

## Research Paper

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# Quality deficits in medical and health journalism

An explorative collection of cases focusing on Covid-19 and the coronavirus pandemic

**Abstract:** The practical meaning of various quality criteria – specifically correctness, accuracy, formal completeness, relevance, diversity of opinion and perspectives, proportionality, and correction – is discussed based on examples of reporting from health and medical journalism. The benchmark for this discussion is the service of orientation that the reporting provides. The individual cases presented have deficits, most of which can be prevented through journalistic working routines, without appreciable additional cost or effort. This paper thus hopes to provide inspiration for media practitioners to reflect on their own work and that of others.

**Keywords:** coronavirus, Covid-19, reporting, quality, objectivity, orientation

It did not take long after the start of the Covid-19 pandemic in 2020 for initial findings on the quality of journalists' approach to it to emerge. In their analysis of the first six months of the pandemic, Eisenegger et al. (2020: 2) state that, contrary to the sometimes severe criticism by the public,<sup>1)</sup> »the performance of Swiss media during the pandemic [...] can be assessed tendentially as positive.« As »clear deficits,« however, they identify less defined effort to place events in context and insufficient diversity »in the scientists quoted,« and that the media proved »relatively uncritical in the sensitive phase before the lockdown.«

1 On media critique in general, see Weitze (2023: 325-347) and Kramp/Weichert (2021: 6-15).

The subsequent investigation into the second wave of the coronavirus pandemic (September 1, 2020 to February 28, 2021) shows that the contextualization of figures and statistics almost doubled, but that there was even less diversity of scientific perspectives: »social sciences and humanities disciplines are thus largely left out of reporting on the second wave, too« (EISENEGGER et al. 2021: 1).

An investigation into eleven leading media in Germany between January 1, 2020 and April 30, 2021 takes a generally positive view of the reporting, but also finds deficits when it comes to placing events in context:

»As time progressed, data on developments in the pandemic was increasingly contextualized using time comparisons, and rarely based on comparisons with other diseases. Less than a third of the articles that named consequences weighed up the various consequences of the pandemic and the measures taken to tackle it.« (MAURER/REINEMANN/KRUSCHINSKI 2021: 5)

Summarized quality considerations are especially useful for comparisons: How do certain media or entire media landscapes develop over time? What are the differences between individual titles or journalistic genres? In professional practice,<sup>[2]</sup> however, individual case studies are also relevant. Identifying quality deficits can reveal both recurrent problems and potential for optimization. Empirical journalism research must also look at individual cases repeatedly, in order to test its toolbox for quality measurement and benchmarks for assessment, and develop them further where necessary.

Some particularly significant quality criteria are therefore discussed below using examples from medical and health journalism.

## Methodology

The examples of reporting discussed here under the individual quality aspects are the result of observation of media journalism. The method was not to define a random sample in a particular way, take it, and then analyze it. Instead, positive and negative examples were collected when they appeared relevant beyond the individual cases (cf. MALIK 2004: 152, 250; HAARKÖTTER 2020: 99).

A collection of around 600 cases from the pandemic period was published as a working paper (RIEG 2024b). This investigation uses a selection of reports from that collection, as well as further cases from medical and health journalism outside the Covid-19 pandemic that are as frequent as possible.

The quality criteria were chosen with a view to the constitutive purpose of journalism, to provide orientation (cf. MEIER 2018: 14f.). This role applies regardless of media type and form of presentation – just as much to news program

2 On self-critical retrospectives from journalists, see (B1).

*tagesschau* as to a school newspaper. The fact that the expectations are not the same for the various media is insignificant when it comes to assessing the results with a view to the service of orientation: Properties of journalistic articles offer orientation that can be measured (gradually) and can also be negative (incorrect information and disinformation, cf. HOFFMANN 2023).

A large proportion of the operationalizable quality criteria can be grouped under the heading ›objectivity.« Although it has a difficult standing in both practice (cf. EPP 2014; URNER/LANGESLAG 2018) and research (cf. NEUBERGER 2011: 17; SAXER 2012; WAGNER 2012; NEUBERGER/KAPERN 2013: 146-168), ›objectivity« is a key part of the ›deal« between journalists and recipients and is therefore »represented in all scientific quality catalogs in one form or another as a central feature of journalistic quality« (MOTHEs 2014: 54). After all, the service that the media provide is to observe the world so that users do not have to do it themselves – irrespective of the problem that an individual is not usually capable of doing so. This deal can therefore be described thus: Journalistic objectivity is the effort to convey an image that does not differ in any relevant way from the image that a recipient would gain from observing events themselves.

The remarks in this paper are limited to a few quality criteria that correspond to the rule of objectivity as described above. This is because, unlike more audience-related criteria such as comprehensibility and entertainment value (cf. Pöttker 2000: 382), they can be explained based on the journalistic articles themselves<sup>3)</sup> or in comparison to other articles and sources, and do not require any assumptions to be made about the situation in which the media is received. The benchmark for all quality criteria is thus solely the potential service of orientation.

The sources for all media examples and any documents that may be required are listed as numbered references (B) separately online<sup>4)</sup>.

## Facts and opinions

For all quality aspects, it is important to differentiate between facts and opinions (cf. AUSTRIAN PRESS COUNCIL 2019: No. 3.1; SWISS PRESS COUNCIL 2022: Statute 2.3). By definition, facts are always true; only *claimed* or *presumed* facts (hypotheses, predictions) can be untrue (cf. RIEG 2024a). In the case of predictions, the presentation of deviating presumed facts will depend on the probability of them being true (cf. POPPER 1935: 186).

3 In line with the definition: »3.6.2 Quality. Degree to which a set of inherent features (3.10.1) of an object (3.6.1) meets requirements (3.6.4)« (DIN 2015: 39).

4 [https://www.journalistenbuero.com/wp-content/uploads/2024/09/Belege\\_Qualitaetsdefizite-im-Medizin-journalismus.pdf](https://www.journalistenbuero.com/wp-content/uploads/2024/09/Belege_Qualitaetsdefizite-im-Medizin-journalismus.pdf)

Opinions, on the other hand, are neither correct nor incorrect. As a result, contradictory opinions always exist in parallel and need to be taken into account in journalism (cf. ARNOLD 2009: 168, 196, 383; STARK 2019: 78f.). However, not everything that is declared (or indeed classified in law) as an opinion should be treated as such in journalism. »I believe that this medication is effective« (B1) is not an opinion, but a presumed fact (that the speaker is convinced is true), since the medication cannot be simultaneously effective and ineffective. The quote from a politician »We have agreed that vaccinations will not be mandatory« (B2) is not an opinion either, but an announced fact, as defined in each agreement between the parties, for example.

A phrase that became popular during the discourse on Covid-19 – the idea that scientists were building ever higher on sand – encapsulates the confusion between facts, presumed facts, and opinions (B3). In the words of former University President Dieter Lenzen: »Scientific findings are always provisional« (B4).

If a ›finding‹ was only provisional, it was always merely an incorrect claimed fact that no-one had revealed as such, perhaps over an extended period. In most cases, it would have merely been a presumed fact (hypothesis). Science must not be wrong about facts, but it can in its assumptions. And scientists are allowed to have whatever opinion they want on the facts that they uncover and on their presumed facts. Yet an opinion per se is not scientific (because it is not knowledge), but always the individual assessment of a situation, which may include facts and opinions. Facts can be neither created nor disposed of through opinions, however large the research community might be.<sup>5</sup> If a scientific consensus (B5) or the knowledge of an »overwhelming majority of scientists« (B6) is spoken of, these cannot (yet) be facts. Instead, they are assumptions that are considered plausible by the majority of or indeed all experts in the relevant field.

Merely provisional, i.e., incorrect ›findings‹ arise both in science and in medical practice either when measurements were insufficient or when the correct data has been incorrectly interpreted. Accordingly, in the *Medien-Doktor* project (cf. ANHÄUSER et al. 2021), the test criterion »factual accuracy« cannot be assessed as fulfilled when »provisional assumptions and risk assessments are presented as verified knowledge« (MEDIEN-DOKTOR 2024).

## Correctness

Regardless of any epistemological or constructivist doubts and naming of problems, or »the comment reference to the tiresome problem of truth and

5 One may of course believe in unprovable presumed facts as facts, but this should be limited to the field of religion.

objectivity« (RUSS-MOHL 1992: 84), the correctness of statements that are published is a fundamental requirement for journalism, an »elementary quality« (PÖTTKER 2000: 382): »The essence of journalism is a discipline of verification« (KOVACH/ROSENSTIEL 2014: 98).

The only aspect of this that can be reliably measured is incorrectness, or sometimes even only inconsistency (cf. MCQUAIL 1992: 207). As a result, every statement is ultimately subject to the caveat that it has simply not yet been disproved (cf. KEPPLINGER 2000: 90). In both journalistic practice and everyday communication, the less obvious a statement appears or the more justifiable the doubts that can be voiced, the more advisable it is to plausibly back it up with proof (cf. on evidence: DAUBE/RUHRMANN 2021: 7ff.).<sup>6</sup>

It is impossible to exaggerate the importance of making correct statements in the field of health, and especially during the Covid-19 pandemic, with its regime of measures that affected every single person in one way or another. After all, all political decisions were based on medical or public health statements, with many further decisions made as a consequence of them (e.g., economic promotion, B8). Where it is not certain whether statements are correct, this must be addressed (cf. DEUTSCHER PRESSERAT 2019: Ziffer 14) – including looking for alternative assumptions.

A typical error in journalism on Covid-19 was claims of this kind: »The number of people infected has doubled in two days« (B9). After all, it was actually only possible to count positive test results.<sup>7</sup> The total number of people infected is always significantly higher; it would only be possible to determine this approximately with a broad-based random sample. With test strategies varying widely, international comparisons make »no sense at all« (MEIER/WYSS 2020).

Sometimes, this kind of error may merely be the result of sloppy language, although this does not make it any less dramatic given the service of orientation. Take the quote »Many prostitutes are in existential need due to Covid-19« (B10): The actual reason was not Covid-19 itself, but the ban on prostitution handed down by policymakers in order to combat Covid-19 (B11). The number of people who are infected is not the same as the number of people who are unwell (B12) – a fact that should have been familiar to most even before Covid-19, from diseases such as HIV or herpes (B13).

Numerous errors are found in the presentation and interpretation of statistical data. Vaccine efficiency of 90 percent does not mean that »9 out of 10 people can be protected against Covid-19 by vaccination« (B14), but that the number of

6 When it comes to the statement »Christian Drosten said in the latest episode of the NDR podcast that [...]« (B7), one would rightly not attempt to disprove this unless there is a justified suspicion that a Drosten double had spoken.

7 Furthermore, the test results do not tell us anything about how seriously ill people become, nor about the dramatics of the pandemic. Nevertheless, multiple analyses compared the number of new infections measured with the number of journalistic reports on Covid-19 (cf. ARLT et al. 2023: 3; REINEMANN et al. 2024: 10; EISENEGGER et al. 2021: 5).

people who become unwell was 90% lower in the vaccinated group than in the placebo group (B15). Comparing incidence values without taking the positive test rate into account is always misleading (B16).

Journalists can be forgiven for failing to notice statistical errors in scientific publications (B17). This makes it all the more important, however, to present third-party claims correctly as such, rather than as irrefutable facts. After all, journalism is responsible for all incorrect claimed facts it publishes, even if they are not the result of errors by journalism itself.

During the Covid-19 pandemic, Karl Lauterbach, now Federal Minister for Health, made a statement that is both well-known and worth repeating due to its presumed potency: that the Covid-19 vaccination was »without side effects« (B18). Lauterbach himself later referred to this statement as a »failed tweet« (a fact that the news magazine show *heute-journal* did not see the need to mention in its written summary of the interview, B19). Yet various media repeatedly broadcast the claim in variations such as »more or less without side effects« (B20) without being quickly disproved by a fact check (cf. FAKSOVA et al. 2024).

Often, journalistic statements are incorrect simply because they generalize inappropriately. A group can only be labelled with something if it applies to all members (cf. BULL 2021: 146f.). The description of a protest on climate protection as a »Green voter demo« is indubitably incorrect and should never have been printed. After all, who can tell which party »thousands of climate activists« (B21) voted for at the last election? Similarly, in January 2022, *taz* stated that »3,700 anti-vaxxers demonstrated on Saturday in Hamburg« (B22), illustrating the text with a picture of a sign with the more accurate slogan »Compulsory vaccination, no thanks«. After all, other slogans also showed that not everyone there was against vaccination. Being an »anti-vaxxer« is completely different from being against compulsory vaccination. Yet the term was used zealously throughout the media landscape; news website *tagesschau* even had a separate section for it (B23). The same goes for the label »Querdenker« [literally: unconventional thinker], which, outside its actual meaning, would only apply to explicit followers of the Querdenker movement, but is used in the media for anyone who can be considered »out of touch.« This even led to the Duden dictionary, guided by published texts, linking the term to the spread of conspiracy theories (B24). This negative framing is now so established that *tagesschau* was quick to amend an obituary of Christian Ströbele entitled »A Querdenker who followed his conscience« (B25).

## Opinions as facts

Every illness, assuming that it has been correctly diagnosed, is a fact (namely the classification of measured values, e.g., in accordance with ICD-11, B26). Its

medical treatment, on the other hand, is based both on opinion(s) regarding what is best for a patient and how to weigh up potential effects and side effects, and on presumed facts, namely how the measures chosen will work.

Even established treatments and routine processes are based on opinions, and a shift in opinion can often cause them to suddenly appear unsuitable. Two examples: circumcision (B27) and how to support patients following surgery to prevent delirium (B28; further examples: B29).

Labels that are very common in the media, such as »conspiracy theorist,« are almost always opinions that are sold as facts, are not attributed to any particular speaker, and thus stand in the way of clarification (cf. THACKER 2021).

Sometimes, very inconspicuous yet significant opinions appear as facts. A dpa report, for example, states that »Despite rising numbers of infections, thousands of people protested against the state's measures to contain the Covid-19 pandemic« (B30). Why »despite?« What would be the news statement if it were replaced with »due to?« »Despite« is a value judgement by the dpa that appears as a fact. The message is: How can people be so lacking in solidarity, so undaunted by death?

The long-term study COVID-19 Snapshot Monitoring (COSMO) shows how the presentation of opinions as fact is reflected in academia and subsequently in the media.

»The objective of the project is to repeatedly gain an insight into how the population perceives the Covid-19 pandemic, how the »psychological situation« looks. The idea is to make it easier to design communication measures and reporting in such a way as to offer the population correct, useful knowledge and prevent false information and actionism.« (B31)

Under the heading »Unwanted behavior«, the »Analysis of the first data collection (03.03. – 04.03.2020)« gives examples of over-hasty action »taking ineffective protective measures such as wearing face masks« and »people who see Covid-19 as a serious illness«. »People who have more knowledge of Covid-19 and expect a slower spread of the virus display less over-hasty action« (B32). Later, however, not wearing a face mask was seen as a sign of undesirable »pandemic fatigue« (BETSCH 2020). If opinions and presumed facts had been correctly recognized and named here, study participants and recipients would have been spared a disconcerting »switch of facts.«

## Accuracy

The colloquial judgment »not wrong, but not right either« is the equivalent of the criterion of accuracy. When a statement offers less orientation than it could, the precision is insufficient.<sup>[8]</sup>

8 Because this paper is about what is included in the article, rather than what is not, the question of the space available in the respective medium does not arise, or at most only marginally (cf. MCQUAIL 1992: 212)

For specific terms, this is the case when they are not clearly defined. Journalism cannot provide orientation here through definitional dogmatism. Instead, where the recipients do not all share the same understanding (always assuming a will to understand), this will force journalism to define what is meant more accurately. Inaccuracy does not create »beta versions of reality without a higher level of certainty« (NEUBERGER 2019: 33) as the kind of »reduction in complexity« (overview in Hooffacker 2019) so often called for – it creates communication chaos.

In the »vaccination debate,« for example, we saw »vaccination willingness« (B33) pitched against »vaccination skepticism« (B34) and »vaccination refusal« (B35). In fact, the only accurate dichotomy is »vaccinated« vs. »unvaccinated.« Someone who cannot receive the vaccination for medical reasons is not skeptical of the vaccination – perhaps they even long to be able to have it. Someone who does not take up a voluntary offer is never a »refuser,« because one can only refuse the fulfilment of an obligation. Many reports that use these labels would therefore need to be classified as incorrect. But the attention here is to be directed at the question of whether it is not possible to precisely »say what is« (Rudolf Augstein, B36). An example of something that is correct but imprecise would be the description of the number 999 as »three figures« – the statement »almost four figures« would be far more appropriate when it comes to providing orientation.

A vaccination to protect against something needs to do just that. Otherwise, it might statistically reduce the risk of becoming ill or the severity of the illness – different from »vaccination protected others« (B37). Nobody would claim that »a seatbelt protects against death in the case of a car accident.« If what is on offer is a reduction of risk, the question of how costs and benefits are weighed up might need to look very different (see »Side effects« below).

Imprecision is often seen in linguistic attempts to leave loopholes open. »Long-term effects, in the sense of illnesses that only occur years after the vaccination, do not exist, because side-effects of vaccinations normally occur within a few days, or after a few weeks at the latest.« (B38)

Here, »normally« contradicts the clear »do not exist«; as the recipient, one asks oneself: Which is it? There is a significant difference between an institution distancing itself from one of its employees and it distancing itself merely from something that employee has said (B39). If we are not to view it immediately as incorrect, we need to consider this kind of »exaggeration« as at least imprecise.

## Completeness of the facts: Key questions

»The most widespread form of manipulation is not the invention of additional information, but omission.« (Fehrle on KORNFIELD 2019)



Every situation must be described journalistically in such detail that its communication can serve to provide orientation. Part of examining this is to look at whether answers are provided to the seven key questions: Who? What? Where? When? How? Why? From where? (cf. HOOFFACKER/MEIER 2017: 74ff.)

Yet even the first question, »Who?«, often remains unanswered. In the radio program *Forschung aktuell* in late March 2020, a science journalist called on viewers to wear gloves when shopping (B40). If the journalist had been asked who – apart from him as the communicator of news – says so, the lack of evidence might have been noticed.

On March 10, 2020, a medical journalist wrote in the *sz*, without quoting sources: »For smokers, too, now would be a good time to kick the habit« (B41). Which Covid-19 expert says so? (One could also ask »from where« the finding comes – the question of incompleteness remains unaltered.) Just because something sounds obvious, it is not a necessarily a fact. A week later, another study was published with the opposite result (B42).

The next key questions will be omitted here for lack of space. The seventh question – from where – is to be answered with the source (»source transparency«, SCHULTZ 2019). The »who« question often fails to answer it sufficiently and, without first-hand observation, it differs from »where« and »when.« The source needs to be named, not just so that it can be checked (in theory), but also to provide immediate orientation for the recipient. Many incorrect claims have been almost accidentally proved as such even before publication, when journalists looked for a reliable source (B43; cf. SCHÄFER 2023: 8). Many texts containing medical advice fail to provide sources for all (B44) or most (B45) of their advice, thus displaying a quality deficit even without incorrectness being proven. This is the case even though, thanks to the internet, the options for providing sources are now absolutely unlimited, even in broadcast pieces (B46).

The question of context: Why is this relevant?

Alongside research, one of the key roles of journalism is to place its findings in context (cf. KIEFER 2017: 690; WORMER/RETZBACH 2020). This does not mean providing personal comment, but instead answering an eighth key question: Why is what is being reported relevant? Only once it is placed in context does information become news »that offers guidance« (cf. KEPPLINGER 2011: 99; PÖTTKER 2016).

Of course, no explicit remarks are needed when recipients are able to provide this contextualization themselves (e.g., a weather report, results of a national election, local large-scale fire). While relevance is usually treated as a quality criterion in itself (cf. ARNOLD 2009: 170-173; GEUSS 2018: 83), it is also a useful criterion in a formal check for completeness.

»Why is that relevant?« provides justification that the choice of news published is not arbitrary. Of course, this also includes the (initially only internal) obligation to justify why a situation is considered *not worthy of reporting*. After all, whether or not the accusation of a »press with gaps« [*Lückenpresse*] (TEUSCH 2016) is based in fact can be investigated by comparing the statements that a medium does and does not publish.

The Belgian Health Minister Frank Vandenbroucke, for example, attracted the attention of the German media by speaking out in favor of tougher measures to combat Covid-19 – in the case of ZDF, both with (B47) and without (B48) criticism of Germany. When Vandenbroucke admitted, however, that the tough measures served not to protect against infection, but to shock the population (B49), the same media reported nothing. When asked about this, Jens Petersen, Head of Group Communication at dpa, commented as follows:

»dpa reported on Vandenbroucke’s criticism of the German rules relating to Covid-19 and Christmas because of its reference to Germany. dpa did not report on the inner-Belgian dispute in connection with further statements by Vandenbroucke because these were not of news relevance.«

So is any statement by a foreign health minister in relation to Germany newsworthy, but internal health discussions in foreign countries are not? In order not to feed the suspicion of interest-led news selection, it would have been necessary to answer the eight key questions, ideally at the same time justifying why the purpose of the measures that was later revealed is not newsworthy (see below on proportionality).

## Completeness: Article

In order not to ask too much of the eighth key question, further aspects need to be included at article level for completeness. These must look at more than *one* described situation, namely at the topic covered (cf. REINECK 2014: 44). How broadly or narrowly the idea of completeness is to be defined here can only be determined by looking at the service of orientation: What further information is needed in order to contextualize what has been described so far effectively? One aspect for consideration here is the diversity of opinion and perspectives (see below). In the same way as the disproving method and the goal of objectivity proposed above, this means that, where further information leads to a different picture, it is indispensable and its omission a quality deficit (cf. SWISS PRESS COUNCIL 2022: No. 3).

First, this means contextualizing a case described or a moment in time within world events. How full a specific hospital or all the intensive care beds in the country are can only be useful information if we have something to compare it to (B50).

This approach is sometimes countered with accusations of »whataboutery« (B51; cf. FRANCESCHINI/LOUBERE 2020). Yet, in journalism, this should not be used as a rhetorical distraction, but as necessary contextualization (cf. BARCELÓ 2020: 441ff.).

Someone asking the unvaccinated about the reasons for their decision must also interview the vaccinated with the same interest in learning (B52). Otherwise, the results cannot be contextualized (perhaps a majority of *both* groups is driven by concerns about their *own* health?) – especially if both groups are to be considered as recipients (cf. HANDSTEIN 2013: 142).<sup>9</sup>

Someone talking about an increase in heat deaths caused by climate change (B53) must not omit the associated reduction in deaths caused by cold (B54). And whenever journalism reports on new medical developments that will help people live longer, it should also mention which other causes of death become more likely as a result. »Living healthily extends life expectancy, a long life increases the risk of dementia« (B55).

The necessity of the »But what about...?« question becomes especially clear when an article contains claimed facts that contradict other claimed facts that are generally known or even published in the same medium, without addressing this contradiction.

In late December 2021, numerous media reported on a tweet in the tone: »Christian Drosten rips apart misconceptions about Covid-19 – the virologist makes a clear statement« (B56). Drosten's statement: »Anyone who thinks that they can train their immune system by becoming infected must logically also believe that they can train their digestion by eating a steak.« (B57)

Most editorial offices would have needed to look no further than their own media archives to cast doubt on Drosten's statement. Everywhere there are reports on all the things that supposedly boost the immune system. It would also have been enlightening to think about why only tourists in the relevant countries are struck down by Montezuma's Revenge, but not the locals. Is it because of different genetics, or perhaps an untrained digestive system (B58)?

The *Berliner Zeitung* also ran an article on Drosten's tweet (B59), despite having published a piece to the opposite effect just two days earlier: »Virologist: The vaccinated and recovered should not wear masks« (B60). The core message of the earlier article:

»By wearing a mask, people who have already been vaccinated or recovered from the virus would come into much less contact with other viruses and bacteria. The consequences could be »devastating.« The immune system needs training, says the virologist, and needs to arm itself against allergies, autoimmune diseases and cancer.« (B60)

9 The potentially provocative question of whether, by this logic, non-murderers would also need to be asked their motivation for not murdering, can be answered with: of course. How else can we, for example, explore how useful the threat of sanctions is in preventing crime?

The virologist in this case is Cornel Fraefel. When the *Berliner Zeitung* noticed the contradiction between the two articles, it simply brought the two positions together as opinions in the first article:

»Geneva-based virologist Isabella Eckerle contradicts Fraefel in talking to *Blick*. At the moment, she says, not wearing masks is ›completely crazy.« For a strategy like this to work, there would need to be broad immunity in the population and the virus no longer be mutating with the same intensity as it is at the moment. Head of Berlin's Charité hospital [sic!], Christian Drosten, on Wednesday also clarified his position regarding »training« the immune system: Anyone who thinks that they can train their immune system by becoming infected must logically also believe that they can train their digestion by eating a steak.« (B61)

So what is the truth? The latest scientific knowledge? What is knowledge and what is opinion? No answer can be found in German journalism. Did it even try? No. On request, the Swiss Professor of Virology Cornel Fraefel wrote: »Yes, I don't understand either why someone like Drosten doesn't understand what we mean by training the immune system. German media never contacted me to clarify the point. Swiss media did not pick up on the topic further, either.« Incidentally, the article on the Drosten tweet (B59) remained unamended, without a link to Fraefel's contradictory claim.

### Completeness: Medium

The completeness of reporting is a standard that applies not only to the individual article, but also to the medium that publishes it as a whole. In line with the philosophy of ›someone who says A must also say B,‹ information providers themselves make it necessary to provide an update when the picture originally communicated is (or becomes) too far removed from reality.

Incompleteness is particularly common in reporting on suspicions, for example when a medium reports that a criminal complaint has been filed, but not that the (preliminary) investigation has been closed (cf. RIEG 2015). In a medical context, it is especially important to look at articles on new medicines and treatments when new findings and experiences come to light that would be included in an up-to-date article. Customers must then be brought up to date.

When virologist Hendrik Streeck presented initial results of the Heinsberg study on April 9, 2020 (B62), the media vied with each other to criticize it, mixing all kinds of fields in the process: science, politics, and even personal and professional animosities – because the PR agency run by former *Bild* editor in chief Kai Diekmann has worked for the study (B63). When the full results were published later, there was no media interest. Instead, as Streeck complains (B64), to this day

media simply add the word »controversial« to the name of the study, rather than updating their own reporting.

### Completeness: Side effects

Medical reporting in particular, but ultimately any reporting, is incomplete when known or conceivable side effects go unmentioned. This relates both to the specific article and to the entire medium, for example when new findings come to light later. The fact that side effects are not always served up on a silver platter should only serve to encourage journalistic research.

Needless to say, the probability and intensity of medical side effects depend on the constitution of the individual, which is why vaccinations must always be preceded by individual advice and awareness of counterindications (B65). It was therefore at least questionable that media across the board included individual decisions on vaccinations in their reporting (B67), along with their own or third-party diagnoses from afar and comments (B66) that often followed a paternalistic or even »patriarchal narrative« (ZIMMERMANN 2022: 50). How is this supposed to provide a service of orientation?

In late April 2020, Tübingen's Mayor Boris Palmer offered to talk about the side effects of the desired effects, specifically about the deaths caused by shutdowns and lockdowns. But instead of pursuing and researching this question, the media consistently told the much simpler tabloid story of the inhuman meddler and the efforts of his Green party to get rid of him (B68; further media reactions in RIEG 2020).

In October 2020, news magazine *Der Spiegel* ran the cover story »The nightmare of lockdown – Why something that everyone ruled out is now impending« (B69). 26 authors were involved in writing the story, but not one of them even mentions the health-related side-effects of a lockdown. Instead, they convey the simple message: »The [first] lockdown was a shock treatment. But quite effective.« Yet, of course, even the economic downturn alone must also have consequences for health.

»While, taking preexisting medical conditions into account, the »lockdown« resulted in around 180,000 additional years of life being gained, this article shows that the lack of progress in medical technology caused by the fall in growth could cost at least 3.7 million years of life.« (RAFFELHÜSCHEN 2020: 33)

Regardless of the details in the calculation made at the time: Because the budget for healthcare will always be limited, any spending in one area necessarily means that this money cannot be available somewhere else. Although this side effect goes without saying, it must always remain in view. The *Medien-Doktor*

project therefore calls for the costs of new diagnostic procedures and treatments to be examined and existing alternatives named (B70).

Although there were a few early reports on the potential or certain side effects of the lockdowns (B71), most media would have failed to provide a full overview like that provided in patient information leaflets (cf. SCHATZ 2021).

## Diversity of opinion and perspectives

Another aspect of completeness is the diversity of opinion within an article and a medium. Opinions expressed through journalism can only provide orientation if all the relevant positions are reported (cf. §§ 26 Para. 2, 59 MStV and preamble; MAURER/KRUSCHINSKI/JOST 2024). Of relevance here are both opinions that can already be found in the respective field and individual positions whose argumentation offers a significantly different viewpoint. Those affected must be listened to as part of research into facts anyway; where there is something to be judged, they or appropriate representatives (relatives, attorney, etc.) must be among the protagonists providing an opinion.

Two key objections are commonly used to deny this requirement for diversity: the idea that »nonsense« (B72; cf. RIEG 2024a) and irrationality (B73) fundamentally has no place in journalism, and the idea that presenting minority opinions can lead to »false balance,« which is regularly used to mean that recipients would see the various opinions reported on as equally common or of equal weight (cf. SCHULTZ 2023: 38). Given the role of journalism in providing a service of orientation, both of these arguments must be rejected.

The first point has recently been used to cover everything considered a ›conspiracy theory.‹ Yet these are not opinions, but presumed facts (sample: either there is a conspiracy or there is not). It should go without saying that examining this kind of assumption is always part of journalistic research (including ›who,‹ ›what,‹ and ›why‹ questions when determining the facts) – yet this was often not done for important points during the pandemic (B74), as the RKI minutes published in 2024 show (B75).<sup>10</sup>

The second point insinuates that media consumers need existing opinions to be presented in a way that reflects the proportions in which they are held. To take this to its logical conclusion: They would need to be presented with the SPD's arguments on a (health) topic discussed in the Bundestag five times before a representative of the party Die Linke was allowed to be heard – and around

10 For background, see introduction and the first three papers in Anton/Schetsche/Walter (2024).

250 times before the single representative of the Südschleswigscher Wählerverband ssw was quoted.<sup>11</sup>

Each opinion needs to be presented exactly once and of course, where possible, accompanied by information on how many people share this opinion. But readers, listeners, and viewers do not need redundancy. They need diversity – not only so that they can form their own opinion, but also so that they can become familiar with the diversity of society or within the topic under discussion (cf. RIEG 2021).

A common source of one-sided health reporting is press releases from health insurance providers (cf. REIFEGERSTE/OELSCHLÄGEL/SCHUMACHER 2014: 165f.), for example on the supposedly insufficient take-up of health check-ups for young people (known as J1 for 12-14 year olds and J2 for 16-17 year olds, and not covered by some health insurers) (B76). The opinions heard are predominantly those of the people who have an economic interest in conducting the check-ups: pediatricians. Attention is rarely paid to those affected, resulting in key aspects being missing from speculation on the reasons why »fewer and fewer young people [are making use of] this important service« (B77): that young people simply do not want to be examined – perhaps especially not by this particular doctor –, that they would prefer to explore their sexuality themselves rather than talking about it with an adult, or that they want to grow into the maturity to make their own decisions about themselves and their bodies (cf. MEHRINGER 2024).

When looking for the spectrum of opinion, journalists must not rely only on other publications. After all, not every expert can already be found in the media, in part because some universities and companies prevent their employees from making public statements on a topic, while others fear that taking particular positions will harm their career (cf. SCHINDLER/MORITZ/GALLINAT 2020; DGPUK 2024).

## Proportionality

Statements that provide orientation must be based on transparent benchmarks, both in how the facts are determined and in how they are assessed. Proportionality here is intended to refer not to the proportionately correct reduction of »the infinite reality« (NEUBERGER 1996: 103), but instead to the correct use of the same measurement and evaluation benchmarks when comparing situations. These benchmarks must not be those that are generally mandatory (such as those for vehicle inspections); they can be defined individually by the medium itself (e.g., the relevance of a news story) or the individual journalist (e.g., when commenting on health reform). But in order to be able provide a service of orientation, they still need to be applied consistently (cf. RIEG 2024a).

11 For »balance« understood in this way, see Maurer et al. (2019: 21f.); cf. Arnold (2009: 196).

»The man who is always wrong but constantly booked as a Covid-19 expert« is the title of the text in *Übermedien* from February 2021 (B78). In it, the authors examine »twelve examples of notable errors and surprising U-turns« before summing up: »Given the list of Streeck's mistakes, one has to ask: How could and can someone who has been so consistently wrong have received so many invitations to speak to an audience of millions?« (B78)

This rhetorical question is useless if we do not know what a »normal value« is for the transgressions of which he is accused. How often was Drosten wrong? (His podcast *Coronavirus Update* offers easily accessible material.) Moreover, simply counting individual false predictions does not tell us anything about the error rate.

Someone who claims that Germany or a particular state got through the Covid-19 pandemic relatively well (B79) must first state what is being measured to come to this conclusion, which rating system is being applied to the results of this measurement, and what comparative values – not picked out arbitrarily – look like.

The number of people taking sick days following Covid-19 vaccination was considered an impermissible unit for measuring side effects (B80), while the number of people taking sick days following a Covid-19 infection was accepted in the media (B81) – a classic case of double standards. In one case, health data gained from an online survey is considered a problem (topic: vaccination side effects, B39); in another case in the same medium, it is reported without any criticism of the method (topic: long Covid, B82).

But even if the benchmark is clear, the way that the measurements are presented can be disorientating. This is regularly the case for rankings that always assign good and bad positions, regardless of the actual values, such as for hospitals (B83). Rankings bring authors like Yuval Noah Harari (2017) to see being overweight as the greatest health problem facing humanity, rather than hunger – although the causes and consequences are completely different, as are the ways in which those affected can change, if they want to do so.

Across the media, at the end of January 2021 it was reported that »more than 100,000 people died in Germany in December – more than in any December since 1969« (B84). But the archives of *tagesschau* and others do not contain a single mention of another, even more dramatic figure from two years earlier: In March 2018, 107,104 people died in Germany (B85) – more than in any other March in the history of the Federal Republic of Germany, including March 2020.

While journalists declared that *mandatory* vaccination is not the same as *forced* vaccination (B86), Russia's requirement for foreigners to present medical certificates was described as a »forced examination« (B87).



## Corrections

Incorrect claims in the media need to be corrected transparently (cf. GERMAN PRESS COUNCIL: Figure 3; SWISS PRESS COUNCIL 2022: No. 5; AUSTRIAN PRESS COUNCIL 2019: No. 2.4). The aim of this process should be not only to prevent incorrect orientation in reception in the future, but also for the correction to reach users who have already been incorrectly informed.

Unfortunately, however, errors are not always corrected (B88; B89; cf. RIEG 2022) – and, if they are, often late and incompletely. For example, links to articles on social media might remain without a corrected link, even if the article linked to was later revised. Nor are references always provided to counter-representations that are published separately and claim, but do not prove, incorrect representation (B90; cf. § 20 MStV).

In discussing quality, it is certainly also of interest to look at how media deal with references to items that need correcting. Again and again, they remain on the social media platforms and their own comments section with no reaction. Only a minority of inquiries from media journalists receive a reaction at all.<sup>12</sup> Occasionally, despite clear errors, media hold fast to the representation – in one case in *Der Spiegel*, it took intervention by the ombudsman set up after the Relotius affair to force a correction (B91).

It is also common for changes to be made to articles without comment (B92). This not only excludes the recipients of the original service from the update, but also causes confusion in communication, for example when user comments on errors or incomplete information no longer match the content of the article.

Corrections are almost never found for false predictions, such as Drosten's anticipation of Covid-19 in Africa (B93) or Sebastian Kurz's claim that there will »soon be the situation that everyone knows someone who died of Covid-19« (B94).

Yet, here, too, corrections are needed for at least two reasons: Firstly, predictions that are later shown to be untrue must not remain as facts in people's heads. Secondly, clear corrections are necessary to allow people to assess the reliability and quality of this kind of information in the future. In this case, the fact that forecasting errors are not recognized as such may stand in the way of clarification, for example if later contributions are based on the idea that people behaved differently than expected for this or that reason. Yet behavior can never change the quality of the prediction. After all, the prediction forms the entire information value – anything else would be irrelevant in practice (B95).

12 Statement is based on author's own documented experience.

## Conclusion

There are plenty of other deficits relating to quality aspects that could be mentioned, for example on argumentation (in no way limited to comments), transparency (that goes beyond the key questions on completeness; cf. MEIER/REIMER 2011), and especially on content (informativity; cf. VOWE 2013), including of photos, graphics, and videos. The diversity of topics offered in a medium and its independence are also considered quality dimensions (cf. LILIENTHAL/REINECK/SCHNEDLER 2014: 9). But even our small selection of quality criteria should be enough to show that there are many ways in which a journalistic service of orientation can fall short of the possibilities.

Regular, detailed analyses of individual journalistic pieces (B96) should therefore be commonplace, especially in their own editorial offices. An – occasional – outside view is welcome here, as is a debate that is at least in part public (B97), in order to create transparency for the audience and enable them to be involved.

With health and medical journalism in particular providing key information for many significant and far-reaching problems in today's world, this information needs to be researched and communicated with particular accuracy. In addition, journalism plays a role not only as an information service, but also as a critical observer of the health system (cf. GÖRKE/SERONG 2014). Criticism is inevitable and will not always – even when expressed by health experts – be true (cf. SCHÄFER 2023). But there are quality deficits, and these should be indisputable and easy to resolve.

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