A practical introduction to annotating for transparent inquiry in qualitative research

A Practical Introduction to Annotating for Transparent Inquiry in Qualitative Research

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When we do historical research, or political science research using primary source historical evidence, a major barrier to transparency is the fact that the archival documents used are inaccessible. Whereas citations to journal articles and, increasingly, books and some other data sources, can usually allow a reader to check evidence within minutes, citations to archival documents can require months or years to verify, if it is even ever possible. This is a serious problem for qualitative and multi-method research in my field, international relations and the study of foreign policy decision-making, which often relies heavily on archival documentary evidence (Moravcsik 2014). Elman, Kapiszewski, and Lupia (2018) claim that scholars "may be unable to imagine a practical way to share" the archival documents they use in their analyses (41). In this symposium contribution, I describe and analyze such a method, that is, annotating a journal article using Annotation for Transparent Inquiry (ATI). This new approach to transparency allowed me to create a digital overlay on top of my published article comprising "annotations." Through those annotations, I could provide instant access to annotated copies of the archival documents my research is based on, and expanded commentary on citations to those archival documents. The annotations thus increase both data access transparency and analytic transparency (see Elman, Kapiszewski, and Lupia 2018, 34 for a discussion of the latter). I also discuss some thoughts on the benefits and costs of using ATI for both the author and the reader, inspired by my experience annotating.

Using Annotation for Transparent Inquiry (ATI)

In my analysis of foreign policy decision making (O'Mahoney 2017), I refer to many primary documents, including ones physically sourced from the United Kingdom National Archives at Kew. Previously, a reader would either have to take my word for the contents of the documents or make their own trip to Kew, which is mostly infeasible. However, a new initiative run by the Qualitative Data Repository (QDR) at the Center for Qualitative and Multi-Method Inquiry at Syracuse University now allows for instant access to the original documents. Annotation for Transparent Inquiry (ATI), a new approach to making qualitative and multi-method research transparent, involves using Hypothesis software to allow annotations to be added to articles. Such annotations:

> "include 'analytic notes' discussing data generation and analysis, excerpts from data sources, and links to those sources stored in trusted digital repositories. Readers are able to view annotations immediately alongside the main text, removing the need to jump to footnotes or separate appendices. Sharing the data sources via a secure repository ensures that they are findable, accessible, interoperable, reusable, and preserved for the long term" (QDR Blog, n.d.)

So, what exactly did I do?[1] First, I went through all of the times I directly refer to an archival source in the published article and made a list. Then I categorized each of the citations into A (important) and B (perhaps important). An *A* label was supposed to indicate that a claim was central to the main argument, and so should definitely be annotated. A *B* label indicated that the claim was ancillary in some way. My reasoning for doing this was so that I could prioritize the A sources and reevaluate whether the B sources were worth annotating later. Mostly, I ended up also annotating the B sources as well as the A sources. Sometimes I did not. For example, given that some quotations were already quoted in their entirety in the article, an annotation seemed superfluous.[2] Also, in annotating this article, I focused heavily on providing access to source text that was not directly quoted in the main body of the article. This involved both providing the source text in an annotation as well as a link to a PDF of a photo of the archival document the source text came from. I also aimed to provide access to documents that were not easily accessible elsewhere. For example, the Foreign Relations of the United States

1 It is important to note that I did not build annotation into the writing of the article from the start; I annotated after the article had already been published.

2 I say "seemed" here because in fact there are analytic transparency benefits to annotation beyond just providing full source text. See below for more on this point.

series is available in full text online,[3] and is keyword searchable, so providing an annotation seemed relatively superfluous. Similarly, UN Security Council records are publicly available online. However, in the future I would also annotate this type of source, as the benefits of annotation go beyond simply providing access to a downloadable document, as I highlight below.

One concern might be that I was only annotating sources mentioned in the paper and ignoring sources *not* mentioned. Perhaps this means that the reader will not know whether there is other evidence which is against the claims being made. However, this is an issue covered by considering alternative explanations. If there is evidence in favor of an alternative explanation, this should be evaluated in the paper regardless of annotation or transparency.

In the end, I had a list of 33 individual citations, and for each of these I wrote an annotation. The annotations consisted of four parts: an analytic note, a source excerpt, a link to the data source (i.e., a PDF digital photo of the document in question), and a full citation.

The analytic note consisted of a comment on the context of the document and its interpretation. The context included what type of document it was. Verbatim minutes of a meeting? An extract from briefing notes? Secure telegram between diplomatic sites? Summary of a public press event? All of these have different implications for how we should evaluate the evidentiary value of this document for the claim being made, and few of them are necessarily understandable from a footnote. The interpretation consisted of a claim that "this excerpt shows that…", which related the raw empirical content of the source to the claim in the paper.

The source excerpt was the verbatim text I had used to underly the empirical claim being made. I included enough that it made sense, usually about 100 words, but not the text of the entire document, which could have amounted to multiple pages of text.

The link to the data source was to a PDF of a digital photo that I had taken in the archive. The purpose of this was both to present the excerpt in the context of the actual document, for example including the preceding and following paragraphs, but also as proof that that is what the document contained.

The full citation was as complete of a description of the document and where it was located as I could give. Word count limitations and style requirements in publications can often inhibit providing clear sourcing information for archival documents and there are no standard citation practices (there are few standards in archives either!). I have had the experience of taking a footnote to an archivist and had them shake their head in disbelief at how useless it was as a guide to locating that particular document. Providing a full citation in an annotation could mitigate or eliminate that issue.

Lessons Learned

In the beginning, I was not clear what exactly to provide in the analytic notes. I based my practice on the examples from the QDR website, which described the source only. This was appropriate for some archival document citations because I was explicit in the body of the published paper on how the excerpt supported a causal claim and what the implications of the evidence for the claims were. In other cases I did more to relate the content of the source to the claim in the paper. In doing so, I could have been much more explicit about using the theoretical terms and concepts from the paper. I could have made a precise statement of exactly what the status of the claim would have been had this piece of evidence been absent or different. This would have made the empirical analysis more systematic and increased the analytic transparency of the piece.

In the process of annotating, I found myself reproducing the inferential reasoning that had led to my making the empirical claim in the first place. This is one area where I would do things very differently next time. I had made no record of exactly why I had chosen this piece of evidence to support this claim.[4] In future, it would make both descriptive and causal inference much stronger if I made a record of the reasoning during the writing process, for example by annotating during writing the article. This would be especially valuable for "smoking gun" or "hoop" tests (Collier 2011).

The very first annotation I created led to an interesting finding. The single source cited in the relevant passage of the article by itself did not give as clear of a demonstration of the point I was making as I remembered. Consequently, I went back through the archival documents in the same collection and found another source that complemented the original source and made for much stronger support for the empirical claim. Then I made a second annotation for the second source. This situation was a product of annotating post hoc. Building annotation into the writing process would have allowed me to structure the evidence in layers, so that summarizing rich, multi-faceted evidence into, say, a single line or sentence was not cutting evidence but just making it easier to read. To clarify, there was also a part of my paper (about Italian foreign policy reasoning) that could have been summarized much more succinctly had I built in annotation from the beginning. In the paper as it

3 For an example, see Smith (2005).

4 Clearly some hermeneutic distance is inevitable, but it can be reduced.

is, some information has been lost in the revision process. If I had known that I could provide an annotation with more explanation for those who wanted it, I could have made a much shorter and more direct claim without losing nuance, detail, or evidentiary support. One way of building annotation into writing might be to create a list of claims and sources used in the article, either using the ATI software directly or just simply in a Word document.

One very practical issue that the annotation experience made me hyperaware of was keeping track of the archival documents. Partly because the article had come out of a set of documents that had been collected for a different research project and partly because I had made two separate trips to the archive, years apart, my organization of the documents used in the article was not ideal. Now, I always assign an informative unique identifier to all my archival documents (e.g., FCO371020_13_1972jan12_ceyloncable). The National Archives and Records Administration's Access to Archival Databases system for electronic telegrams helpfully does this for you (e.g., 1974THEHA02252).[5] A unique identifier can be put into your writing as well as used for annotating through ATI. This is labor-intensive but being able to keep track of your files is invaluable and might save a lot of time down the line.

One of the lessons learned was that it is important to be extremely systematic about taking photos of documents in archives. It is not always immediately apparent which parts of which documents will be essential for the argument in the paper. Making sure to get good quality photos (unlike some of mine in this case) is something that I will pay more attention to in the future. I have also learned to photograph as much as possible, always entire documents, and often entire folders or sections of boxes.

These lessons learned, such as being explicit about your reasoning and treating your data in a systematic way, presumably travel beyond archival materials and could be applied to working with other types of qualitative data, such as interview transcripts, etc.

Benefits of ATI

Annotating publications to increase transparency benefits both the reader and the author.[6] The benefits for the reader of an annotated article vary depending on the reader's depth and scope of interest. Some readers are not concerned with the evidence in a paper, or maybe do not want to exhaustively assess the provenance of each and every piece of evidence. In these cases, annotation does not impose an extra burden on the reader. However, for readers who are interested in knowing what an archival document actually contains or whether it contains what the author claims, then annotation is invaluable. To illustrate this point using my own research experiences, I recall reading a paper which cited a document which was not available online and was housed in a distant location. I emailed the author to ask about the document. The author replied with a link to a cloud folder containing a photo he had taken of that document at the archive. This meant that I could read the document only a few days after reading the paper. On another occasion when wanting to review a cited document, I emailed the author but they could not find the document. On yet another occasion I noticed that a cited document could not possibly exist, due to an error in the citation format. I emailed the author about it but never received a reply, suggesting I will never know what document was used in the generation of that claim.

In all three of these cases, annotation would have been a substantial improvement. In the third case, a wrong citation would not have mattered because the source excerpt and PDF document would have been immediately available. In the second case, the annotated document would have been available and access would not have been dependent on the author maintaining their own personal archive in perpetuity. Even in the first case, access would be instantaneous with an annotated document rather than require the time and effort to set up a peer-to-peer database connection.

Another benefit of ATI for the reader can be seen by comparing ATI annotations and qualitative methodological appendices. Both are responses to the same problem; qualitative evidence can take up a lot of space. However, there are at least two ways in which annotation can be better than methodological appendices. First, there is a direct link between the claim and the evidence when the annotation is "right there." In a similar way that the inconvenience of endnotes is a barrier to their use, having a 20-page appendix in a separate location is not as helpful. Second, methodological appendices rarely reproduce the original source documents, whereas that is a central feature of ATI. That said, appendices perform other functions not easily captured by ATI. So, qualitative researchers may be pressured (either by their own pursuit of transparency and quality, or by editors and reviewers) to provide both annotations and appendices. This would constitute a substantial amount of extra work over the current situation in which the standard is to provide neither. This extra work should come along with increased credibility of empirical claims.

5 Using this document number, you can find this document using the direct link: https://aad.archives.gov/aad/fielded-search.jsp?dt=2474&cat=WR43&tf=X&bc=,sl

6 See Fairfield (2015) on how transparency improves the quality of process-tracing.

A potential concern for readers is that annotations may be built into the writing process in a way that means that the paper is impoverished without the annotations. Maybe the paper would be nonsensical if crucial aspects of the reasoning of the overall argument are only included in annotations. Another possibility is that the paper puts so much evidence and reasoning in the annotations that it leaves the reader with no way to evaluate the evidence without accessing the annotations. This seems a remote risk, albeit one to guard against. It is also the case that completely unannotated papers currently suffer related problems.

There were also several ways in which the annotation experience benefited me as an author. The first was that it really foregrounded the selection and interpretation of text from archival documents. When reporting the results of qualitative research and relying on single speech acts, their context is often crucial to understanding them (especially if there is illocutionary force). For example, in the paper, I make the claim that "the British government impressed upon him [Mujib] the importance of Indian troop withdrawal for recognition of Bangladesh" (O'Mahoney 2017, 332-3). This is one of many important empirical claims supporting the theoretical argument. But without the annotation, this half a sentence is all the description a reader gets, along with a citation to a physical document. In the process of annotation, I was really astonished at just how much of the detail surrounding this claim had been lost. As an author, annotation allowed me to do justice to the material. In this case, I added two annotations. One was to a document that gave the source text of the minutes of the meeting at which the event occurred, and another was to a document that referred to a separate meeting with an associate of Mujib demonstrating that the linkage had been made clear a second time.

In the annotation, more detail can be added, not just on the speaker or writer, but also on the document, where it comes from, the type of document, who had access to it, and other potentially relevant features of provenance. This extra information may not always mean acceptance or rejection of the piece of evidence, but can often change how authors and readers should weight it as support for inferential claims (or the effect size on priors). Fundamentally, annotation allows far more discrimination in the evidentiary value of different pieces of evidence.

Also, the annotation process made me acutely aware of issues surrounding the *selection* of evidence to put into an article. Imagine an empirical claim that is crucial to a theoretical argument, and an author has five pieces of supporting evidence for this claim. Without annotation, it may be that only one piece of evidence in support of the claim can be included in a publication. This practical issue means that a solidly supported claim (with five pieces of evidence in support) and a far more tenuous claim (with only one piece of evidence in support) may appear identical. Annotation allows authors to reference the totality of the supporting evidence without making the main text unreadable by including unavoidably large sections of historiographical discussion of each one of perhaps hundreds of pieces of evidence.

Another effect for me as an author was an expanded sense of what counts as credible qualitative research based on archival documents. Annotation could spark a qualitative archival credibility revolution. Without the ability to check or analyze the underlying data, reproducibility is minimal and practically speaking has been non-existent in such historical research. With annotation, every reader can do their own reproduction of an analysis. No longer do you have to basically take someone's word for it or rely upon (rare) exercises like Moravcsik's (2013) critique of Rosato's use of archival sources in his account of European integration. This was perhaps most apparent when thinking about Table 2 in my paper. Table 2 summarizes a lot of qualitative data—claims about 26 different states' reasons for supporting or opposing a policy. Without annotations, the paper includes a reference to a volume or a folder, not even a specific document. These claims are practically speaking unverifiable in the original paper, although it is possible that I could have explained why each data point is justified. With the annotations, every single claim can be readily verified, with not only an expanded analytic note but a copy of the original document in support. The opportunities for research practice to evolve here are exciting.

Concluding Thoughts on Annotation's Costs and Limitations

My experience also made me reflect on some limitations of the annotation process. First, foremost, and not insignificantly, it is a time-consuming process. Time to spend on research is unevenly distributed and often systematically less accessible to certain groups. If it is not required for publication, or does not increase the chance of publication, then authors are less likely to do it. There are also complications, such as the copyright on the archival documents, or the potential technical barriers to accessing the annotations. Different archives will have different policies on the extent to which scholars are allowed to distribute information and especially image reproduction. For example, the UK National Archives allowed the distribution of the digital photos I took only if they were in a password-protected database. In another case, Library and Archives Canada were allowed

to share some files in a PDF, but others only on DVD. Other archives may have more restrictive policies on data sharing.

These challenges notwithstanding, as this piece has discussed, there are important reasons to adopt annotation as a research practice: Annotations increase the quality of research by increasing its transparency and reproducibility as well as the strength of both descriptive and causal inference.

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Upgrading an Old QCA Study to Make it More Transparent and Reproducible Using R Markdown

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In 2006, an article on the causes of resignations and non-resignations of federal ministers in Germany was published, which included one of us, Ingo, as one of three co-authors (Fischer, Kaiser, and Rohlfing 2006). As part of the empirical analysis, the article uses Qualitative Comparative Analysis (QCA) to derive the conditions under which ministers who are under pressure to resign do resign or stay in office. In this contribution to the symposium, we explain why we returned to the original QCA analysis after more than 15 years and how we enhanced its transparency and reproducibility by redoing it using R Markdown.[1]

We begin with a brief summary of the QCA workflow. We use a simple template of the workflow for a discussion of how it was implemented in the QCA analysis of ministerial resignations. This will show that a mix of several elements motivates a reproduction analysis after more than 15 years. First, the original QCA study is transparent in large part, but it is not as transparent as we now think that it should have been. The reanalysis allows us to enhance the transparency of the entire workflow and analysis. Second, the original analysis was implemented with the QCA 3.0 software using a graphical user interface (GUI). A graphical user interface notoriously impedes the opportunity to render a QCA study transparent and reproducible because one has to manually edit the data and intervene in the analysis. This accounts for our decision to reproduce the original study in an R Markdown framework. The reproduction analysis is code-based and allows us to produce a report that combines the code with the reporting of the results. In section three, we explain that the original results can be reproduced using R Markdown and how exactly this allows us to improve upon the original GUI-based study.

1 We define a study as reproducible when one is able to derive the same results as in the original study when using the same data and following the same procedure as it is documented in the original study.