CLEVER Verification Manual

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Preface

With the growth of misinformation, fact-checking has become a mechanism for mitigating some of the negative effects of this phenomenon, particularly in the field of journalism, where several newsrooms have been developing effective verification methods to combat the spread of false, erroneous, and/or inaccurate data, which is spreading at an ever-increasing speed, accompanied by the effect of digitization (Falcão et al., 2025) [1]. In addition to online misinformation, the lack of time to constantly report on breaking news is another problem that journalists face on a daily basis.

Therefore, given the limited manual resources available for verifying claims, particularly in Portuguese, we intend to develop a verification tool based on a set of articles from a Portuguese news agency (Lusa) concerning the 2025 legislative elections, political figures, and public events. We intend this dataset to be useful for the daily work of journalists who want to find out whether a given claim corresponds to the truth of the facts in a short space of time, in order to optimize fact-checking work in Portuguese newsrooms. Unlike other fact-checking projects, such as FEVER (Thorne et al., 2018)[2], we understand that these datasets are based on Wikipedia data and are not specifically geared towards journalistic work, which is most dedicated to verifying real facts. Based on a multi-round annotation process, we developed a verification scheme for the claims found and annotated in the news articles, based on the classification of the claims and the justification for the choice of label for each claim. First, we explain the verification process, which includes the classification of claims and the justification for the label. Then we specify the methodology and resolution of any discrepancies that may arise during verification.

Keywords: Fact-checking, Claim verification, Misinformation, News articles.

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[1] Falcão, N. K. A., & Rocha, H. C. L. da. (2025). Post-Wahrheit, Plattformen und Desinformation: Herausforderungen für den Journalismus im neuen digitalen Zeitalter. REVISTA DELOS, 18(63). https://doi.org/10.55905/rdelosv18.n63-002

[2] James Thorne, Andreas Vlachos, Christos Christodoulopoulos, and Arpit Mittal. FEVER: a large-scale dataset for fact extraction and VERification. In Proceedings of the 2018 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies, Volume 1 (Long Papers), pages 809–819, New Orleans, Louisiana, June 2018. Association for Computational Linguistics. doi: 10.18653/v1/N18-1074. https://aclanthology.org/N18-1074

I. Verification scheme structure
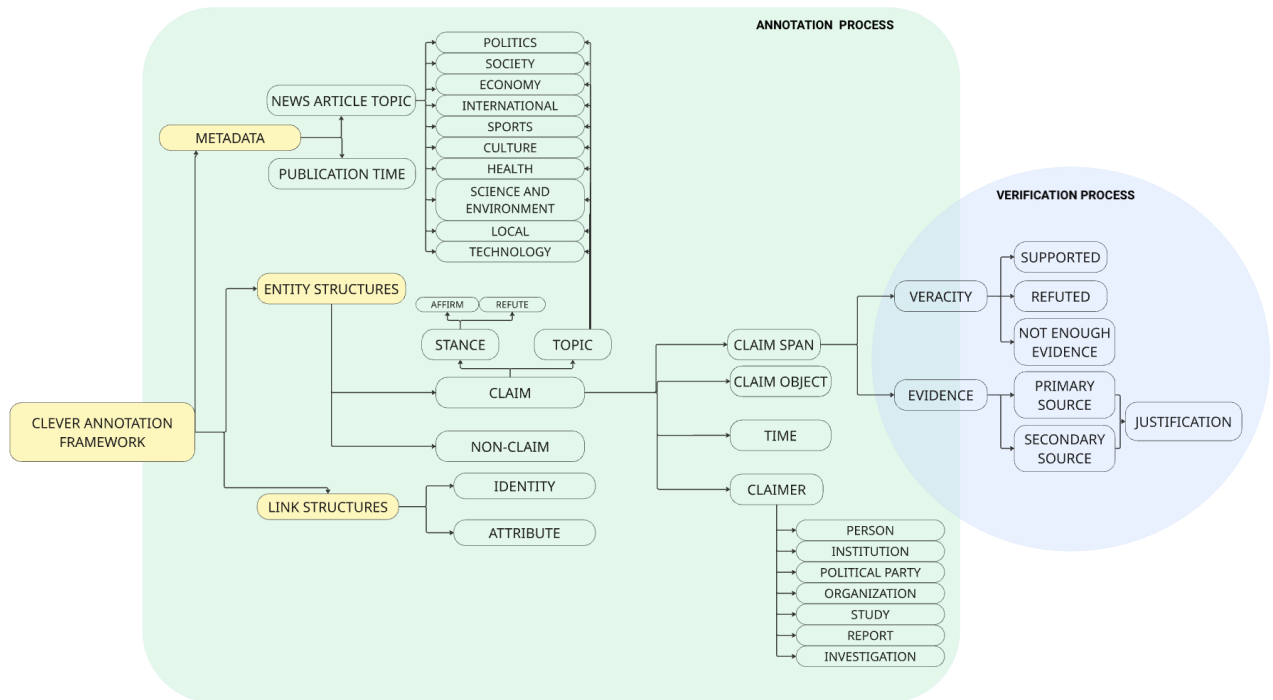
I.
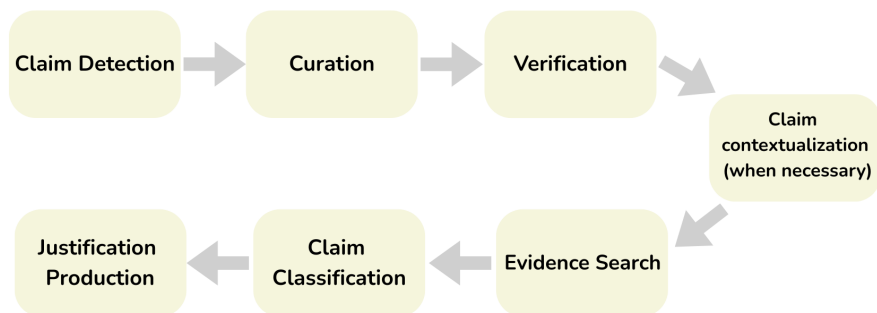
Note: In this dataset, we did not consider quotation marks or periods. However, we kept them in the manual for linguistic reasons.

III.   Verification Guidelines

Considering that, in this project, a claim is understood as a factual and declarative statement, in the context of direct speech, which contains an alleged fact about the real world, of public interest, that can be verified, and a non-claim contains subjectivity, such as opinions, beliefs, information, personal positions, speculative statements, with future references, which cannot be proven; verification or fact-checking is a task that allows the assessment of the truth or falsehood of claims that have been made through written or verbal language (Guo et al., 2022)[3]. A claim span is a sub-element within the claim, a complete statement with all the information necessary for a full interpretation of the sentence. However, two claim spans on different subjects can coexist in a single claim. In this sense, we opted for verification under the claim span in order to verify as much information as possible. The label claim object is also important to the verification process as it refers to the target, the main point of the claim, taking into account its topic. Thus, the claim object seeks to identify what is being portrayed in the topic of the claim and can be used to help in the verification.

Verification is an effort made manually, mainly by journalists who assess the verifiability of claims made by public figures and entities of public interest. However, given the large amount of information that appears and the speed at which it spreads, particularly in the digital environment, manual validation is becoming increasingly difficult. Therefore, Vlachos and Riedel (2014)[4] thought of structuring the verification stage into several steps: identification of claims that may be subject to verification; finding adequate evidence; and preparing final verdicts that can be used in natural language processing (NLP). Thus, non-claims are discarded in the verification process; only claims are considered. After the annotated journalistic articles for claims and non-claims, and after the curation stage, i.e., the review of the identified claims, all statements considered to be claims will be verified for their content.

> The example below illustrates the notion of claim (in **bold**), claim span (identified in **turquoise bold**), claim object (identified in **pink bold**), and non-claim (in **red bold**), respectively, as understood in this project.

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[3] Zhijiang Guo, Michael Schlichtkrull, and Andreas Vlachos. 2022. A Survey on Automated Fact-Checking. *Transactions of the Association for Computational Linguistics*, 10:178–206.

[4] Andreas Vlachos and Sebastian Riedel. 2014. Fact Checking: Task definition and dataset construction. In *Proceedings of the ACL 2014 Workshop on Language Technologies and Computational Social Science,* pages 18–22, Baltimore, MD, USA. Association for Computational Linguistics.

Example: When asked if he is praising the PS by considering that the executive management of the SNS is important, Rui Rocha replied that he is praising "the right measures."

"**At that time, the PS wanted to freeze it, the PSD wanted to cut it, and it was the election of BE deputies that managed to prevent that** [...] It is enough to know that we are on the side of those who cannot afford a home, those who struggle to make ends meet, and those who have such low pensions and find it so difficult to live." (Text: Lusa 38)

Verification Process

A.1 Classification of the claim

The claim verification process involves classifying the statement according to the following three labels (Schlichtkrull et al., 2023, Thorn et al., 2018):

(The examples below illustrate the notion of claim (in **bold**), claim span (identified in **turquoise bold**), claim object (identified in **pink bold**), and non-claim (in **red bold**), respectively, as understood in this project.)

1. **Supported**. In this case, the annotators consider that the claim and what is at stake in the claim, made by a claimant (agent), corresponds to the truth of the facts.

   Example: "**No one in Portugal has ever benefited as much from private healthcare as   the coalition government**." (Text: Lusa 6)

2. **Refuted**. When the claim, which was made by a particular agent, does not correspond to reality, annotators must consider it false.

   Example: "**Cristina Rodrigues is accused by her former party of having carried out acts that were not appropriate**." (Text: Lusa 8)

   - The refuted label can also be chosen to identify claims that, while not completely devoid of verified facts, are not entirely false or are taken out of context.

     Example: "**The Kadaster, which is the entity responsible for registrations in Amsterdam, and the president of the Dutch Central Bank say that the law must be reversed because it has led**

to a growing withdrawal of investors from the rental market, the erosion of the rental housing stock, and a reduction in the number of homes available for rent." (Text: Lusa 175)

3. **Not enough evidence**. This label is used if it is not possible to support or refute the statement with any amount of information, either because it is too general or too specific.

   Example: "**In this security check, there were about seven thousand applicants who did not pass this control**." (Text: Lusa 135)

A.3 Verification methodologies

To assign labels, annotators must initially use databases, i.e., the Google search engine, to verify claims. Annotators should start with the text of the claim, without quotation marks, to search the defined search engine and try to find primary or secondary sources. Knowing that primary sources are official documents from the government, statistics, and other sources of information, provided they are reliable and legitimate, in order to select and present reliable sources in the verification process. The same definition chosen for the official source Annotation Manual should be used - "they are competent, qualified, and authorized to provide information in such a way that it is reliable and trustworthy" (Gradim, 2000) [6]; in addition to official documentary sources, such as reports, decrees and notices, minutes, applications, letters, emails, contracts; reference sources, such as press releases and websites; and academic sources, i.e., research and articles developed and published.

Secondary sources are newspaper articles, where it is possible to verify the statements of claimants (such as politicians) through journalists.

The example below highlights the claim (in **bold**), the claim span (identified in **turquoise bold**), and the claim object (identified in **pink bold**), as understood in this project.

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[6] Gradim, A. (2000). Journalism Manual. University of Beira Interior/Livros Labcom.

Example: "I remember that **Cavaco Silva, 13 days before BES collapsed,** <mark>said that everything was fine.</mark>" (Text: Lusa 4)

Evidence: "When asked by journalists at a press conference in Seoul, South Korea, whether the situation of the Espírito Santo Group could have consequences for the Portuguese economy, Cavaco Silva stated that 'the Bank of Portugal has been emphatic and categorical in stating that the Portuguese people can trust Banco Espírito Santo (BES)."

Secondary source: CNN Portugal,
https://cnnportugal.iol.pt/economia/pr/cavaco-diz-que-portugueses-podem-confiar-no-bes

Date: July 21, 2014

Annotators should prioritize primary sources and, due to the difficulty of the claim and the collection of evidence, they must resort to secondary sources, always paying attention to their identification. Whenever possible, annotators should include the date of the news source when using primary and secondary sources.

Whenever claims are vague or incomplete and therefore require contextualization to be understood, they should be included in full as a research reference, along with the date of publication of the claim (the exact date should not be given, but rather the day before) and the respective claimant, labels have already been annotated in the initial annotation process in order to segment the information and guide the investigation. Based on these results, annotators should ascertain whether there is any evidence for the classification of the claim. These metadata fields (claim agent, date linked to the claim allegation, and publication) support the research for verifying the claim and its subsequent justification. In addition, this is a way for annotators to distance themselves from the present time and thus maintain impartiality in the verification process.

However, there are cases in which annotators of multiple claims from multiple articles need to provide some context to the text of the claim, as it is not possible to obtain evidence solely from search engine responses.

This complementary step is necessary because some claims lack adequate context for the claim to be fully understood, such as when the subject or object of the claim is missing.

- There are cases in which it is necessary to recover the context of the claim in relation to the news item, for example, to identify an indeterminate subject.

  The example below highlights the claim (in **bold**), the claim span (identified in **turquoise bold**), and the claim object (identified in **pink bold**), as understood in this project.

  Example: "T**here are some who work, there is a large majority who do not work, they make women marry at 13, they live in a state of disintegration in the face of the general rule of the absolute community.**" (Text: Lusa 18)

  Only from the context of the news story can annotators understand that the implied subject of the sentence is the Roma community.

- There are cases where the text of the claim is incomplete, making it difficult for the annotator to interpret and verify the statement. However, if the statement is annotated as a claim, implying that the statement is a complete sentence, it is possible to recover the context of anaphoric references by linking the claim object, with the Identity link, to another claim object that completes it, as explained in the Annotation Manual. This contextualization is provided by the news article and can only be retrieved by annotators to proceed with the verification of the claim, since Google is unable to identify what is being addressed in the sentence.

  The example below highlights the claim (in **bold**), the claim span (identified in **turquoise bold**), and the claim object (identified in **pink bold**), as understood in this project.

  Example: "**There isn't a single example where that has worked.**" (Text: Lusa 6)

  The anaphoric reference "that" refers to "rent caps."

- Sometimes, it is necessary to take into account who is making the claim, the claimant, in order to understand the context of the statement and verify it.

The example below highlights the claim (in **bold**), the claim span (identified in **turquoise bold**), and the claim object (identified in **pink bold**), as understood in this project.

Example: "**Despite all the difficulties that the opposition systematically sought to impose, blocking and attempting to sabotage the government's actions in parliament, we have achieved many results in 11 months**" he said, after referring to the measures taken by his executive for pensioners, young people, and workers in general. (Text: Lusa 75)

To understand this statement, it is necessary to revisit the label claimer noted above - "Pedro Duarte, Minister of Parliamentary Affairs and candidate for the Porto City Council" and "district leader of the PSD/Porto." Thus, we can identify that "the results" refer to the AD government.

- Other times, it is necessary to consider the time frame in which the claim was made in order to understand its context.

  The example below shows the non-claim (in **red bold**), the claim (in **bold**), the claim span (identified in **turquoise bold**), the claim object (identified in **pink bold**), and the date of publication of the news item (identified in yellow) as understood in this project.

  Example: May 6, 2025 (...) "**The government acted too late. This means that we were left without contact and without information because of the government, and in terms of health, we were just hours away from running out of not only medicine stocks, but also energy in some hospitals**" he argued. (Text: Lusa 11)

  To understand this claim, it is necessary to refer back to the date of publication of the news item and to the context prior to the statement, which indicates a period after the Iberian blackout of April 28, regarding which the claim lists the consequences of that blackout.

- Whenever a claim is structured in two claim spans with distinct objects, annotators will have to investigate each claim span, not the claim as a whole.

The example below highlights the claim (in **bold**), the claim span (identified in <mark>**turquoise bold**</mark>), and the claim object (identified in **pink bold**), as understood in this project.

Example: "<mark>**We were *promised* that all Portuguese citizens would have a family doctor by the end of 2025**</mark>, and <mark>**today we know that we have 36,000 more Portuguese citizens without a family doctor than we did in February last year**</mark>" he criticized. (Text: Lusa 102)

Annotators can contextualize claims from the original articles, gathering the necessary information (metadata) for later verification. If annotators believe it is necessary to include such metadata in the claim, they can rephrase the sentence to complete the information. These phrasal interventions should be as minimal as possible so as not to change the meaning of the claim and to remain as close to its original form as possible. To do so, they can use keywords from the claim object, along with other relevant information from the claim. However, it is important to note that annotators must reread the entire claim article before rewriting the claim. In the following example, "**the Liberal Initiative's**" was a possible keyword.

Example: "It is written in **the Liberal Initiative's** program, we have been defending this vision for more than five years: what we want for Portugal is the best that is done in Europe, in Germany, and in the Netherlands." (Text: Lusa 185)

It is important to note that annotators cannot use existing fact-checking mechanisms, such as Polígrafo, or AI tools, such as ChatGPT, to determine evidence. However, they can use information from newspapers and journalists, given the difficulty of verifying claims (secondary sources).

In addition, this process is still necessary because many articles contain several statements on different topics, which are often addressed in different ways by the claimers, which can raise doubts about the veracity of the claim.

## A.4 Justification of the label

The justification of annotators' decisions in classifying claims is an important step in verifying journalistic claims, as it allows them to combat some of the misinformation and inform the public impartially and accurately with the truth of the facts. After verifying the claim (supported, refuted, not enough evidence), the annotators proceed to justify the claim, which must include one or more verifiable quotes taken from the source used to verify the claim. Thus, the sentence must support a clear citation (or more) that justifies the chosen label. Annotators should always indicate the source from which the evidence was taken, the respective date, when possible, and the link.

When selecting the justification, annotators should consider (Thorn et al., 2018): "If I had only received the selected sentences, would I have strong reasons to believe that the statement is true (supported) or stronger reasons to believe that the statement is false (refuted)?"

Example:

Statement: "This government has no strategy for the Portuguese economy" (Lusa, article no. 166)

Speaker: Pedro Nuno Santos, Secretary-General of the PS

Date: March 27, 2025

Label: Refuted.

Evidence: Primary Source

Justification: "This AD Ambition is embodied in the following Strategic Goals: 1. More growth and productivity: with GDP growth close to 3.5% at the end of this legislative term; 2. Wage growth: increase in the minimum wage to €1,100 by 2028; average wage rising to €2,000 this decade, based on the sum of inflation and total productivity gains; 3. More jobs: structural unemployment close to 5% in 2028; 4. Greater reduction in the tax burden during periods of growth, by around 1 p.p. compared to 2024; 5. Budgetary balance, with positive balances during the legislative term, assuming public expenditure restraint (the weight of current primary expenditure in GDP falls from % to around %, and the weight of total expenditure from % to around % at the end of the decade); 6. Reduction in public debt, which will be around 75% of GDP in 2029. Source: AD 2025 Election Program, https://ad2025.pt/pdf/programa-eleitoral.pdf

However, citations are not always direct. This is the case with graphs and tables. In such cases, annotators indicate the type of source, whether it is primary or secondary, refer to the source, write that it is a graph or table, and transcribe the URL. Here is an example that demonstrates this possibility.
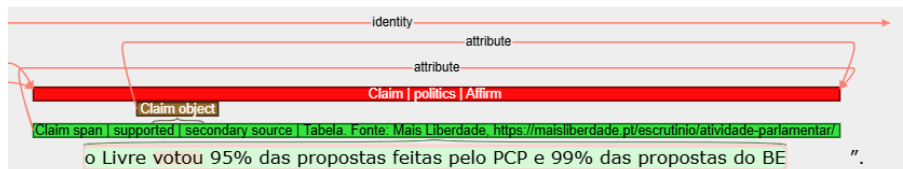
Text: Lusa 135

That said, whenever annotators address a claim journalistically for verification, they should follow these steps:

1. Reread the claim.
2. Contextualize the claim span, with complementary metadata or keywords accompanying the claim, whenever necessary.
3. Consider the most appropriate sources for verification. These can be primary or secondary, as long as they are reliable.
4. Consult the original source of the information, if possible.
5. Evaluate the information according to an evaluation scale: Supported, Refuted, Not enough information.
6. Justify the choice of label. Quote one or more sentences from the verification source that serve as evidence for the choice of one of the labels in the previous point.
7. Identify the source, its type (primary or secondary), and the publication date associated with the source.

A.5 Verification steps in Inception

Annotation and verification are carried out in the Inception system. Annotators perform verification on the claim span rather than on the claim itself. Each claim span must have its own verification, as they address different verification issues. After completing all the steps in section A.3 on methodology, annotators can fill in the "veracity" field, which contains the three classifications of claims: Supported, Refuted, and Not Enough Evidence, and choose

the label corresponding to each claim span. In addition to the "evidence" field, which is structured with two sources: Primary or Secondary Source. In other words, annotators identify the type of source they found to verify the claim, as also described in the Methodology section. Finally, they write the citation or citations from the source found in the appropriate text box, always respecting the verification rules.

The following examples demonstrate the steps described above in the verification system. The first case concerns a Primary Source. The second example corresponds to a Secondary Source.

Example 1 and 2.

A.6 Resolution of verification discrepancies

Unlike the annotation process, in which annotators worked on the same news articles, the verification of claims is also done individually, but on different articles. At the same time, while the annotation phase involved a curation process in which claims and their respective claim spans and final claim objects were selected by a third party, the curator, in the verification phase, the classification and justification of the various claims are not subject to curation, i.e., subsequent verification by the curator. Therefore, the annotators hold frequent meetings as they progress with the verification of claims, not only to review the annotated claims and the appropriate justifications, but also to discuss any potential doubts that arise during verification, in order to reach a consensus whenever one of the annotators has doubts or there are disagreements among the annotators, thereby enriching the dataset.