INVESTIGATING THE SOCIETAL IMPACT OF MEDIEVAL RESEARCHERS: THE CASE OF FLANDERS

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Abstract

This article presents a case study examining whether mentions in popular media can reliably indicate the societal impact of university research, focusing on medievalists in Flemish newspapers from 2000 to 2022. Due to the absence of a comprehensive dataset of medievalists, we built custom-made lexicons using the BelgaPress database to identify relevant articles. By combining a topic lexicon of medieval terms with a lexicon of research-related terms, we filtered data from 2.454.692 media documents in Dutch, narrowing the dataset to 6.483 articles for in-depth qualitative analysis. Our findings indicate a limited number of relevant mentions, with only 9,2% of the reviewed articles featuring medievalists in relation to their academic expertise. These mentions varied significantly, often describing scholars in various roles, with most being full professors. The labour-intensive nature of the lexicon-based method developed here, coupled with the scarcity of results yielded, suggests that there are significant challenges to making this methodology a scalable and reliable measure of societal impact. While media presence may serve as an indicator for such an impact, the practicality and accuracy of this approach for broader applications remain questionable.

Keywords

Media mentions, medievalists, newspapers, Belgium, societal impact.

Capitalia verba

Mentiones instrumentorum divulgationis, investigatores Medii aevi, diaria, Belgica, impulsus societatis.

1. Introduction

This article describes and discusses the findings of a case study designed to examine a question that has recently attracted considerable attention: can mentions in popular media – daily newspapers, weeklies, podcasts, and so on – be treated as reliable indicators of the societal impact of university research? For reasons discussed below, this case study sets out to identify and analyse the presence of medievalists (historians, philosophers, archaeologists, etc.) in daily newspapers in Flanders (the northern, Dutch-speaking part of Belgium), between 2000 and 2022. Needless to say, an answer to the study's research question is indissociable from a reflection on the methodology conceived to approach it, and this article is consequently also a discussion of the challenges we had to confront in the course of our investigation. While these challenges do not call into doubt the idea that mentions in the popular media can function as a proxy for the societal impact of university research, they do raise serious questions about whether a lexicon-based method can be used to accurately measure societal impact. We discuss these methodological issues at the end of this article; for now, let us turn to an overview of the context within which our research question took shape.

It is widely accepted that science has a positive social impact. However, the mechanisms for judging and assessing scientific work changed in the 1970s, a decade that saw the shrinking of public expenditure on scientific innovation. Over the course of the 1980s, new public management introduced *key performance indicators* to the field of science in order to measure scientific output and its impact on society.[2] During the 1990s, there was a shift from automatic trust and big science investments to demands for provable and demonstratable evidence that would show "value for money" and thus justify public spending on research.[3] Research evaluation has since widened, and now seeks to encompass any positive impact of science on society (products, uses, services and benefits, demonstrated returns on public investment, and so on), be it social, cultural, environmental, or economic.[4] The research landscape has also fundamentally changed, with a shift from theory-building science to a collaboration model reflected in such concepts as *Triple Helix*, *Strategic Research*, and *Finalization Science*. This broadened view of what is regarded

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1. Conceptualization: Dirk Derom, Walter Ysebaert; Formal Analysis: Emiliano Battista, Dirk Derom, Walter Ysebaert; Investigation: Dirk Derom, Emiliano Battista; Methodology: Dirk Derom; Supervision: Walter Ysebaert; Writing – original draft: Emiliano Battista, Hans Jonker; Writing – review and editing: Emiliano Battista, Walter Ysebaert, Dirk Derom; Data Acquisition: Olivier Delmarcelle. The authors declare no competing interests. This research received no external funding.

2. For an overview of this history and of the literature about it, see Bornmann, Lutz. "What Is Social Impact of Research and How Can it Be Assessed? A Literature Survey". *Journal of the American Society for Information Science and Technology*, 64/2 (2013): 217-233.

3. Martin, Ben R. "The Research Excellence Framework and the 'Impact Agenda': Are We Creating a Frankenstein Monster?". *Research Evaluation*, 20/3 (2011): 247.

4. Mostert, Sebastian P.; Ellenbroek, Stéfan; Meijer, Ingeborg; Ark, Gerrit van; Klasen, Eduard C. "Societal Output and Use of Research Performed by Health Research Groups". *Health Research Policy and Systems*, 8/30 (2010): 3.

as valuable scientific impact has prompted the introduction of a host of terms and concepts aimed at grasping the societal impact of research, which include, but are not limited to, "third stream activities, societal benefits, societal quality, usefulness, public values, knowledge transfer, and societal relevance".[5]

Some countries have taken steps to enshrine societal impact assessment in their research evaluation processes. The United Kingdom's Research Excellence Framework (REF) is a key example in this regard: 25% of the funding it allocates is based on the impact of research beyond academia itself, which is measured through so-called *impact cases*. Australia's Excellence in Research Australia (ERA) has implemented a similar system. And so, too, has the Netherlands, where the Standard Evaluation Protocol (SEP) forms peer-review committees tasked with assessing, in six-year evaluation cycles, the quality, viability, and social relevance of academic research.[6]

The rationale for including both *science to science* and *science to society* indicators in the evaluation of academic research is not entirely an offshoot of recent historical trends. It is also couched in the conviction that the value and quality of research transcends both ranking publications (impact factors) and the maximization of economic impacts (spinoffs). Perspectives on the drive to integrate societal impact into research evaluation assessment models take a variety of forms. The perspective of compensation, for one, highlights the structural undervaluing of societally relevant research activities that academics engage in by pinpointing the problems attendant on relying only on traditional indicators to evaluate research excellence. In this case, a media mention of a researcher, within its context, could be counted and used in a variety of ways. For example, it could be aggregated to reward the institution or used at the individual level to promote the researcher's career or advancement. The media mention would serve as an additional indicator, alongside bibliometric indicators. Another perspective is that of calibration, which argues that traditional impact indicators (e.g., peer-reviewed publications) have become tools for university management, with potentially detrimental effects on the research ecosystem.[7] The point for the proponents of calibration is that evaluation systems give too much weight to publications, and should start considering also the societal impact of research beyond the scientific and economic spheres.[8] In this case, it is not

5. Bornmann, Lutz. "What is Societal...": 217.

6. For the REF, see Watermeyer, Richard; Hedgecoe, Adam. "Selling 'Impact': Peer Reviewer Projections of What Is Needed and What Counts in REF Impact Case Studies. A Retrospective Analysis". *Journal of Education Policy*, 31/5 (2016): 651-665; for the ERA, see Heyeres, Marion; Tsey, Komla; Yang, Yonghong; Yan, Li; Jiang, Hua. "The Characteristics and Reporting Quality of Research Impact Case Studies: A Systematic Review". *Evaluation and Program Planning*, 73 (2019): 10-23; and for the SEP, see Van Drooge, Leonie; De Jong, Stefan; Faber, Marike; Westerheijden, Don. "Twintig jaar onderzoeksevaluatie". *Feiten & Cijfers*, 8 (2013): 1-19. Available at: <https://www.researchgate.net/publication/258339642_Twintig_jaar_onderzoeksevaluatie> (accessed February 13, 2025).

7. See Butler, Linda. "Modifying Publication Practices in Response to Funding Formulas". *Research Evaluation*, 12/1 (2003): 39-46.

8. This is the argument advanced by Hicks, Diana; Wouters, Paul; Waltman, Ludo; Rijcke, Sarah de; Rafols, Ismael. "The Leiden Manifesto for Research Metrics". *Nature*, 520 (2015): 429-431.

at all unthinkable that mentions in the popular media might be treated as an indicator of the societal impact of university research. A third and more radical perspective on the issue is that of integrity, which sees impact assessments as interfering with academic autonomy and as being another instrument in the commodification of the university.[9] Suffice to say that societal impact assessments are complex, and that several suggestions, such as "The Leiden Manifesto", have been made for how to integrate quantitative and qualitative elements while avoiding methods that are too simplistic, and likely to produce negative impacts.[10]

While the operationalizations of societal impact remain rather vague, there seems to be consensus around the idea that societal impact is more likely to be present when: 1) societal stakeholders are involved; 2) the research is interdisciplinary in nature; and 3) the research not only has long-term perspectives, but the effort to disseminate its findings beyond academia is built into the research plan itself. Existing methods of evaluating research either try to *attribute* a causal interaction between science and society or focus on the collaborations between academics and societal stakeholders, where academics contribute to societal impact. The *Societal Impact Assessment Methods Productive Interactions* (SIAMPI), for example, is an interactive, case-specific tracking of (in)direct (financial) interactions between researchers and societal stakeholders.[11] While this qualitative approach gives evaluators detailed and in-depth information, it does have its downsides as well, notably the high labour costs and the unclear comparability between impact cases.

Quantitative tools like *altmetrics*, defined as "all metric techniques measuring new forms of performing, discussing, or communicating science, especially through social media",[12] provide one example of the attribution logic in impact assessment in research practice. The tools grouped under the *altmetrics* umbrella are designed to capture different forms of engagement with an article, a scientist, or a theory, and they offer an inexpensive and easily accessible way for researchers and evaluators to explore how much or how little attention the research has generated outside academia. *Altmetrics* attribute a certain societal recognition to research when it is referenced in non-scholarly sources, much in the same way as citations are seen as a proxy for academic recognition. However, Bornmann has argued that these *attention metrics* are limited when it comes to providing a measure of the degree of impact; moreover, they are easily manipulated, can be biased, and often suffer from issues of data quality.[13]

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9. Colley, Helen. "What (a) To Do about 'Impact': A Bourdieusian Critique". *British Educational Research Journal*, 40/4 (2014): 666.

10. See Bornmann, Lutz. "What is Societal …", as well as Glänzel, Wolfgang; Moed, Hank F.; Schomch, Ulrich; Thelwall, Mike, eds. *Springer Handbook of Science and Technology Indicators*. Cham: Springer, 2019.

11. De Jong, Stefan; Barker, Katherine; Cox, Deborah; Sveinsdottir, Thordis; Van den Basselaar, Peter. "Understanding Societal Impact Through Productive Interactions: ICT Research as a Case". *Research Evaluation*, 23/2 (2014): 90ff.

12. Rousseau, Ronald; Egghe, Leo; Guns, Raf. *Becoming Metric-Wise: A Bibliometric Guide for Researchers*. Cambridge (MA)-Kidlington: Chandos Publishing, 2018: 4.

13. Bornmann, Lutz. "Do Altmetrics Point to the Broader Impact of Research? An Overview of Benefits and Disadvantages of Altmetrics". *Journal of Informetrics*, 8/4 (2014): 895–903. See, in particular, the

The case studies we have developed at ECOOM IMPAKT to measure the societal impact of university research are anchored to the idea that the written press – what is now called the legacy media – is less exposed to the problems (self-reporting, poor data quality, etc.) outlined just above.[14]

Although the interactions between science and the media are increasingly identified as a crucial proxies for the societal impact of university research, there are at present no well-defined concepts, definitions, classifications or methods to implement or integrate media mentions, or the link between media and research, into assessment models – or, as Kassab puts it, the "mainstream use" of interactions with the media "is still largely undermined by a number of methodological issues".[15] If academics popularize their work, they can reach larger audiences through the media, thereby potentially advancing the public understanding of science. It goes without saying that the role they play in the media varies, ranging from expert, popularised and advocate (of or for one or another subject, finding, cause) to interpreter, critic, and manager.[16] However, evaluation bodies cannot rely on controlled and validated large-scale media datasets in their assessments, since such sets do not exist yet. Consequently, the only way to use media mentions as a proxy for societal impact, at least for now, is to accept self-reporting by academics, which opens the documentation of societal impact to possible manipulation, hence the approach we have used in our case studies, which automates the harvesting of media mentions instead of depending on self-reporting.

Related case studies, conceived and conducted by researchers of our group, ECOOM IMPAKT, show that academics who actively engage with the media are few and far between, and their engagement is contingent on factors like willingness, personality, time availability, and a history of fruitful interactions with journalists in the past. We have shown that, at least in Flanders, their contributions have been rather limited and explanatory in nature, with only a small fraction of them actually being given the space to discuss their research. Public intellectuals have impact in the sense that they are very present in the media, but our qualitative analyses of the data collected for this as well as our other case studies show that their presence

section entitled "What Are the Disadvantages of Altmetrics": 899ff. See also: Chowdhury, Gobinda; Kushwanth, Koya; Philipson, Pete. "Measuring the Impact of Research: Lessons from the UK's Research Excellence Framework 2014". *PLOS One*, 11/6 (2016): 1-15.

14. Our two earlier studies focusing on the media mentions of academic researchers are: Jonker, Hans; Vanlee, Florian; Ysebaert, Walter. "Societal Impact of University Research in the Written Press: Media Attention in the Context of SIUR and the Open Science Agenda among Social Scientists in Flanders, Belgium". *Scientometrics*, 127/12 (2022): 7289-7306; Jonker, Hans; Vanlee, Florian. "Linking Science with Media and Policy: The Case of Academics in Flanders, Belgium". *Quantitative Science Studies*, 5/3 (2024): 556-572.

15. Kassab, Omar. "Does Public Outreach Impede Research Performance? Exploring the 'Researcher's Dilemma' in a Sustainability Research Center". *Science and Public Policy*, 46/5 (2019): 718.

16. Olesk, Arko. "The Types of Visible Scientists". *Journal of Science Communication*, 20/2 (2021): 6. Olesk relies for this part of his study on Väliverronen, Esa. "Popularisers, Interpreters, Advocates, Managers and Critics." *Nordicom Review*, 22/2 (2001): 39-47.

in the popular media is often tinged by interest in their personal life, and on their views on topics that are not necessarily related to their academic expertise.

Empirical evidence that science-media interactions enable the societal impact of university research remains inconclusive and scarce, and the data that does exist is from small-scale studies such as the ones we have conducted. The challenges on this front are methodological (how to study the societal impact of university research?), pragmatic (the lack of large-scale media datasets), and conceptual (what constitutes a valid measure of the societal impact of university research?). As such, it requires not only qualitative and quantitative methods, but also some familiarity with a defined discipline. As we do not yet have an automated tool to evaluate or contextualize each mention, we have had to rely on close reading to understand the context and nature of the interactions between academics and the printed media. This absence explains why we constructed a very narrowly circumscribed case study designed to identify mentions of university-affiliated medievalists in the written press in Flanders, Belgium. The choice to focus on medievalists was pragmatic, as we explain in the next section, but also theoretical, since it is well known that the need for a more holistic view of academic excellence is experienced as more pressing in the social and human sciences than in the hard sciences.[17]

2. Methods

For this case study, we used the BelgaPress database,[18] which has been working to digitize *all print media articles (dailies, weeklies, magazines, etc.) published in Belgium*, and contains to date upwards of thirty-three million articles. Among other things, this resource allows users to create specific and searchable datasets. In another exploratory study of this same issue, we had queried the BelgaPress database using the names of academic researchers in order to identify all of their mentions in the printed media in Flanders[19]. However, that method could not be replicated here, as a comprehensive and validated dataset of medievalists affiliated – now or in the past – with Flemish universities does not exist at present, making it impossible to search the BelgaPress database for specific names. Consequently, we had to develop a different methodology for this study, one that consisted in creating two custom-built *lexicons* – each comprised of an exhaustive set of terms associated with a subject – as a means to automatically harvest mentions of medievalists without having to rely on names.

17. Gijselinckx, Caroline; Steenssens, Katrien. *Een onderzoek naar valorisatie in de humane en sociale wetenschappen*. Brussels: Flemish Council for Science and Innovation, 2011: in particular Part IV, 297ff. Available at: <https://www.vario.be/nl/adviezen-rapporten/studiereeks-22-een-onderzoek-naar-valorisatie-in-de-humane-en-sociale-wetenschappen>.

18. BelgaPress (2024). GoPress Academic. Retrieved from <https://belga.press/>.

19. Jonker, Hans; Vanlee, Florian. "Linking Science with Media and Policy..."

It is in relation to this methodological challenge that we must understand the pragmatic value, evoked just above, of focusing on medievalists in this case study. The terms used to refer to the Middle Ages in Dutch are very few and all share the same stem: *middeleeuw-* (Middle Ages or medieval) and *mediëv-* (which is the stem of e.g., *mediëvist*, meaning a medieval historian, and of *mediëvistiek*, meaning the broad discipline of medieval studies). Consequetly, our medieval lexicon consisted of four terms: *middeleeuwen*, *middeleeuwse*, *mediëvist* and *mediëvistisch*. The methodological assumption was that no article featuring a scholar being asked to comment on some aspect of the medieval world – its history, thought, art, archaeology, and so forth – could fail to mention at least one of these four words. The pragmatic value of focusing on medievalists is that it allowed us to easily custom-build a topic lexicon that was highly likely to harvest all potentially relevant print media articles.

The appearance of one or more terms from this topic lexicon told us that an article contains one or more references to the Middle Ages. But, of course, our target was not to measure how often one of these terms appears in the printed press, but to find out how often university-affiliated scholars (professors, lecturers, post- or pre-docs, etc.) whose specialty is the Middle Ages are featured in newspaper articles. Consequently, we custom-built a second lexicon which, for its part, contained terms related to academic research (e.g., *onderzoeker*) and to the university (*universiteit, professor, prof., docent*, etc.). The purpose of this second, and considerably longer, lexicon, was to harvest all articles containing one or more mentions of research-related terms.[20] The combination of the topic and research lexicons would reduce the total number of articles to a manageable size while isolating, from the mass of results each lexicon harvested separately, those most likely to contain instances of academic medievalists. Our assumption, in essence, was that it would be highly unlikely, if not impossible, for our methodology to miss an article that mentions a medieval scholar, and that the combination of these two lexicons (one related to the Middle Ages, the other to research) would effectively catch all instances of medievalists in the press – even if, as proved to be the case, these mentions turned out to be mixed among a very high number of false positives.

As just stated, we constructed these lexicons manually and enhanced them through multiple cycles using NLTK (Natural Language ToolKit), which suggested synonyms, hypernyms, and hyponyms. The suggestions of additional terms derived from the NLTK produced an extensive list of terms closely or vaguely related to "research". We had to clean the list of incorrect or vaguely related terms to ensure that all terms had a direct relationship to academic "research", rather than simply being related to academia more broadly. Examples of terms we excluded from the initial list include *universiteitsgebouw* (university building), *bibliograaf* (bibliographer), *humanist* (humanist), and *informaticus* (IT specialist). The goal was to narrow down the dataset to articles that contained terms related specifically to academic research.

20. A full list of the terms from both lexicons is provided in the Appendix, where readers will find the Dutch terms used to query the database, as well as their English translation.

We filtered the large data using the cleaned terminology list using Python and Jupyter notebooks.

We first queried the BelgaPress database using our initial and unedited "research" lexicon, asking the query to return only results in Dutch. This yielded a first dataset of 2.454.692 (print) media documents between 2000 and 2022. Subsequently, using our Python scripts, that is to say, the edited and narrowly pointed lexicon two, we established that 601.003 articles mention one or more of the research-related terms. And further, that 48.425 articles mention one or more of the terms of the "medieval" lexicon. We then proceeded, finally, to narrow down the dataset so as to retain only articles containing terms from *both* lexicons, a process that left us with 6.483 articles across the twenty-three-year span from 2000 to 2022 (see Graphic 1). Again, the assumption was that articles that contained terms from both the topic *and* the research lexicons were the ones most likely to feature a scholar of the medieval world.

3. Results

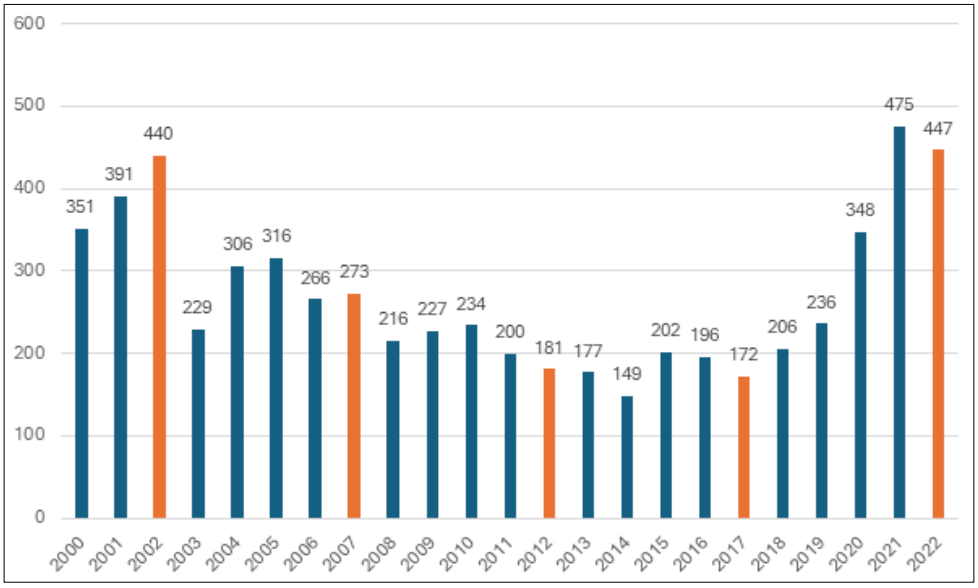
The first noticeable result is that the number of hits a year from the combined lexicons fluctuated around 200 or 300, with noticeable peaks in 2001, 2002, 2021, and 2022. In 2001, this was due, for the most part, to the September 11 attacks, since the discussions in the press that followed them not only featured a number of scholars (of Islam, war, etc.), but also relied heavily on the adjectival use of "medieval" (more on this below); that discussion continued well into 2002, which also marked an important year for Flanders, namely the 700th anniversary of the Battle of the Golden Spurs.[21] Over the course of 2022 there was considerable debate in the press about a project called *De Vlaamse canon* (The Flemish Canon), and about a television show entitled *Het verhaal van Vlaanderen* (The History of Flanders). Both projects engaged a broad audience and were the subject of significant media attention. The higher numbers in the three-year period – 2020, 2021, and 2022 – can also be attributed to the Covid-19 pandemic, which prompted frequent recourse on the part of the press to academic experts, mostly epidemiologists, as well as frequent comparisons between the pandemic and the Black Death. This was particularly evident in 2021: our data shows that 2021 is characterized by a lower score for terms related to "medieval" compared to 2022, but a higher score for terms associated with "research". The combination of these factors means that 2021 also achieves a high score in the combined results. However, this is specifically due to the presence of non-medievalists (e.g., epidemiologists) featured in the press in connection with the pandemic.

21. The Battle of the Golden Spurs was fought in the region of Kortrijk/Courtrai in 1302 and concluded with the defeat of the French army. Over the years, that battle became a defining event in Flemish identity and culture, and a number of commemorations, publications, and events were organized in 2002 to mark the occasion.

The large number of results across the twenty-three-year span, together with the need to manually validate the results, means that we had to select a subset of years for qualitative analysis. We selected two years, 2002 and 2022, because we suspected that they would contain a substantial number of relevant references, for the reasons articulated just above. We also selected three additional years, based on equal chronological intervals: 2007, 2012, and 2017. This resulted in a dataset that consisted of five years, with intervals of five years between them (2002, 2007, 2012, 2017, and 2022), selected for in-depth qualitative analysis. That analysis demanded that we manually validate each result. In the process, we found ourselves having to manually supply a professor's or researcher's university affiliation, as these were not given in several of the articles. We also had to manually exclude a very high number of false positives harvested by the combined lexicons, among them researchers affiliated with university colleges (*hogescholen*); local historians and independent researchers with no affiliation to an institution of higher learning; medieval scholars affiliated with universities outside of Belgium, or employed by museums (as curators of collections), city halls, and other institutions; a number of tourism articles promoting one or another medieval university town; and, last but not least, the many articles in which the derogatory use of the term "medieval" (to mean "backwards" or "barbaric") also featured some term from our research lexicon.

Table 1. Media articles (Dutch): total; medieval lexicon; research lexicon; both; cleaned (with false positives eliminated); % of.

Year	Total	Medieval	Research	Both	Cleaned	% Cleaned/ Both
2002	121.741	3.351	28.184	440	30	6,8
2007	107.341	2.268	25.150	273	29	10,6
2012	97.348	1.732	22.614	181	13	7,1
2017	84.507	1.360	21.294	172	18	10,5
2022	164.793	2.702	44.017	447	49	11,0
Total	575.730	11.413	141.259	1.513	139	9,2



Graphic 1. Media articles (in Dutch) that contain terms from the "Medieval" and "Research" lexicons (1/1/2000 – 31/12/2022). Highlighted years selected for further investigation and cleaning.

Another finding we must mention is the very scarce number of newspaper articles that *actually* feature medievalists in the context of or in relation to their academic research and expertise (see Table 1). After extensive close reading of the 1.513 articles in the five years selected for qualitative analysis, we found a *success rate* fluctuating around 9,2% (column % Cleaned/Both; Table 1), with even lower rates for 2012 (7,1%) and 2002 (6,8%). This meant that approximately 90% of the articles that contain terms from the Middle Ages and the research lexicons had to be discarded.

Additionally, we were mindful of the fact that a wide variety of scholars from different disciplines work on the Middle Ages. Therefore, we included in our count of medievalists in the printed press not just historians, but also archaeologists, philosophers, linguists, philologists, and art historians (among the latter, we had to discount those who were not affiliated with a university but with a museum, e.g., as curators of medieval collections). The aim was to ensure that our count included only experts on the Middle Ages (whether historian, archaeologist, or other) who were or are affiliated with a university, since the aim of the study is to measure the societal impact of university researchers.

Taking a closer look at the characteristics of medievalists mentioned in the newspaper articles, most were full professors (see Table 2). In most instances, these professors were sought out to comment on or provide insight into some aspect of the medieval world. However, this was not *always* the case, a fact that a purely quantitative approach would have missed. For instance, one professor is cited in

a number of articles from 2022, though not in the role of a medievalist discussing the medieval world, but in the role of a trade union representative. We excluded all such mentions from the total, since the societal impact of science is connected to the dissemination, in non-academic outlets, of *academic* insights and expertise. Postdoctoral researchers and emeriti appeared only sporadically, with the exception, for emeriti, of 2007. We found no predoctoral medievalists in our dataset. The data also shows that the vast majority (93,3%) of medievalists mentioned in the printed press in the years selected for analyses are male.

Drilling down to the *types* of newspaper articles in which medievalists are mentioned, we found that they range from short announcements for a talk, lecture or workshop, to features that could run upwards of 6000 words in length, with the longest being obituaries and book reviews. That said, a full half of the mentions (50,0%) included in the results are announcements that simply list one or another event and consist of nothing more than the indication of the date, place, title (of talk or lecture), and name of speaker (or leader of the workshop). Short features and tips (usually around 300 words), in which scholars highlight or recommend something (e.g., a site to visit, a book) were also present (16,7%) over the years. There are also articles, interviews, and opinion pieces in the total: while these offered medieval scholars greater space to discuss their expertise, they are quite limited in number (13,3%).

Table 2. Medievalists and the articles they featured in over selected years.

	2002	2007	2012	2017	2022
Gender					
Female	1	1	1	2	3
Male	14	8	8	6	10
Seniority					
Postdoc	2	0	0	1	3
Professor	13	4	9[a]	6	9
Emeritus	0	5	0	1	1
Total of medievalists mentioned					
Total	15	9	9	8	13
Type of article					
Announcement	15[b]	20	3	6	10

Article, interview, opinion piece	4	3	2	8	14
Book review – presentation	4	6	1	3	8
Exhibition review	2	0	0	0	2
Short feature, tips	5	0	7	1	15
Total number of articles					
Total	30	29	13	18	49
Important contextual events					
Event	Battle of the Golden Spurs anniversary	No significant events			Flemish Canon & *Verhaal van Vlaanderen*

Note [a]. Includes one guest lecturer.
Note [b]. Includes the obituary of an emeritus (6 mentions).

Lastly, the fluctuations in the total number of articles that mention medievalists can at least partly be explained by current events that dominated the news during that period. The Battle of the Golden Spurs dominated 2002, along with the obituaries for a famous medieval historian. For 2022, the Flemish Canon project was prominently discussed in the media, as was the publication of Hendrik Callewier's *Bourgondië aan de Leie* ("Burgundy on the Lys"), and the preparations for the *Verhaal van Vlaanderen* television series. The absence of topics of general interest in the three intervening years - 2007, 2012, and 2017 - presumably explains the lower number of hits for those years.

4. Discussion

The goal of this case study was to determine whether mentions in the popular media can function as an indicator of the societal impact of university research. As we noted, the urgency of this issue stems from the fact that research evaluation frameworks (e.g., REF in the United Kingdom, ERA in Australia) have started to factor *impact* – i.e., the impact of scholarly work beyond academia – into its assessment tools. Not only do media mentions function as one "impact indicator" in some of these new evaluation frameworks, but scholars themselves have started

to point to their own mentions in popular media as a proxy for their impact.[22] Indeed, some scholars have even suggested that achieving such impact is a primary motivation for engaging with non-scientific outlets such as social media, the printed press, podcasts, and so forth. It bears mentioning here, as an aside, that such claims are being amplified by the proponents of open science, who regard the growing instances of non-scientific communication on the part of scholars as a net-positive social good and as an important step in the "democratization" of science.[23] Be that as it may, the fact remains that the empirical evidence for or against the idea that media mentions are reliable indicators of the societal impact of university research remains scarce. In this article, we set out to redress that scarcity and, further, to test the idea that media mentions translate into societal impact. In this final section, we offer a schematic formulation of the conclusions supported by this case study, and of the broader questions it raises, not only about our understanding of the societal impact of university research, but also, and more fundamentally, about our ability to measure such impact.

This case study shows that there are very few mentions of medievalists in newspaper articles in Flanders. That small number becomes even smaller once we exclude those mentions that have no relation to a professor's expertise as a scholar of medieval history, thought, and so forth. The low number of results, including in years such as 2002 and 2022 – which we selected deliberately because we suspected that media interest in the Middle Ages would be high – highlights the fundamental asymmetry of this exercise, which demanded a considerable amount of time, first, to compile the dataset and, second, to manually validate the results so as to ensure their accuracy, a process we could not automate. The methodology was labour-intensive because manual, qualitative analysis was the only way to eliminate false positives, validate results, and supplement the missing data. Notably, as mentioned earlier, the press is not always precise in giving the affiliation of researchers; that fact, combined with the absence, already evoked, of a validated database of (past and present) medievalists, meant not only that we often had to search for the affiliations ourselves, but also, and more taxing, that we had to determine if the current affiliation was the same as in the year the article appeared (2002, 2007, etc.). This is crucial, since it is a well-known fact that clear affiliations are necessary if impact indicators are going to be used by funding bodies in the allocation of grants, etc.

If this study shows anything unequivocally, it is that this method of identifying researchers' mentions in the media is quasi-impossible to upscale to larger data volumes. Indeed, we chose medieval scholars because they offer a narrow field, including semantically (see *supra*), thus making it possible for us to easily create a topic lexicon. Other disciplines – such as sociology, philosophy, all the health

22. Fecher, Benedikt; Hebing, Marcel. "How Do Researchers Approach Societal Impact?". *PLOS One*, 16/7 (2021): 3ff.

23. Bucher, Hans-Jürgen. "The Contribution of Media Studies to the Understanding of Science Communication". *Science Communication*, Annette Leßmöllmann, Marcelo Dascal, Thomas Gloning, eds. Berlin - Boston: De Gruyter-Mouton, 2020: 64.

sciences – would have made the creation of such a lexicon more complex, and the entire exercise would have been even more labour intensive. Consider how many more articles the method used here would have harvested for a discipline like sociology, with cognates such as "society", "social", and so forth. Even with the limiting function played by the second, "research" lexicon, the manual validation of the results to eliminate false positives could be unfeasible. That might change over the next few years, but at present we do not have the ability to automate the lion's share of the process while still ensuring the reliability of the results. It must be said, however, that improving the automation capacity of our tools is only part of the picture. Another, equally important part turns on having reliable and comprehensive databases of academic staff and their affiliation(s); if and when they become available, such datasets will give improved automated tools reliable data to crunch, as it were. The historical data, however, is likely to remain undiscoverable.

Looking at the limited number of hits in which medievalists appear in their capacity as academic experts with specialized insight into the medieval world, we were confronted by the following question: to what degree are these media mentions actually instances of scientific knowledge and insights being disseminated to a non-specialized audience through the use of the printed press? What this study demonstrates is that, in half of the instances, medievalists were indeed asked by journalists to comment on or provide insight into some aspect of the medieval world. The majority of these medievalists are or were full professors, and male.[24] As full professors, they might be regarded as having more experience and authority on medieval culture, art, historical events, and so on; moreover, our study shows that they appear in the media, not just as respected medievalists, but also as leaders of a research department, in contrast to less experienced medievalists, who are seen as being able to comment, narrowly, on the specifics of their current research.

The question of the societal impact of academic medievalists, with their presence in the printed press serving as a proxy, must be considered in light of *why* they appear in the press in the first place. The immediate answer is that they are recognized as experts in a field – hence the predominance of full professors in the results – and are as such invited to share their knowledge, whether by contributing a quote or, more substantially, by writing a book review. Moreover, their recognized expertise gains them greater presence in the media when it coincides with topics and debates that already have general news value: this was the case with the Battle of the Golden Spurs in 2002, and with the confluence of activity in 2022 (the Flemish Canon project, the initial announcement and discussion of the *Verhaal van Vlaanderen* television series, and the publication of Callewier's bestselling book). Moreover, as

24. It is interesting to note that this finding is consistent with our two earlier studies, all of which focus on Flanders, but differs from the findings of studies conducted elsewhere. For example, Pablo Jensen et al. found that "women are more active in popularization" than their male counterparts. See Jensen, Pablo; Rouquier, Jean-Baptiste; Kreimer, Pablo; Croissant, Yves. "Scientists Who Engage with Society Perform Better Academically". *Science and Public Policy*, 35/7 (2008): 533. But while our findings differ with respect to gender, they align on the fact that academics sought out by the press are, as Jensen et al. put it, the "elite" (p. 537).

we saw earlier, once scholars become known to the media, their presence is likely to increase: the majority of hits in any given year is dominated by a couple of names.

Public intellectuals have a large impact through the *amount* of media interactions. It must be noted, however, that, in a number of cases, a media reference is only one of many proxies for societal impact: appearing on television, for example in the *Verhaal van Vlaanderen* series, in which medievalists were asked to share their expertise and knowledge, is another. In such instances, one proxy might influence or reinforce another. In other words, different proxies for societal impact then form some sort of chain reaction, where one solicitation from a journalist might lead to future invitations to appear on television – or, conversely, to appear in print media following a TV appearance. Although no public intellectuals were present in our dataset, it should be noted that some (but not necessarily all) highly visible researchers may become "whales", that is, public intellectuals who blur their professional roles with their personal lives.[25] This blurring means that their presence in the results does raise the risk of contaminating a strict indicator of societal impact that looks only at the extra-academic benefits of an academic's research and is not sensitive to the *context* of each media interaction.

All that said, the engagements that can be classified as instances of science being disseminated through the media remain limited, and a few, even within this small pool, were in fact instances of medievalists being sought out, not for their academic expertise, but for other roles they play within the university system (e.g., trade union representatives). In other words, not every media mention of an academic researcher has equal value or weight:[26] an announcement and a short quote by a researcher asked to shed light on one or another issue are not the same as a feature article, an obituary about a medievalist's life and work, or a lengthy interview. A purely quantitative model that simply counts these articles and weighs all these mentions equally cannot but gloss over the content and context of the interaction or mention.

In conclusion, the extent to which the *presence* of medievalists in popular media can be regarded as an indicator of the societal impact of university research is far from straightforward, and this in a twofold sense. The first difficulty is conceptual and turns of the fact that the nature of each interaction between a scholar and the press needs to be clearly identified, such that an article or interview is distinguished from an announcement or some other, equally cursory mention. The second is methodological: the labour-intensive process we have described makes the approach, as it stands at present, impractical for larger datasets (a greater timespan, a wider variety of media outlets, etc.). In this same vein, and widening the lens, it is clear that scaling up the model – this or some other – to an international context would raise a number of challenges, not only at the level of scale, but also at the level of how to establish a comparative benchmark between two or more national contexts, with potentially different relationships between academia and the media. But that

25. Jonker, Hans; Vanlee, Florian; Ysebaert, Walter. "Societal Impact of University Research …": 7297.
26. Jonker, Hans; Vanlee, Florian; Ysebaert, Walter. "Societal Impact of University Research …".

is an issue for another day. For now, we can say that this case study shows that, while media presence *can* be an indicator of societal impact, it does not necessarily *equal* societal impact. An accurate evaluation of the data should go beyond simply counting media mentions: it should be able to distinguish mere *presence* from actual *impact*. It remains an open question whether a mostly automated methodology can address the difficulties we have highlighted in the course of this article, and whether tackling much larger datasets will be feasible in the near future.

Appendix

Lexicon: Middle Ages

middeleeuwen	Middle Ages
mediëvist	medievalist
mediëvistisch	medievalist
middeleeuwse	medieval

Lexicon: Research

historicus	historian
historisch onderzoek	historical research
universiteit	university
faculteit	faculty
hogeschool	University College (United Kingdom), Community College (United States)
universitair departement	university department
onderzoeksgroep	research group
academicus	academic
hoogleraar	professor
prof	prof
lector	lecturer
onderzoeksassistent	research assistant

wetenschapper	scientist
docent	lecturer
doctor	doctor
doctoraat	doctorate
doctorsgraad	doctor's degree
onderzoeker	researcher
vorser	researcher
doctoraatsstudent	doctoral student
geschiedkundige	historian
geschiedschrijver	historian
historicus	historian
postdoc	postdoc
postdoctoraal	postdoctoral
postdoctorale student	postgraduate student
professor emeritus	professor emeritus
emeritus	emeritus
wetenschappelijk onderzoek *onderzoeksproject*	scientific research research project