Fragmented Realities – Searching for a Common Understanding of Truth

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I Introduction

The search for truth by means of discussions and arguments has always been a constituent part of human interaction. At least since the era of the Enlightenment, it has become the bedrock of society. With the proposal to let the most convincing argument achieve the status of "truth," society decided to end the tyranny of the strongest. Realities were no longer dictated by those commanding the largest army or holding the longest sword, but were determined by those possessing the most logical argument and utilizing the latest scientific methods.[1]

Since then, day-by-day as well as far-reaching decisions have been based on data, facts and figures in business, culture and politics. Decision makers rely on scientific evidence and argumentation that created a common ground: It has been the assumption of an abstract common "knowledge space" that exists between communication partners – the general agreement on objective facts and scientific proof. The basic model is simple: Fact-based experience or the *best available* evidence-based knowledge leads to most valid decisions. The irrational alternative includes opinion, hearsay, rhetoric, discourse, advice, self-deception, bias, belief, fallacy, or advocacy – in the extreme case, dogma and lies. As a result, the best basis for decision-making is simply the truth about a situation, an issue, a case, etc. If the truth is unknown, the second-best option is the information that approximates the truth, which is provided by scientific proof, empiricism, etc.

Nevertheless, what happens if there is no common understanding of truth anymore? Or if parts of a society, company or group do not believe in facts or scientific proof anymore? Or if they deny the perceptions of reality or if they insist on different or "parallel" realities?

Therefore, what we call reality can be fragmented and thus offer alternative perspectives for consideration, reflection or effect. Alternatively, Fragmented Realities may focus on different details of a reality. Fragmented Realities

- are *fragmented* and therefore divided, existing in separate parts or views, and
- are also *real* because they are the sum or aggregate of all that is real or existent, as opposed to that which is merely imaginary or an illusion or an idealistic or notional idea thereof.

In Fragmented Realities, the consensus about a fact-based reality grows weaker. They can be enhanced by digitalization, for example through Augmented Realities in which objects are an interactive experience and the user's real-world environment is replaced by a simulated one, where different realities exist. But is there still *one* existent truth if realities are fragmented? Could truth also be fragmented? Do scientific proof, reality, and truth not demand a link?

Truth can be subjective or relative – but is absolute, objective reality not a prerequisite for daily business in the political, economic and cultural spheres? Do we not need a common perception of reality and a common understanding of truth?

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[1] Szalay, Jessie. What was the Enlightenment? https://www.livescience.com/55327-the-enlightenment.html [retrieved July 31, 2019].

II Reality and Truth

1. Reality

Throughout history, the relationship between truth and reality has always been the main focus of philosophy. Depending on someone's philosophical preferences reality could be

- something imagined or an illusion (constructivism) or the total opposite
- the sum or aggregate of all that is real or existent (realism).

For (radical) *constructivists*, reality is a construction. The perceived environment is an illusion.[2] Consequently, this epistemology implies different fragmentations between persons.

The main question for *realists* is whether reality is recognizable. The practical significance lies in the fact that it is not possible to make unquestionably true statements about things or facts without the assumption of a reality. In order to make statements about reality, one must first recognize them, that is, be able to perceive them.

The main epistemological question seems to be whether an objective reality exists. Objective reality is that which exists outside of perception and independent of the mind.[3] Conversely, subjective reality is dependent on a person's individual perceptions, mind-set, experiences, etc.

Everyone perceives his or her environment in a different manner and therefore lives in one's own reality. It is necessary to grasp this reality correctly in order to be able to understand causes, ulterior motives and actions and to avoid misinterpretations. Only if the observer correctly interprets the intended action, a successful communication becomes possible. The importance of this rather simple insight becomes evident in countless misunderstandings that we observe in exchanges within companies, between countries, or within families and circles of friends.

2. Truth

The correspondence of statements or judgments to a fact, case, or reality in the sense of correct reproduction is commonly referred to as truth. This common ground seems to be challenged nowadays. In particular, critics are questioning the connection between empiricism and truth; they are denying the link between knowledge from sensory experience like observation and an existing objective knowledge.

The meaning of truth has been widely discussed by academics. This is not meant to lead to an academic discussion of whether, for example, truth corresponds to the facts and whether an interpretation of facts is correct or not. It is neither a philosophical or epistemological question (see Figure "Different Conceptions of Truth") nor the question of whether someone is a rationalist, a constructivist, or a realist. Even if various theories and views of truth continue to be debated among scholars, philosophers, and theologians,[4] there is a common understanding that truth is the opposite of falsehood, falseness, falsity, untruth, fabrication, or fiction.

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2 Watzlawick, Paul (ed.). Die erfundene Wirklichkeit. Wie wissen wir, was wir zu wissen glauben? Beiträge zum Konstruktivismus. Munich: Pieper Verlag, 1981.

3 Logino, Helen E. Values and objectivity. In: Curd, Martin. Jan A. Cover (ed.). Philosophy of science: The central issues. New York: W. W. Norton & Company, 1998, p. 170-191.

4 Burgess, Alexis G. and John P. Burgess. A concise introduction to current philosophical debates about truth. Princeton: Princeton University Press, 2011.

Different Conceptions of Truth

Source: Miriam Epstein. Introduction to the Philosophy of Science. In: Clive Seale. Researching Society and Culture. 3rd Ed., London Sage 2012, p. 20.

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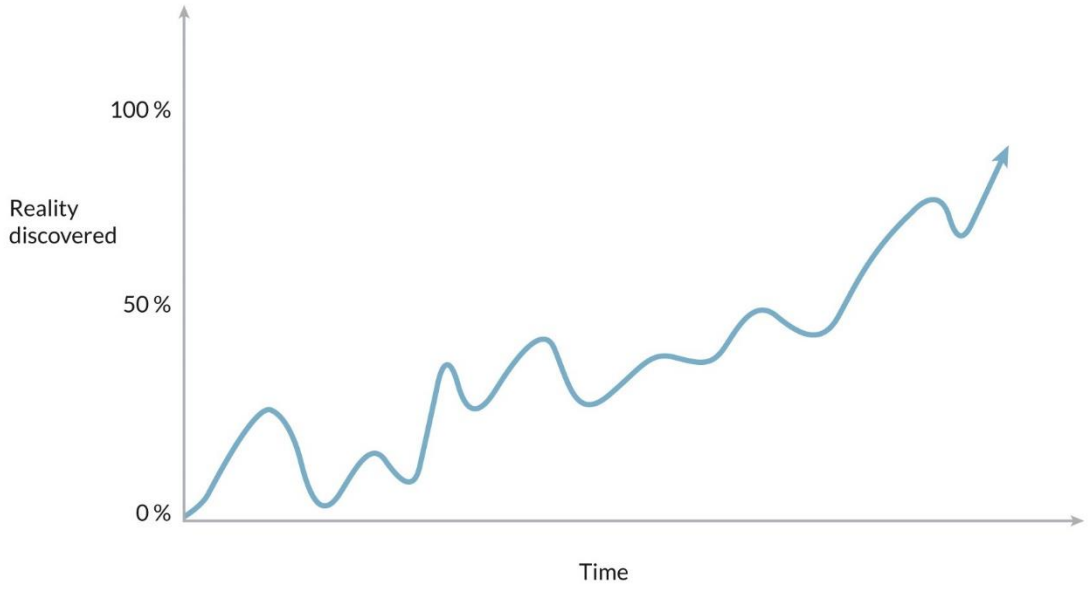
At least hundreds of years before the era of the Enlightenment, famous philosophers like Socrates and Plato identified dialectics as a method to establish truth by the exchange of reasoned arguments. In their opinion, it was the conversation between thesis and anti-thesis that would bring humanity closer towards the truth.[5] A decisive characteristic of their idea of the scientific method was that competition for truth was always a competition between ideas of the one truth.

This linear pathway was headed in a clear direction: absolute and objective truth. *Ideas of reality* compete, therefore society gets closer and closer to the one, objective reality. It allows us to find out who is right and whose ideas are obsolete (see Figure "Absolute Truth"). While most scientists and philosophers accept that absolute truth is unobtainable, there has been intense debate about exactly what constitutes proof.

5 Popper, Karl R. Conjectures and refutations: The growth of scientific knowledge. New York: Harper & Row, 1968.

Absolute Truth



Source: Author's own graphic.

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If you believe in truth,[6] reality and truth are independent of the subject. With reference to Max Weber it is called "*verstehen*"[7] or intersubjectivity. This intersubjectivity refers to the common understanding, the shared meanings constructed by people in their interactions with each other and used as an everyday resource to interpret the meaning of elements of social and cultural life.[8] If people share a common understanding, then they share a definition of the situation.

3. Someone's Reality vs. Objective Truth

Something that is perceived as truth by one person could be a "lie" to another person. That means that someone's sensory input, which transforms a stimulus, and her or his identification with and interpretation of this sensory information in order to represent and understand the situation, or the environment, determine whether something is accepted as truth.[9]

While from one perspective (perception) a cone (objective truth) throws a shadow of a triangle on the wall, the same cone throws a circular area on the wall from another perspective (perception). Therefore, circle and triangle both are true (see Figure "Someone's Reality").

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6 For epistemological nihilism, see: Woodward, Ashley. Nihilism and the postmodern in Vattimo's Nietzsche. In: Minerva – An Internet Journal of Philosophy, Vol. 6, 2002.

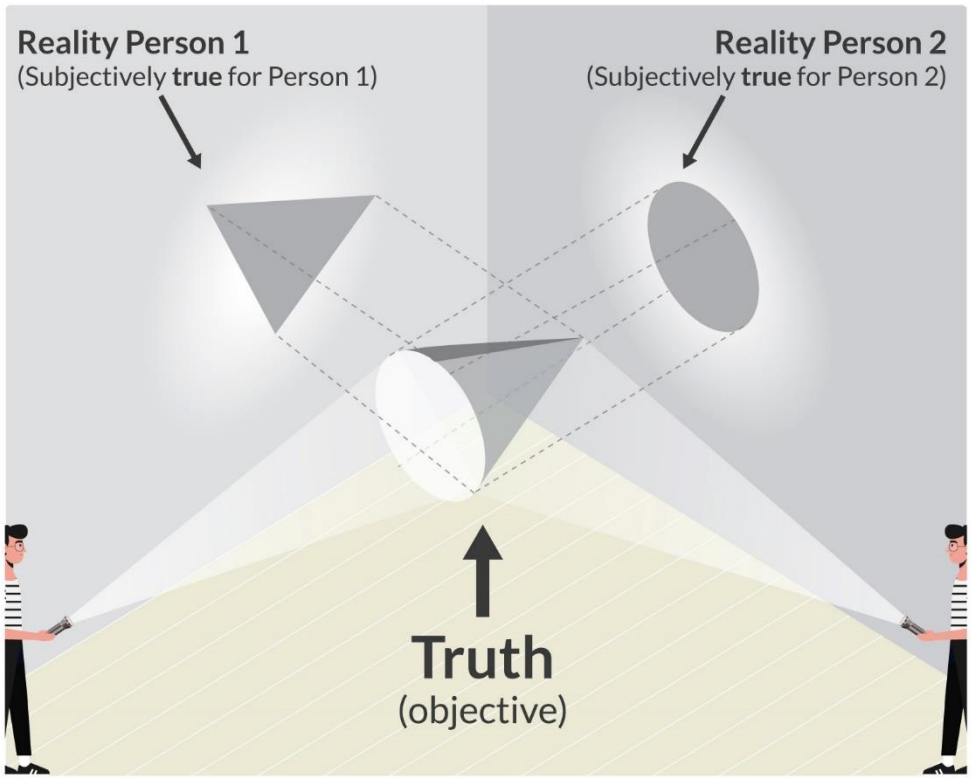
7 Weber, Max. The theory of social and economic organization. New York: Oxford Univ. Press, 1947, p. 88.

8 Seale, Clive. Researching society and culture, 3rd Ed. London: Sage, 2012, p. 574.

9 Schacter, Daniel, Daniel T. Gilbert, and Daniel M. Wegner. Psychology, 2nd Ed. New York: Worth Publishers, 2011.

Bernstein, Douglas A. and Peggy W. Nash. Essentials of psychology, 4th Ed. Boston/New York: Houghton Mifflin Company, 2008, p. 112–126.

Someone's Reality



Source: Author's own graphic. | BertelsmannStiftung

This implies if *one* truth (absolute and independent of an individual) exists, at the same time different Fragmented Realities (something that someone declares as true) exist, and those form different realities (environments) in turn. Truth becomes context-dependent.

III Searching for a Common Understanding

Defining what is "true" is rather difficult and strongly dependent on various perspectives. A common understanding, however, requires a shared basis. This mutual agreement includes similarity, agreement, convergence, compatibility, commonality, consensus, consistency, and overlap.[10] Common understanding could be defined as

> "… an ability to coordinate behaviours towards common goals or objectives ("meaning in use" or action perspective) of multiple agents within a group (group level) based on mutual knowledge, beliefs and assumptions (content & structure) on the task, the group, the process or the tools and technologies used (scope/object perspective) which may change through the course of the group work process due to various influence factors and impacts group work processes and outcomes."[11]

The extent to which such a common understanding has developed depends primarily on the scientific discipline.

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[10] Mohammed, Susan, Lori A. Ferzandi and Katherine Hamilton. Metaphor no more: A 15-Year review of the team mental model construct. In: Journal of Management, 2010, Vol. 36, No. 4, p. 876–910.

[11] Bittner, Eva Alice Christiane and Jan Marco Leimeister: Why shared understanding matters – Engineering a collaboration process for shared understanding to improve collaboration effectiveness in heterogeneous teams. In: 46th Hawaii International Conference on System Sciences (HICSS), Maui, Hawaii, 2013, p. 106. The authors use the comparable term "shared" understanding.

Formal sciences like logic, mathematics, statistics, computer science, etc. are not affected by Fragmented Reality, since their analytic statements persist in all possible conceivable worlds.[12] Even though this picture has been disturbed by the developments of the last years, the formal sciences are plainly distinguished from the other sciences by their use of proof instead of experiment, measurement, and theorizing.[13] Therefore, Fragmented Realities are existent only if the formal system (e. g. the logical calculus) is questioned. This implies that usually there is a common understanding in formal sciences:

> "One reason why mathematics enjoys special esteem, above all other sciences, is that its laws are absolutely certain and indisputable, while those of other sciences are to some extent debatable and in constant danger of being overthrown by newly discovered facts."[14]

Natural sciences are defined as disciplines that deal with natural phenomena using scientific methods,[15] based on empirical evidence from observation and experiments. The empirical methods involve observation, skepticism about the observation – given that cognitive assumptions can distort how one interprets the observation and involve formulating hypotheses, via induction, based on such observations – experimental and measurement-based testing of deductions drawn from the hypotheses, and refinement (or elimination) of the hypotheses based on the experimental findings.[16] Natural scientists make rational reinterpretation of this empirical evidence and call it timeless realities.[17] That implies that Fragmented Realities can occur by selecting the focused detail, by using different scientific methods, or by different interpretation of the empirical evidence.

For the natural and technical sciences, practice (e.g. experiment) as practical proof is the primary and sufficient criterion of truth – other theories of truth are not needed.[18] A common basis regarding the scientific method is that it seeks to objectively explain the natural phenomena in a reproducible way.[19]

It is more challenging to find a common understanding in the *social sciences*. The social sciences are concerned with society and the relationships among individuals within a society. They also use empirical methods and must deal with the same deficits as the natural sciences. Often a person's biographical situation, researchers' local circumstances and their likely audience are the main influences on how projects proceed and how quality is judged.[20]

Additionally, new problems have arisen – especially in empirical sciences, which try to answer questions about the real world in an analytical way. These scientific results can be questioned (by different techniques) and have to be interpreted (by an interpreter) and therefore possibly lead to different conclusions or recommendations. Bias in the interpretation and different use of empirical

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12 Carnap, Rudolf. Logical foundations of the unity of science. In: International Encyclopedia of Unified Science, I. Chicago: University of Chicago Press, 1938.

13 Franklin, James. The formal sciences discover the philosophers' stone. In: Studies in History and Philosophy of Science, Vol. 25, 1994, No. 4, p. 513–533.

14 Einstein, Albert. Geometry and experience. Sidelights on relativity. Dover: Courier Dover Publications, 1923, p. 27.

15 Ledoux, Stephen F. Defining natural sciences. In: Behaviorology Today, Vol. 5, No. 1, 2002, p. 34.

16 Newton, Isaac. Philosophiæ Naturalis Principia Mathematica, 3rd Ed. London, 1726.

17 Breuer, Bernhard and Michael Springer. The truth in science. In: General Relativity and Gravitation, Vol. 41, No. 9, p. 2159–2167.

18 Klaus, Gerd and Manfred Buhr (eds.). Wahrheit. Philosophisches Wörterbuch. Vol. 11., Leipzig, 1975.

19 Toraldo, Giuliano. The method of physics. The investigation of the physical world. Cambridge: Cambridge University Press, 1976, p. 1–52.

20 Seale, Clive. Validity, reliability and the quality of research. In: Clive Seale. Researching society and culture, 3rd Ed. London: Sage, 2012, p. 529–543.

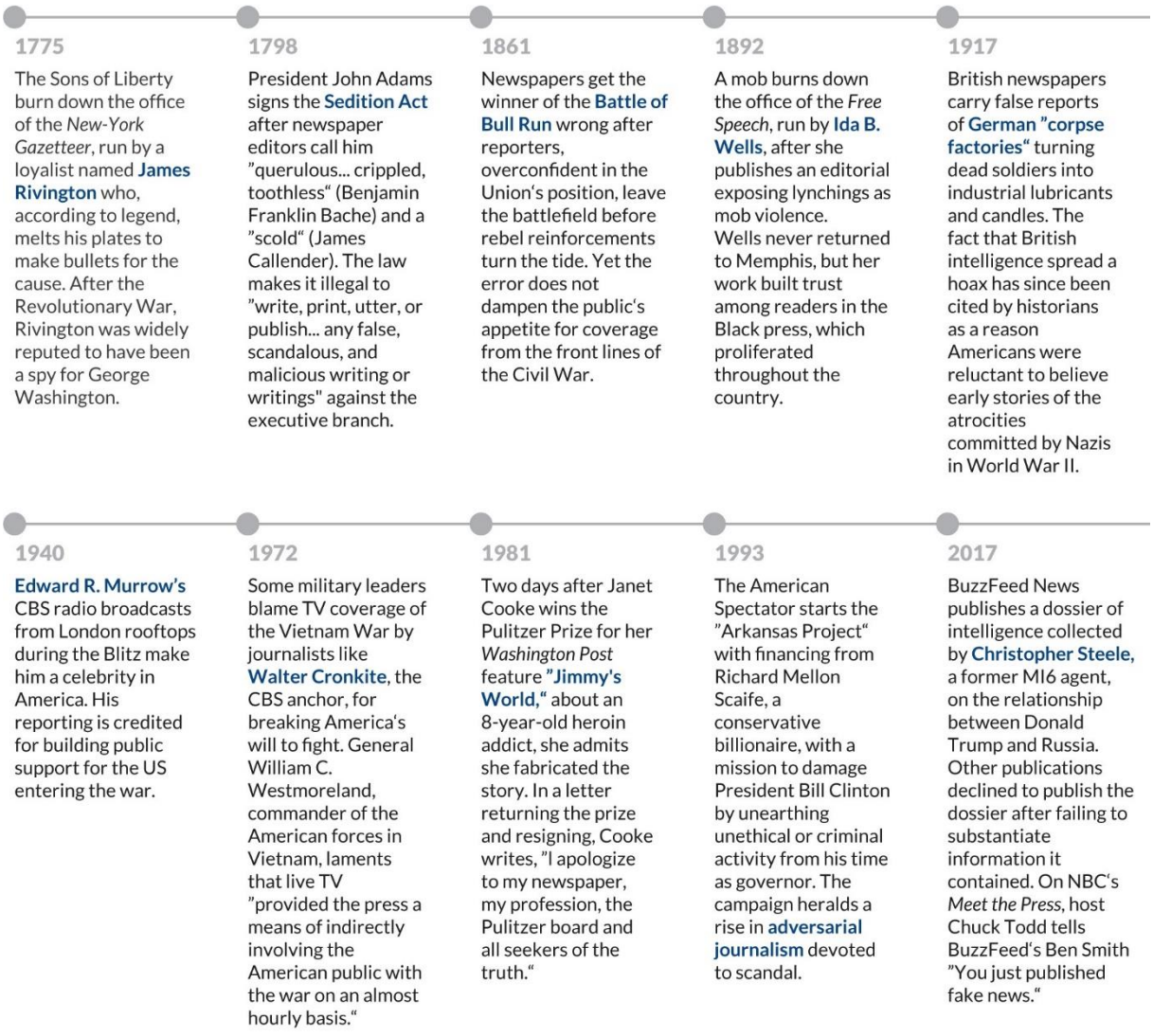
research or different explanations of findings might be possible. The scientific community has found principles of misconduct which are valid more or less in most academic disciplines (see “Figure “A Rough Guide to Spotting Bad Science”).

That leads to another problem: It is almost always possible to pick and choose from a wide selection of scientific statements about realistic phenomena to produce something which appears to be scientifically proven – in order to create a causal reasoning. If people cannot agree on the underlying techniques, methods, and scientific procedures, the situation becomes even more problematic. A common understanding of how to find truth has not developed, yet.

This implies that regaining a common and shared understanding about the means of finding the truth is of utmost importance to the legitimacy of scientific proof. Searching for a common basis is rather a *gaining* of a mutual understanding of truth.

IV Living in a Post-Truth Era

A Long History of Distrust



Source: Schudson, Michael. The Fall, Rise, and Fall of Media Trust. In: Columbia Journalism Review. https://www.cjr.org/special_report/the-fall-rise-and-fall-of-media-trust.php.

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The whole discussion regarding truth, perception, and reality could be seen as a scholarly debate best left to philosophers. But unfortunately, the controversy about truth cannot be reduced to the debate about how to create evidence and proof that serves as a useful effigy of the real world. Deliberate manipulation and distortion of facts are probably as old as human mankind,[21] and have always been used to trigger a desired behavior or action by a person or the broader public (see Figure "A Long History of Distrust").

That people are prone to manipulation has been observed early on – and successfully exploited until today.

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21 See e.g. Butter, Michael. Nichts ist wie es scheint – Über Verschwörungstheorien. Frankfurt/Main: Edition Suhrkamp, 2018; Blackburn, Simon. On Truth. New York: Oxford University Press, 2018.

Fake news has been part of the conversation as far back as the birth of the free press (see Mansky, Jackie. The age-old problem of "fake news." In: Smithsonian, May 7, 2019. For an overview: Soll, Jacob. The long and brutal history of fake news. In: Politico, December 18, 2016.

> "… [M]en judge generally more by the eye than by the hand, because it belongs to everybody to see you, to few to come in touch with you. Every one sees what you appear to be, few really know what you are, … because the vulgar are always taken by what a thing seems to be and by what comes of it; and in the world there are only the vulgar.." [22]

Since Oxford Dictionaries declared "post-truth" its international Word of the Year in 2016,[23] it looks like we have been living in a post-truth, post-factual, post-reality era in which factual rebuttals are ignored. In this situation, personal beliefs are irrefutable and gain in importance through mutual reinforcement.

Post-truth is not synonymous with lying; however, it describes a situation where, when creating or manipulating public opinion, the objective facts have less influence than emotions and personal beliefs. Post-truth consists in the relativization of truth, in the objectivity of data becoming commonplace and in the supremacy of emotional speeches.[24]

Post-truth is defined as "[r]elating to or denoting circumstances in which objective facts are less influential in shaping public opinion than appeals to emotion and personal belief."[25] In the era of post-truth the importance of facts and experts' opinions declines and rational discourse no longer functions. "The facts of the matter are of secondary importance to free-floating opinion." [26]

Several trends and factors have promoted the development of the post-truth era:[27]

- The rise of relativist and *postmodernist ideas*, whereby people are now more likely to hold contradictory views about the world and adopt relativistic opinions.

- The breakdown of consensus about the truth and dramatic transformations in the structure and economy of information driven by *new communication technologies,* namely social media and the internet, along with a dramatic expansion (and acceleration) of the available information, leading to "information overload" for the public and a decrease in the authority of traditional sources of information, such as mainstream media outlets, government agencies, and scientific research.

- Qualitatively new levels of dishonesty and deceit on the part of political leaders, who convince their followers that they are responding to their lived experiences and are offering honest solutions to their problems, establishing their legitimacy by presenting themselves as "*strongmen"* who have the courage to speak their mind against invisible forces of censorship and suppression (polarized political culture).

- The resurgence of populist sentiment in many countries throughout the globe coupled with the *collapse of public trust* in the political establishment and its dominant institutions caused by chronic economic decline and growing inequality in Europe and

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22 Machiavelli, Nicolo. The Prince. Chapter XVIII, 1532, p. 105–106.

23 https://languages.oup.com/word-of-the-year/word-of-the-year-2016 [retrieved August 1, 2019].

24 Zarzalejos, José A. Communication, journalism and fact-checking. In: UNO. The Post-Truth Era – Reality vs. Perception. Madrid, 2017, p. 11.

25 https://languages.oup.com/word-of-the-year/word-of-the-year-2016.

26 Tredinnick, Luke. Post truth, information, and emotion. In: Business Information Review, 2016, Vol. 33, Vol. 4, p. 204–206.

27 See Foroughi, Hamid, Yiannis Gabriel and Marianna Fotaki. Leadership in a post-truth era: A new narrative disorder? In: Leadership, 2019, Vol. 15, No. 4.

the US, which has undermined people's faith in the neoliberal consensus and in economic and political institutions.

- The *psychological needs* of the audience or followers, making post-truth narratives appealing and enabling people to discard scientific and other evidence in light of their powerful emotional needs, something which is becoming much easier due to algorithms which select the content that appears in social media and search engine rankings based on what users want, need, or wish. Other factors here include marketing, epistemic loops, and the impetus to participate digitally through user-generated content, liking, and sharing – the latter of which is especially associated with controlling societies.[28]

If the post-truth era starts by destroying current knowledge structures, the ensuing problem is that it could very well lead to authoritarianism.[29]

V Whom to Believe in a New Post-Truth Era?

People do have a strong desire to make a good impression. This phenomenon has become evident with the increasing failure of pollsters to measure the public pulse: People lie to surveys about their behavior, their charitable givings, their health, their political affiliation. Vanity is a truth killer. Furthermore, manipulation of facts and data has become increasingly sophisticated over time. The infamous methods used by the British consulting company Cambridge Analytica – that is, collecting data and tailoring information according to someone's preferences – only copied what already has been applied through digital marketing by private companies.

Interestingly enough, Big Data might also be a possible corrective: By means of Google searches scientists have found a much more reliable way to predict e.g. the spread of a disease, attitudes towards same-sex marriage, racism, aggression, etc. The extent of negative attitudes revealed by searches and postings might be disturbing; however, as Seth Stephens-Davidowitz says, "There are potential ways to use search data to learn what causes, or reduces, hate."[30]

It looks like we are living in a world where factual rebuttals are ignored. This situation is characterized by personal beliefs being irrefutable and becoming more important through mutual reinforcement. The pervasiveness of online news and social media exponentiates the effects of misleading information, as does the fact that literally everybody from a president to any ordinary citizen can broadcast his or her views to the world.

Fake news, junk news, pseudo-news defined as news that consists of deliberate disinformation or hoaxes spread via traditional or social media,[31] or alternative facts,[32] which are wrong, occur. Fake news is 1) not true and *explicitly fabricated* by their producers and not simply the result of mistakes, 2) is propagated throughout social media, implying that it targets *large audiences*, 3) is usually *motivated* either by the wish to manipulate people's beliefs in a polarized political context or for

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[28] Harsin, Jayson. Regimes of post-truth, post-politics, and attention economies. In: Communication, Culture & Critique, 2015, Vol. 8, No. 2, p. 4.

[29] Sismondo, Sergio. Post-truth? In: Social Studies of Science, 2017, Vol. 47, No. 1, p. 1.

[30] Stephens-Davidowith, Seth. Everybody lies. HarperCollins, 2017, p. 163.

[31] https://dictionary.cambridge.org/dictionary/english/fake-news.

[32] A phrase used by Kellyanne Conway, a counselor to the US president, during a Meet the Press interview on January 22, 2017. See e. g. Blake, Aaron. Kellyanne Conway says Donald Trump's team has "alternative facts." Which pretty much says it all. The Washington Post, January 22, 2017.

ideological reasons or by the wish to grab attention in order to increase financial gain.[33] As a consequence, the *New York Times* has catalogued nearly every outright lie the president of the United States of America has told publicly since taking the oath of office.[34] These disinformation strategies can be distinguished based on the intent to deceive:[35]

- Satire or parody (no intention to cause harm but with potential to fool)
- Misleading content (misleading use of information to frame an issue or an individual)
- Impostor content (impersonating genuine sources)
- Fabricated content (100% false, designed to deceive and do harm)
- False connection (headlines, visuals, or captions which do not support content)
- False context (genuine content which is shared with false contextual information)
- Manipulated content (genuine information or imagery which is manipulated to deceive)

What makes it so difficult to deal with fake news and disinformation is a certain stubbornness and unreasonableness by the holders of beliefs. Ingrid Brodnig, who does extensive research on social media, admits her surprise when she asked a woman about the misleading headline of an article that wrongly indicated that German Chancellor Angela Merkel hopes to welcome 12 million migrants to Germany. The woman's answer was, "This information might be wrong now. However, it is something that could happen – if not today, maybe tomorrow or in six months." How can one counter that?[36] Brodnig claims that manipulative headlines and news enhance "ideological reinforcement," leading to entrenched opinions and convictions.

Another challenge of the post-truth era is the erosion of credibility of traditional authorities, e.g. journalists are no longer unquestioned,[37] public trust in the government remains near historic lows.[38] While credibility of technical experts is still comparatively high, trust in representatives of business, politics, and media remains very low (see Figure "Voices of Authority Regain Credibility").

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[33] Galeotti, Anna E. Believing fake news. In: Condello, Angela, Tiziana Andina. Post-truth, philosophy and law. Abingdon, Oxon, New York: Routledge, 2019, p. 58–76.

[34] Leonardt, David and Stuart A. Thompson. President Trump's Lies, the Definitive List.

[35] Wardle, Claire. Fake news. It's complicated. First Draft, February 16, 2017.

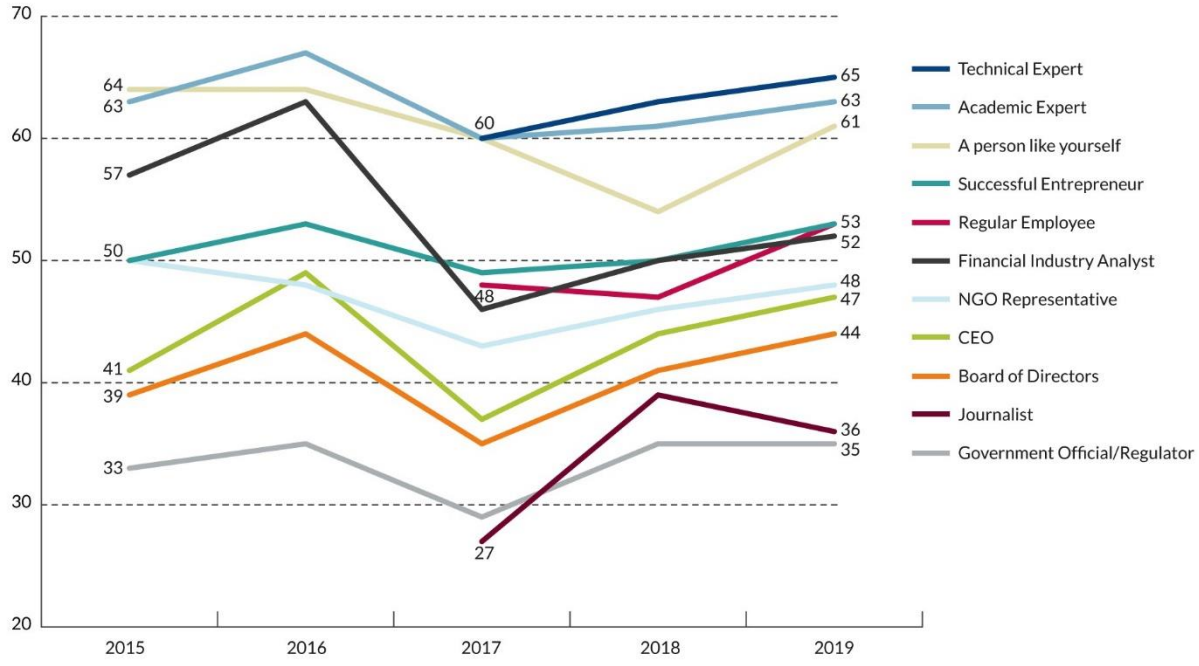
[36] Brodnig, Ingrid. Lügen im Netz; Wie Fake News, Populisten und unkontrollierte Technik uns manipulieren. Wien: Brandstätter, 2017, p. 9.

[37] Hamann, Götz. Why is journalism in a credibility crisis? In: Die Zeit, June 26, 2015.

[38] Pew Research Center. Beyond distrust: How Americans view their government. November 2015.

Voices of Authority Regain Credibility

Percent who rate each spokesperson as very/extremely credible



Source: 2018 Edelman Trust Barometer, Edelmann Trust Barometer 2019.
CRE_PPL. Below is a list of people. In general, when forming an opinion of a company, if you heard information about a company from each person, how credible would the information be—extremely credible, very credible, somewhat credible, or not credible at all? (Top 2 Box, Very/Extremely Credible), question asked of half of the sample. General population, 28-market global total (2018); 26-marked average (2019).

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Credibility is a technical, cognitive, and iterative process, by which information is filtered and selected.[39] Credibility refers to the *believability* of some information and/or its source and is a multifaceted concept with *expertise* and *trustworthiness* as primary and e. g. *source attractiveness* and *dynamism* as supporting dimensions. The credibility of a source of information is a recipient-based judgment that includes objective assessments of the quality or accuracy of information as well as subjective perceptions of the trustworthiness, expertise, and attractiveness of the source.[40] That means that trustworthiness is based more on subjective factors, but can also include objective measurements such as established reliability. Expertise can be similarly subjectively perceived, but also includes relatively objective characteristics of the source or message (e.g. credentials, certification, or information quality).[41] The notion of credibility is closely connected with several concepts, including trust, reliability, accuracy, reputation, quality, authority, and competence.[42] Credibility is frequently attached to objects of assessment, as in

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39 Rieh, Soo Y. and David R. Danielson. Credibility - A multidisciplinary framework. In: B. Cronin (ed.), Annual Review of Information Science and Technology, 2017, Vol. 41, p. 307–316.

The terms “credibility” and “trust” are used virtually interchangeably. See e.g. Fisher, Caroline. The trouble with “trust” in news media. In: Communication Research and Practice, Vol. 2, No. 4, p. 454.

40 Metzger, Miriam M. Making sense of credibility on the Web: Models for evaluating online information and recommendations for future research. In: Journal of the American Society for Information Science and Technology, 2007, Vol. 58, No. 13, p. 2078.

41 Flanagin, Andrew J. and Miriam Metzger. Digital media and youth: Unparalleled opportunity and unprecedented responsibility. In: Metzger, Miriam J. and Andrew J. Flanagin (eds.). Digital media, youth and credibility. The John D. and Catherine T. MacArthur Foundation Series on Digital Media and Learning. Cambridge, MA: The MIT Press, 2008, p. 8.

42 Flanagin, Andrew J. and Miriam Metzger. Digital media and youth: Unparalleled opportunity and unprecedented responsibility. In: Metzger, Miriam J. and Andrew J. Flanagin (eds.). Digital media, youth and

- source credibility, which considers the trustworthiness of the constructor of a message,
- media credibility, which evaluates the overall credibility of a larger entity, and
- message credibility, reflecting the fact that assessments of these objects differ.[43]

At the same time, however, credibility assessments of sources and messages are fundamentally interlinked and influence one another that is, credible sources are seen as likely to produce credible messages and credible messages are seen as likely to have originated from credible sources.[44]

The practical consequence of this development is startling: If trust in traditional authorities or gatekeepers of information (such as media, science or politicians) is dwindling, sometimes unexpected "ambassadors of the truth" appear. The currently most famous example is the young Swedish activist Greta Thunberg, who initiated a "school strike for climate" movement that spread globally. Thunberg, who has been diagnosed with Asperger syndrome, obsessive-compulsive disorder and selective mutism, regards her disease as an advantage in her perception of reality "as almost everything is black or white."[45]

While Greta Thunberg or the German YouTube-influencer Rezo might be the most recent celebrity activists, they follow the pattern of artists turned activists, sometimes even turned politicians, such as Bono, Bob Geldof, and Arnold Schwarzenegger. While most people will not argue the facts of poverty or climate change, it obviously does make a difference who tells the facts and makes the call to action.

VI Recommendations

The erosion of a common understanding with regards to facts, reality, and truth; the erosion of trust in elected representatives and media; the denying of empirical evidence and scientific facts; the polarization within our societies enhanced by analogue and digital echo chambers are a rather toxic and explosive mixture. It might result in an erosion of democratic foundations, such as the ability to find a consensus through the exchange of arguments; respect for different opinions and arguments (as a basis for peaceful coexistence in a diverse population); the possibility to form one's opinion based on a free flow of valid information.

Possible remedies need to address various aspects of these possible dire consequences. Hans Rosling offers a useful guideline for this effort:

> "People often call me an optimist, because I show them the enormous progress they didn't know about. That makes me angry. I'm not an optimist. That makes me sound naive. I'm a very serious "possibilist". That's something I made up. It means someone who neither hopes without reason, nor fears without reason, someone who constantly resists the overdramatic worldview. As a possibilist, I see all this progress, and it fills me with conviction and hope that further progress

credibility. The John D. and Catherine T. MacArthur Foundation Series on Digital Media and Learning. Cambridge, MA: The MIT Press, 2008, p. 8.

43 Kiousis, Spiro. Public trust or mistrust? Perceptions of media credibility in the information age. In: Mass Communication and Society, 2001, Vol. 4, No. 4.

Credibility has been examined across a number of fields ranging from communication, information science, psychology, marketing, and the management sciences to interdisciplinary efforts in human-computer interaction. See Rieh, Soo Y. and David R. Danielson. Credibility – A multidisciplinary framework, p. 307–308.

44 Rieh, Soo Y. and David R. Danielson. Credibility – A multidisciplinary framework, p. 310–311.

45 https://en.wikipedia.org/wiki/Greta_Thunberg.

> is possible. This is not optimistic. It is having a clear and reasonable idea about how things are. It is having a worldview that is constructive and useful."[46]

In this spirit, the following recommendations shall serve as a starting point, not necessarily a final destination.

- **Learn and teach to distinguish**. Since 2014, Finland has started an initiative to teach citizens of all ages how to detect fake news or even deep fakes. The program is also directed at teachers, civil servants, and public officials and an integral part of the syllabus at public schools. This program definitely serves as a best practice example for all EU member states.

- **Use Big Data to understand better**. Experts can harness Google searches and postings in a positive way by helping to better understand the mood and attitude of people. The European Union is keeping track of the public mood using surveys (so-called Eurobarometer). However, the EU might consider integrating modern tools such as Big Data analysis in order to get a more detailed picture.

- **Encourage and practice debate**. We need to practice (political) discourse. Currently, various initiatives are evolving such as StrategieDialog21 in Switzerland and Demokratie21 in Austria aiming at offering spaces for open discussion and exchange of arguments. More spaces like these are needed in order to involve interested citizens in a discourse.

- **Involve artists**. Artists not only have a special sensorium to feel transformations and change, they could and should be involved to address challenges or problems. They often enjoy higher credibility and can help to create awareness and a willingness for change and reforms.

- **Foster smart regulation in the digital space**. The EU lacks big players such as Facebook or Google but it obviously has smart lawyers. The value of personal data is unquestioned; legal protection offered by laws such as the General Data Protection Regulation have received acclamation in countries such as the US and China.

[46] https://www.goodreads.com/author/quotes/2790706.Hans_Rosling.

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