline activates relevant previous knowledge, it also determines the way new information will fit into what we already know, that is, what the reader remembers[26].

However, headlines can also be misleading, creating misinformation, which is later difficult to correct despite publishing a correction. Pfau[27] asked his associates to read a New York Times article reporting on a riot in which several police officers were hurt. The riot and related headlines were described as a 'black riot', initiated by a racial minority, or a 'union riot', initiated by union members. The participants were asked to assess the violence of the incidents and write a letter to the newspaper editor on the topic of the article. The same description resulted in higher assessments of violence with the headline 'black

23 Ifantidou, E. (2009). Newspaper headlines and relevance: Ad hoc concepts in ad hoc contexts. *Journal of Pragmatics, 41*, 699-720.

24 Ecker, U. K. H., Lewandowsky, S., Chang, E. P., i Pillai, R. (2014). The effects of subtle misinformation in news headlines. *Journal of Experimental Psychology: Applied, 20*(4), 323–335. https://doi.org/10.1037/xap0000028

25 Dor, D. (2003). On newspaper headlines as relevance optimizers. *Journal of Pragmatics, 35*, 695–721.

26 Surber, J. R. and Schroeder, M. (2007). Effect of prior domain knowledge and headings on the processing of informative text. *Contemporary Educational Psychology, 32*, 485–498.

27 Pfau, M. R. (1995). Covering urban unrest: The headline says it all. *Journal of Urban Affairs, 17*, 131–141.

riot', and the letters to the editor were more fearful and highlighted the brutality of the event, while the newspapers were accused of being biased towards the protesters.

However, actual disinformation in the media is much more subtle and is mainly due to technically accurate but misleadingly presented information. For instance, figures or trends may be published so that they appear to have a higher (or lower) practical value, a tiny or irrelevant aspect of the data might be used to support the existence (or absence) of a larger, more significant trend, as was the case when reporting on the negative effects of vaccination[28].

Photographs.

Emotional stimuli generate emotional reactions and motivate behaviour – they cause attraction or rejection because they contain information vital to survival. What kind of content attracts our attention? In the case of photographs of human faces, studies show that threatening faces attract more attention than smiling faces (e.g. Fox et al., 2000). But what about other photographs? Comparing the eye movements of participants looking at photographs assessed as pleasant and unpleasant, that is, showing affection or threat and injury, when paired with neutral photographs, Calvo and Lang[29] determined that: 1) emotional images (pleasant and unpleasant) attract more attention than neutral images; 2) the preference for emotional images was strongest during short viewing times (such as when flipping through the newspapers or scrolling on webpages), when we can only roughly detect that the image depicts 'something bad/good'; 3) pleasant and unpleasant images attract equal attention, suggesting that the key to a photograph's attraction is in its emotionality rather than the negativity of the image.

When analysing only unpleasant images, e.g. images of threats and injuries, it was established that once they detect an injury in the image, the viewer averts their gaze,

28 Lewandowsky, S. (2011). Popular consensus climate change is set to continue. *Psychological Science, 22,* 460 – 463.

29 Calvo, M. G. and Lang, P. J. (2004). Gaze Patterns When Looking at Emotional Pictures. Motivationally Biased Attention, *Motivation and Emotion, 28*, 221-243.

while images of threats receive continuous attention. In short, when looking at images of varying degrees of discomfort, we distinguish between two mechanisms: 1) increased attention and 2) attention aversion. Increased or focused attention was associated with images depicting possible pain, harm or loss, but with an uncertain outcome, therefore there might be possibilities of coping with whatever the image depicts. We use aversion and the avoidance of disturbing content in images when the harm has already occurred and there are no further coping possibilities. Thus, images depicting possible harm, although less unpleasant, will attract more attention than those depicting an injury.

How we will perceive, understand and remember a photograph is also influenced by its novelty, curiosity, brightness, complexity and area occupied by faces. Our attention is drawn to novel, interesting and arousing content, as well as to brighter, moderately complex and bigger photographs[30]. When discussing photographs and headlines, we are actually discussing a separate stimulus that encourages bottom-up processing. Emotional stimuli, images and words will cause a physical response (e.g. turning one's head towards an image), trigger an emotional response (e.g. caution, fear or curiosity) and lead to a mental reaction (e.g. reading the entire text).

What can we infer from the above results? They reveal some of the main mechanisms that influence the emotional engagement of readers or viewers, that is, the way they receive information from the text. Photographs triggering emotional reactions represent one way of attracting an audience's attention, especially when they contain an element of uncertainty or a 'story untold'. Headlines, especially when using emotionally charged expressions or intentionally using words to influence the reader's perception, are another frequent form of influence on the way we receive information.

Both mechanisms are extremely important for the media since images and headlines represent key elements of text presentation – editorial choices that ultimately appear on the pages of print and electronic media. Newspaper articles, regardless of their level of professionalism and objectivity, must go through the process of text presentation, after which they

30 Proulx, M. J. and Egeth, H. E. (2008). Biased competition and visual search: the role of luminance and size contrast. *Psychological Research, 72*, 106-113.

may invoke different emotions, change their intensity and ultimately, the audience's reaction.

Text formatting.

The concept of the wording effect is well-known in the research of the credibility of eyewitness testimony. It describes the effect on the memory or experience of a certain scene, event or text caused by the way an event is discussed, investigated or written about. In other words, if the question contains false information, it might distort the memory[31].

This is precisely what happened in an experiment where participants were shown a video of an accident[32]. After watching the video, they were asked questions about what they had seen. One of the questions asked was: "About how fast were the cars going when they hit each other?" A subtle difference was introduced into the question posed to some of the participants, who were asked about the cars' speed when they "smashed" into each other. As the 'severity' of the verb was intensified, so too was the assessment of speed – it was found that the group with the more 'severe' verb reported higher speeds. Furthermore, when questioned a week later, the participants were asked, among other questions, whether they noticed any broken glass in the accident. Most participants answered correctly: "No". However, the group that was asked the "smashed" cars question, that is, with a more 'severe' verb, were more likely to report seeing broken glass.

News order.

Interference theory explains that forgetting occurs because memories interfere with each other[33]. Proactive interference is a kind of interference in which old, previously

31 Loftus, E. F. (2005). Planting misinformation in the human mind: a 30-year investigation of the malleability of memory. *Learning and Memory, 12*(4), 361-366. doi:10.1101/lm.94705

32 Loftus, E. F. (1975). Leading questions and the eyewitness report. *Cognitive Psychology, 7*(4), 560-572. doi:10.1016/0010-0285(75)90023-7

33 Baddeley, A. D., & Logie, R. H. (1999). Working memory: The multiple-component model. In A. Miyake and P. Shah (eds.), *Models of working memory* (pp. 28-61). Cambridge, UK: Cambridge University Press.

learned knowledge hinders the adoption of new knowledge, depending on their similarity. For example, if similar school subjects follow one another in the schedule, there is a greater chance that we will learn and remember them less well. Proactive interference is stronger when we are dealing with knowledge belonging to the same category, and is explained by impaired short-term memory processing; the information is similar and it is difficult or impossible to perceive the differences. However, when participants perceive a change in the category of information that needs to be remembered, short-term memory processing intensifies, a phenomenon called 'release from proactive inhibition' – differences in the nature of sequential information make it easier for us to remember.

In the media, this phenomenon is most evident in editing blocks of news programmes. News programmes usually lead with foreign news, followed by local news, then economic news, etc. Proactive interference, our inability to remember information in a short time period, causes us to best remember the news/information from the category that airs first, then our ability to remember decreases with each new story from that category, only to 'bounce back' with the introduction of a new category, when we will again best remember the first story from that category.

Although in life we are more often taught to use the top-down approach to information processing, the reflex to switch focus to unexpected, heightened, surprising, perhaps even terrifying and dangerous stimuli remains an important determinant of information processing. In delivering information, the media (justifiably) uses this phenomenon when choosing headlines and photographs with the purpose of capturing a broader audience for a certain subject. However, bearing in mind the adverse effects of too much attention – in the sense that the content of the story might be stored, processed and remembered in a distorted manner – the words contained in the headline, subheading or highlighted parts of the text, as well as the accompanying images, the formatting of the text and the editing of the news should be carefully considered if the goal is to provide objective information.

What Can We Do Differently

PART FIVE

back to contents

CONTRIBUTION TO THE PROFESSION — RECOMMENDATIONS AND A FEW TECHNICAL TOOLS

Given the complexity of the problem of disinformation outlined in this manual, we will end by offering two lists of possible improvements.

Let us start with recommendations that can help build trust between the media and citizens. The following recommendations aim to strengthen journalism as a profession, restore its dignity and force those with the power to influence the future of journalism in Croatia to build a legislative framework that would give journalism the power prescribed by the Constitution of the Republic of Croatia. There have always been pressures on journalism and this will certainly continue in the future; however, the key question is: how strong are those who must resist this pressure?

Highlight the importance of the transparency, independence and impartiality of organisations using *open-source intelligence* (OSINT) and fact-checking organisations. The International Fact-Checking Network has its own Code of Ethics prescribing the principles that guarantee the professional work of its signatories. It is not a one-time accreditation, but a process of continuously confirming the commitment of the media outlet to these principles. Institutions, media outlets, platforms and the public should be informed as to why it is so important to have procedures in place to ensure that these criteria are followed (and why actors who fail to do so should not immediately be trusted just because they present themselves as *fact-checkers*).

Introduce fact-checking into the everyday work of newsrooms Big tech companies are trying to find technological solutions to the fake news problem. However, automated truth recognition is almost impossible, because almost every successful piece of fake news is built around information that is at least partially accurate, and this makes journalists and people with technological knowledge irreplaceable in the chain of verification.
Some of the methods used by specialised fact-checking agencies can significantly contribute to preventing the penetration of disinformation into mainstream media content.

Avoid interpretive journalism when interpretation is not necessary. Sometimes asking who?, what?, when?, where?, why? and how? is enough (5W + 1H). Clearly – and if necessary, *extremely* clearly – indicate whether the content published is considered news, an opinion piece, analysis, column, ad or something else. Today it is harder than ever to draw a line between what should be *factual*, *interpretive* or *investigative* journalism, and this is part of the solution to the issue of distrust.

Avoid sensationalism and clickbait headlines, especially in the case of serious news. Readers are often irritated by headlines that try to 'catch' them, and many deliberately refuse to open an article with an explosive title.
Everyone involved in the media understands perfectly well that clickbait is one of the key techniques for attracting the audience's attention. However, we can safely say that this widespread practice has no place in the context of serious informative content.

Creating a relationship and strengthening trust between journalists and readers through social media. All media outlets communicate through social media and should get more than just reach and exposure. Negative user comments should not discourage journalists from building audiences who engage in constructive and well-founded critical discussions through social media.

Better ranking/positioning of positive stories. This trend has already been embraced by some news sites – positive stories are purposely given a slightly larger reach, so that the general tone is easier for audiences 'to digest' and remain engaged.

Connect investigative journalists from different media outlets in an informal context. Journalists whose stories were banned in media outlets where they work should be able to distribute them to colleagues who may be able to publish them. This is a victory for news and demonstrates to those who put up barriers that the content they banned will still find its way to the public.

Encourage publicly publishing and exposing pressures on newsrooms. Those putting pressure on the media do not want this fact to become public, and the power of managers ready to make deals with them helps keep everything under wraps. This road leads to a weaker profession. If the fact that a certain centre of power is targeting a journalist remains a secret, if the problem must be resolved 'peacefully', the image of Croatian media loses authenticity. Media outlets have the power to publish about the existence of pressures, but they rarely use it. Social networks are useful in this regard; however, official announcements published through the media certainly contribute to strengthening the media and the profession as a whole.

Some changes are far beyond the reach of any individual social actor, including any particular newsroom with a large number of media actors. However, they represent crucial long-term prerequisites for the survival of the public sphere.

Systematic implementation of civic and media education, from the earliest educational levels**.** This kind of systematic support is essential for journalism to gain a critical mass of quality audiences: readers, listeners and viewers who need journalism and who understand that social networks cannot take over its social role.

Civic education should create a media audience that:

- can and wants to participate in media speech without trolling, cynicism and violence,
- has a greater capacity for consensus and is more resistant to polarisation as a consequence of exposure to extreme attitudes,
- understands the difference between propaganda and reporting,
- understands the importance of speaking up: they decide to use their own *voice* instead of being silent (*loyalty*) or retreating (*exit*).

A clearer separation of university departments and study courses for journalism from public relations. The professionalism of both actors is extremely important for a healthy space for public debate, but their work is not the same. At the professional level, journalists who care about the fundamental principles of the profession should be encouraged to connect with like-minded professionals (through professional associations or other networks).

The Croatian Journalists' Association and other associations that understand the importance of journalism for strengthening democracy should insist on amendments to the Media Act. The main objectives of those amendments must include: strengthening the newsroom and professional standards, a stronger connection between the editor-in-chief and the newsroom, and setting clearer rules for the corporate segment of the media.

It is also important to advocate for the education of new journalists in order to resist pressures and improve the quality of the profession. Journalists' associations should seek stronger professional support from educational and supportive initiatives from environments where this is possible.

Below, we give several recommendations for technical tools that can contribute to information certainty that journalists encounter in their daily work.

TECHNOLOGICAL TOOLS

Using basic digital content verification methods

Content meant for publishing should be additionally verified using basic research methods and strategies for content verification (Ireton and Posetti, 2021), including:

- Identifying and stating original sources in accordance with the ethical principles of journalism,
- Identifying and shutting down fake profiles or bots (helpful tools include, for example, SocialBlade; Botometer),
- Confirming that visual content is properly attributed to the original source (TinEye, Google reverse image search),
- Verifying the time when content was recorded and published (it is very easy to manipulate the posting time and date of creation on social media),
- Geolocation of photographs and videos (similarly, the location and its connection to a photograph or video can be easily manipulated).

None of these methods may reveal key characteristics of deception, but they are useful as a first step in verifying accuracy.

'TURNING OFF' ALGORITHMS AND FILTER BUBBLES

We can 'burst' our own filter bubbles to some extent by consciously exposing ourselves to content that the algorithm would not normally 'serve' us. There are several easy ways to turn off prior algorithmic learning responsible for our search results.

Using ad blockers.

These apps represent a minimal technical burden for web browsers and make it possible to avoid, at least to some degree, content chosen on the basis of ads. An even better solution...

Using the browser in incognito mode and clearing the search history.

A non-insignificant part of the algorithm's knowledge of our behaviour comes from small locally stored files known as cookies.

By periodically manually deleting these files and getting into the habit of using search engines in incognito mode – not collecting local information about our searches – we minimise their impact and prevent our own devices from making choices about our searches instead of us. While cookies may be useful for some of our future searches, they are usually a barrier to getting the full range of search results that we would otherwise get.

USING TOOLS FOR VIDEO VERIFICATION[34]

There is no doubt that audio-visual content is more attractive, dynamic and more frequently accessed on almost all platforms compared to static or purely textual content. This is why the development of tools to verify the accuracy of data presented through audio-visual content, that is, for fact-checking multimedia content, poses a particular technological challenge.

One of the more recent contributions to the possibility of the reverse verification of visually presented information comes from tech giant Google, who for many internet users, is a synonym for searching different types of content. *Google Lens* is a tool used to find earlier instances and alternative sources for content currently displayed on the screen of your device, especially useful for videos, where it is often easier to isolate a short sequence or characteristic frame than to analyse the technical details of a video that may not mean much to other users. Google's app then searches a giant multimedia archive where an isolated image or parts of that image might appear with an earlier date.

What is the importance of this search function? It is precisely the fact that video content is rarely a completely original, artificially created creation, and more often it is a manipulation using existing, often authentic videos.

The Google Lens app is designed to work with mobile operating systems.

34 Adapted based on https://www.medijskapismenost.hr/budi-sam-svoj-fact-checker-alati-za-provjeru-fotografija-i-videa/

While the technology for making so-called deepfake videos – based on deep learning algorithms and generating videos that never existed – keeps advancing, increasingly advanced possibilities for verifying the authenticity of videos are also constantly emerging.

A POSSIBLE COMPREHENSIVE REMEDY — CONSTRUCTIVE JOURNALISM

The inventor of the World Wide Web, Tim Berners-Lee, was among the first to formulate that the transformation of the internet should rest on all four pillars of public space: academic, corporate, political and civic[35]. However, journalists intuitively find it easier to communicate with their peers, which is why media outlets can serve as examples to revive their trust in the survival of journalism.

They include case studies of big, medium-sized and local media outlets that have found ways to operate sustainably in the internet era while maintaining a high standard of ethics and transparency in their service to the public. Perhaps most importantly, as they point out, they are not scared of "news from their own backyard"[36], implying auto-reflection: preparing the journalism space for an open and continued discussion about its own problems, blind spots, vulnerabilities and ways to fight them. That the same can be said of Croatia – and that it is the case – is evidenced by the assertive response of the profession to so-called SLAPP suits – lawsuits intended to silence critical media voices[37]. This kind of response is also needed in the case of any type of pressure.

Pressures coming from the government and advertisers – as hard as some cases may be – are just that: pressures, and just like all pressure, they succeed when there is no resistance. Media outlets, their owners and newsrooms adopt their own statutes and regulations, just like professional journalists' associations. Although it seems difficult at first, Croatian journalists can do this: fight for themselves, not just against someone or for someone.

The Constructive Institute initiative from the Danish city of Aarhus[38] is not well known in the Croatian journalism space. But that doesn't change

35 https://webfoundation.org/2021/03/web-birthday-32/

36 A reference to an old jingle on Radio 101.

37 https://www.the-case.eu/campaign-list/the-european-slapp-contest-2022, as well as https://www.hnd.hr/hnd-objavit-cemo-sramnu-listu-sudaca-protiv-novinara-pozivamo-na-solidarnost-s-kolegicom-blazevic.

38 https://constructiveinstitute.org/who/

the fact that it can be useful to help the profession: the current state of apathy must not be accepted as unchanging, journalists should be provided with every possible opportunity to continue learning and adopting good solutions from more developed environments even after completing their formal education.

This is especially true in the case of ideas with the potential to spread further, ideas that are being increasingly accepted in newsrooms all over Europe and the world[39]. The fundamental principles of constructive journalism address the key issue of journalism today: how to change the way news is written about and covered from the 'inside' so that it is based on true and verifiable facts, that it does not discourage, but inspires the community to take action and empower its civic capacity,[40] its *voice*[41]. For this purpose, the Constructive Institute has designed a range of tools[42], through the most concrete possible cooperation with the Danish journalism space, and they continue to develop them through partnerships in an increasing number of countries or media outlets in the EU and work closely with the journalism department at the University of Aarhus.

Financial sustainability is indispensable for a sense of meaning and survival in journalism: this is evidenced by a markedly higher circulation, a rising number of subscriptions, readership or webpage hits[43], as well as better reader reactions in comments and on social networks.

Croatian newsrooms, journalist organisations, academic circles and individual journalists can only profit from a stronger and more meaningful connection with colleagues from countries that are more successful in this complex dance: thorough and critical reporting based on data that does not assume the role of the opposition, that does not destroy citizens' confidence in their own abilities through conventional formulations and does not destroy their faith in the future by suggesting (in Snyder's words) the inevitability or definiteness of some localised news – which literally or metaphorically kills the *voice* and encourages the *exit*. In short: if they want to keep their readers, or to increase their number, the Croatian journalism space must understand that the Croatian public space can only withstand a *definitive*

39 https://constructiveinstitute.org/who/news-rooms/

40 https://constructiveinstitute.org/what/an-additional-layer/

41 Here we refer to the three fundamental strategies of political action described by German political economist Albert O Hirschman (1970). They are 'loyalty' (passive support for the government's decisions), 'voice' (critical participation) and 'exit' (withdrawing from participation and retreating into the private sphere).

42 https://constructiveinstitute.org/what/a-broader-perspective/

43 https://constructiveinstitute.org/why/constructive-journalism-pays-off/

amount of unbalanced and negative news. This amount has long been used up. The journalist community can learn from a community in a country with a robust democracy such as Denmark that this type of journalism does not mean looking at the world 'through rose-tinted glasses', it is not *happy*, constructed or propaganda journalism; it is not the triviality of tabloids. It is journalism aware of the fact that excessive negativity ultimately leads to the heart of the slogan that democracy dies in darkness[44].

A basic postulate of social psychology will confirm that no community or individual can progress unless they believe in their abilities: public opinion polls in Croatia in the last 32 years have never shown a number of respondents that think the country is headed in the wrong direction to be under 60% (August 2022: 73%, November: 75%). Optimistic responses rarely go above 20% (August 2022: 19%). The figures remain unchanged after a perfectly orderly election and after uncontested government changeover, as well as between elections. These facts require a meaningful and coordinated comment from sociologists, political scientists, journalists and media professionals, and the society described by these figures, as well as the journalism that distributes them – need help.

Therefore, we can conclude that in today's environment – characterised by a multitude of information sources, of information itself, and consequently, massive disinformation pollution – professional journalism is more important to us than ever, and the role of the media is even more irreplaceable or difficult to replace than ever before.

De-professionalisation or abandoning journalism are not strategies we wish to pursue. We do not believe that the future of information lies in the acceptance of an unlimited number of fragmentary public spaces, among which it will be increasingly difficult to establish meaning and common understanding.

Public support, including substantial public funding for quality journalism, must be used to preserve the reputation and trust in journalism. This support must exist both at the time of and before building the competencies of the media audiences themselves, their *media literacy*, which we often invoke as a necessity.

No amount of sold subscriptions or occasional, project or thematically focused support can substitute the public sphere that certain previous political and economic models have so thoroughly devastated. Active and targeted counter-action, within and outside journalism, is what is needed.

44 https://www.washingtonpost.com/

About the authors

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ABOUT THE PRO-FACT PROJECT

The project "Pro-fact: Research, education, fact-checking and debunking COVID-19-related disinformation narratives in Croatia" is tackling disinformation related to COVID-19 on multiple levels through a multidisciplinary and intersectoral approach, with the goal of understanding COVID-19-related disinformation, its spread and its influence on democracy and society. Through research, awareness-raising, and capacity-building methods, the project comprehensively approaches the social, political, and health problem of spreading disinformation campaigns related to COVID-19

The results of the implemented activities will contribute to researching and exposing COVID-19-related disinformation campaigns in Croatia, strengthening the capacities of the multidisciplinary team in Croatia for detecting and combating disinformation campaigns, and increasing the media literacy competencies of journalists and the general public in Croatia.

The coordinator of the project is Gong, with partners:
Faculty of Political Science of the University of Zagreb,
University of Dubrovnik, F
aculty of Electrical Engineering and Computing of the University of Zagreb
and Faktograf.hr

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GONG

PRO-FACT

Sufinancira
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