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D5.2 Recommendations to represent diversity in metadata

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Outline

This deliverable summarises key findings from different areas of activity in the scope of the DE-BIAS project, which go on to inform recommendations for both policy makers and cultural heritage institutions (CHIs). First, an [Executive summary](#) gives a high-level snapshot of the deliverable. Then the [Introduction](#) details the remit of the current document, followed by a section on [Sources and methodology](#) explaining where the information comes from and how it has been processed. [Key findings](#) highlights the main issues identified through the collated analyses. From these insights we go on to formulate Recommendations pertaining to [transversal themes](#), suited to both stakeholder groups, followed by [Recommendations for policy makers](#) and [Recommendations for CHIs](#), offering detailed, specialised advice for governance and operations in specific thematic areas. The [Implementation strategy for CHIs](#) turns the recommendations into actionable steps while the [Annexes](#) with charts serve as a reference for the detailed statistical insights from the metadata analysis.

1 Executive summary

In this deliverable, we bring together key insights from various areas of work undertaken by the DE-BIAS consortium. After outlining these areas and the methods used to gather insights, we present findings in their respective domains. From these, we develop recommendations for two primary stakeholder groups: policymakers and cultural heritage institutions. These recommendations are divided into subsets for each group and further categorised by thematic relevance. To bridge the gap between theory and practice, we propose an implementation strategy for cultural heritage institutions (CHIs) that enables practitioners to initiate institutional change. By advancing inclusive metadata, fostering community engagement, promoting standards and guidelines, and offering training and capacity building, policymakers can ensure that cultural heritage is represented respectfully and inclusively. Practitioners in the GLAM sector can then apply these high-level recommendations through community-focused curation, the adoption of inclusive tools and interactive digital environments, ongoing education, and transparent practices to create a more inclusive and respectful cultural heritage landscape.

2 Introduction

This deliverable, D5.2 “Recommendations to Represent Diversity in Metadata,” plays a pivotal role in the DE-BIAS project, which focuses on addressing and mitigating bias in cultural heritage metadata. Co-funded under the European Union’s Digital Europe Programme, DE-BIAS is a two-year initiative aimed at developing an AI-powered tool to detect and flag problematic language in the metadata of cultural heritage collections across Europe. By providing historical context to such language, the project seeks to foster a more accurate and inclusive representation of cultural heritage. The DE-BIAS project began in January 2023 and is set to run until December 2024.

This document consolidates insights gained from the project's multi-faceted approach, which includes research, community engagement, and the application of an innovative bias detection tool on the Europeana website. By conducting a thorough assessment of recurring patterns and issues related to diversity and bias in metadata, this deliverable offers actionable recommendations tailored to cultural heritage institution (CHI) managers and policymakers. These recommendations aim to provide a strong framework for managing sensitive language and promoting inclusivity in the cataloguing and curation of cultural collections.

The DE-BIAS project, as part of the broader mission to enhance diversity and inclusion in the cultural heritage sector, has employed a wide range of methodologies, including academic research, hands-on community involvement, and technological solutions. This deliverable synthesises these different streams of activity into comprehensive recommendations that are not only grounded in practice but also effectively address the technical and societal dimensions of cultural heritage metadata..

As this document brings together recommendations from various project activities, extracts will be separately published as two sets of graphically represented guidelines, tailored to the key stakeholder groups. These guidelines will be made available in the project's five main languages. The intended impact of this deliverable and its accompanying guidelines goes beyond the immediate scope of the project. By offering high-level guidance for policymakers and practical advice for CHIs, D5.2 aims to contribute to long-term reforms in cultural heritage management. It advocates for diversity and inclusion as essential components in the digitisation and cataloguing of collections, while also providing CHIs with a framework to prevent future bias in their metadata. Ultimately, this deliverable seeks to ensure that Europe's cultural heritage collections remain relevant, inclusive, and accessible to all citizens, fostering greater engagement and a more respectful representation of diverse identities.

3 Sources and methodology

The set of recommendations to represent diversity in metadata, which you are about to explore, has been meticulously compiled from a broad range of activities, experiences, and expertise that underpin the DE-BIAS project. This multi-faceted approach not only reflects the diversity inherent in cultural heritage but also acknowledges the complex interaction between technical and societal factors in addressing diversity in metadata.

3.1 Multiperspectivity

The recommendations are anchored in several sources of knowledge and experience.

- Firstly, they draw upon existing **policy documents**¹ and the extensive expertise of our specialised partner ECCOM, an organisation with a longstanding commitment to promoting social innovation and advocating for a pluralistic narrative of cultural heritage. ECCOM's contributions have been invaluable in ensuring that our recommendations are rooted in a deep understanding of the evolving needs of the cultural heritage sector.
- Additionally, the **academic analysis of bias patterns**, informed by existing literature and enhanced by applying conceptual and theoretical frameworks to the digital collections of Europeana and our project partners, led to the creation of "Bias Types and Patterns: A Typology Applied to Europeana Use Cases," which forms part of D2.1. This document, along with others mentioned, has been revisited and integrated into the development of our final recommendations.
- Our recommendations have been significantly shaped by insights gained from community workshops conducted by project partners DFF, EFHA, KU Leuven, and NISV with **four community-based focus groups**. These workshops, focusing on migration and colonial history, gender and sexuality, and ethno-religious identity, have been thoroughly documented in two key project reports: "A Community Engagement Methodology: Resources, Reflections, Recommendations" and "D2.2: Community Interactions: Scenarios and Results." They provide crucial perspectives on how cultural heritage is perceived and engaged with by different communities. The workshops underscored the importance of participatory approaches in managing and describing cultural collections, highlighting the need for CHIs to engage directly with the communities they represent. As a result, our recommendations aim to bridge the gap between institutional practices and community-driven knowledge, ensuring they are both practical and sensitive to the needs of the communities whose heritage is being represented.
- An **AI-driven tool**, developed as part of the DE-BIAS project, has also been instrumental in shaping these recommendations. Applied to 4.5 million records, the tool enabled us to identify patterns of bias, gather valuable statistics, and equip cultural heritage institutions with the means to better anticipate and manage

¹ These include:

Bollo, A., Da Milano, C., Gariboldi, A., Torch, C.: Study on Audience Development-How to place audiences at the centre of cultural organisations. Directorate-General for Education, Youth, Sport and Culture (Final report, Publications Office of the European Union, 2017 (2017)

Fernie, K., Clough, P., Goodale, P., Hall, M., Agirre, E., Lopez de Lacalle, O., Bergheim, R.: Paths: Personalising access to cultural heritage spaces. In: 2012 18th International Conference on Virtual Systems and Multimedia. IEEE (Sep 2012). <https://doi.org/10.1109/vsimm.2012.6365960>, <http://dx.doi.org/10.1109/VSM.2012.6365960>

Giglietto, D., Cioffi, L., Lockley, E., Kaldeli, E.: Digital Approaches to Inclusion and Participation in Cultural Heritage: Insights from Research and Practice in Europe. Routledge (Jan 2023). <https://doi.org/10.4324/9781003277606>, <http://dx.doi.org/10.4324/9781003277606>

European Agenda for Culture: Promoting access to culture via digital means: policies and strategies for audience development. Final report of the Working Group of EU Member States' experts on promoting access to culture via digital means under the open method of coordination. June 2017

instances of bias. These findings complement and often validate the bias risk areas identified during our work, including the retro-analysis of the vocabulary developed by DE-BIAS partners in collaboration with community focus groups. Together, these sources have provided crucial insights into where and how bias is likely to occur, allowing us to offer targeted advice that helps institutions proactively address these challenges.

3.2 Stakeholder focus

The recommendations you will find have been carefully tailored to address **two primary stakeholder groups**. High-level recommendations have been developed for **policymakers**, providing strategic guidance on fostering inclusivity and diversity at a systemic level. At the same time, practical recommendations have been crafted for **cultural heritage institutions**, offering specific, actionable steps to enhance the representation of diversity within their collections and practices. Together, these recommendations aim to facilitate discussions between cultural and social organisations and policymakers at both local and European levels, advancing the cultural heritage sector toward a more inclusive and equitable future.

4 Key findings

As we explore the topic of bias versus diversity in metadata, it's essential to recognize that 'diversity in metadata' extends beyond the technical aspects of cataloguing, curating, and representing metadata. It also encompasses broader societal and participatory considerations, including the enhancement of diversity through cultural heritage policy reforms and the crucial support for community involvement.

4.1 From policy documents

Analysed and documented in "[A community engagement methodology: resources, reflections, recommendations](#)".

1. Audience development and community engagement should be considered as **strategic processes** based on the idea of putting people at the centre of cultural organisations' activities. It must be based on the cultural rights set up in Article 27 of the Declaration of Human Rights (1948)², on the International Covenant on Civil and Political Rights (1966)³, and on the Faro Convention (2005)⁴.
2. Public policies and operational programs should systematically aim to achieve a **'greater good'** in terms of public service and value by recognizing cultural participation as a vital element of public policies and viewing technology as a key enabler.

²https://www.ohchr.org/sites/default/files/UDHR/Documents/UDHR_Translations/eng.pdf

³<https://www.ohchr.org/en/instruments-mechanisms/instruments/international-covenant-civil-and-political-rights>

⁴<https://rm.coe.int/1680083746>

3. Process should be considered a core component: while it is important to build the capacity of key actors and provide training on technical and professional subjects, it is even more essential to allow cultural actors to reflect on the processes to be implemented and their positioning within the targeted community(ies).
4. Public policies should consider the challenges of the 'digital divide.' Technical opportunities are not equally distributed, which can hinder access to cultural heritage. Additionally, different segments of society possess varying skill and confidence levels when engaging digitally. Therefore, it is essential to focus not only on capacity building but also on developing soft skills to facilitate the participation of all.
5. Technology should serve any policy aimed at including communities, rather than the other way around. To **ensure that technology effectively promotes inclusion**, it must be evaluated and adapted through a systematic assessment process.
6. Technological innovation should not solely aim to benefit the market; instead, it should strive to serve as a tool with '**public value**' for social and educational purposes.

4.2 From academic literature on patterns of bias

Analysed and documented in "Bias types and patterns: a typology applied to European use cases," which forms part of D2.1.

1. CHIs and collection owners are encouraged to **regularly revisit** their collections to examine metadata (and images) through the lens of bias detection.
2. This revisit can be designed and conducted in **collaboration with communities** to build insight and expertise in identifying instances of bias. It also aims to develop mitigation or counter-strategies that are supported by the communities involved.
3. The **use of AI** will facilitate the detection of frequently identified biased expressions, as it is an effective tool for processing large amounts of (meta)data and initially flagging emerging **patterns of bias**. However, given the complexity of bias expression and detection, a **human-in-the-loop** approach is essential. This approach should ideally involve both professional CHI staff and representatives from the communities affected by the identified bias.
4. Collection owners and users/visitors can only gain insight into the pervasiveness of incomplete or misrepresented narratives if metadata is not omitted or obscured. Instead of removing biased language, enhancing existing descriptions fosters **public awareness** and empowers heritage communities to flag inappropriate language use.

4.3 From the charts reflecting the work on the DE-BIAS vocabulary and metadata analyses performed by the DE-BIAS tool

Initially compiled in “Vocabulary Co-Created with Communities,” which is part of D2.1, this vocabulary has been expanded, edited, and refined continuously throughout the project term. Graphic representations of key points from the vocabulary, along with analyses performed by the tool on 6.7 million records available on Europeana.eu, are attached to this deliverable.

1. **Bias distribution across thematic domains (Chart 1 and Chart 5):** The metadata analysis reveals that terms associated with bias related to **ethnicity, race, geography, and civilization** are the most frequently found in the source data. These terms are often outdated or overly generalised, failing to capture nuanced identities or historical accuracy. This suggests two key points: 1) GLAMs whose collections focus on these areas (e.g., ethnological museums) are a priority group for metadata review; and 2) these categories should be the primary focus for all CHIs when initiating efforts to revise and update metadata.
2. **Intersectionality and multi-layered bias (Chart 2):** Some terms were linked to bias across multiple categories, highlighting how intersecting identities — such as race and gender or ethnicity and geography — can lead to compounded misrepresentations. CHIs must adopt an **intersectional approach** when reviewing metadata, taking into account how biases in one category may overlap with or amplify biases in another.
3. **Shades of bias encompass subtler forms**, such as euphemisms, generalising terms, and expressions coined in political contexts. Although these patterns can be more challenging to detect, they are equally important in shaping the representation of communities and cultural groups.
4. **Bias frequently appears in descriptive fields (Chart 4)** like dc:title, dc:description, and dc:subject, Bias frequently appears in descriptive fields (Chart 4) like dc:title, dc:description, and dc:subject, where free-form text is more common and cultural terms are often used without adequate contextual understanding. Bias can also be detected frequently in **normative fields**, such as subject headings, where either the shortness of content makes it difficult to contextualise and disambiguate or the bias is inherited from the vocabularies usually referred to in these elements.
5. Terms associated with ethnicity, race, or nationality, such as 'Afrikaner' or 'Aboriginal,' often appear in potentially biased contexts. Descriptions of objects or artefacts related to **non-European cultures are particularly vulnerable to this risk.**
6. **Outdated terms** reflect historical bias (e.g., 'Irrenanstalt' in German, 'Extracomunitario' in Italian) but often persist in metadata due to legacy vocabularies and descriptions or titles. Therefore, it is crucial to revisit collections where source

metadata, as well as subsequent additions or new descriptions, have been published online. The older the metadata, the greater the need for revision.

7. **Multilingualism** is essential for effective bias detection, as biased terms may not be perceived, represented, or detected equally across different languages. Additionally, vocabulary gaps can hinder detection, as **some terms may go unnoticed due to incomplete or outdated vocabularies**. This issue can create significant gaps in bias detection, particularly in multilingual collections.

4.4 From community work carried out with four focus groups

Analysed and documented in "D2.2: Community Interactions: Scenarios and Results".

1. Collaborating with underrepresented groups requires **attention, commitment, time, and dedication**; such collaborative efforts cannot be limited to a one-time event.
2. **Involving different institutional departments** enhances the (institutional) commitment to collaborating with local communities.
3. Working with community representatives as **allies** is key to
 - a. developing **trust** and deepening the relationship between the institution and the local community.
 - b. ensuring **thematic/domain knowledge** during the community workshops.
4. **Different** generational, gender, and professional backgrounds **among community members** enrich the critical analysis of sensitive collection metadata.
5. **Including non-community members with thematic knowledge** can illustrate solidarity and demonstrate that the topic is relevant to everyone. However, to ensure a safe space for these workshops, this inclusion should be discussed and agreed upon with the community representatives involved in the planning.
6. **Context is key**: historical terms must be presented alongside context that demonstrates cataloguers' awareness of using outdated language.
7. **Community** members are often well-prepared and knowledgeable about including **search terms** that enhance the **findability of the collection**.
8. The community focus groups generally prefer to **contextualise rather than replace offensive terms**.
9. Anticipate and embrace **diverse viewpoints within the community**.
10. Reflecting on the **framing and positioning of language** in texts is crucial: 'Who introduced the words I am now using?'

5 Recommendations

5.1 Transversal themes

5.1.1 Investing in a holistic approach

Promoting not only access but also participation in activities related to heritage and community representation requires a serious investment in community engagement processes. These processes should be viewed as strategic assets that enable cultural organisations to place the public—not just as visitors, but as individuals and communities—at the centre of their actions. Cultural heritage institutions (CHIs) need to be empowered to invest in opening up participation in decision-making processes and fostering representation. This approach aligns with the vision of the Faro Convention, which emphasises the role of communities in shaping the values of heritage and views heritage and its connected values as a dynamic process rather than something fixed and immutable.⁵

5.1.2 Use of technology in the cultural heritage sector

DE-BIAS raises the question of the role technology can play in including communities at risk of sociocultural exclusion. The project has demonstrated that technological innovation is highly effective when it serves engagement and inclusion. By integrating advanced technologies into the cultural heritage sector within a structured framework that promotes cooperation between technology and culture and stimulates co-creation with the concerned communities, DE-BIAS has initiated a pioneering reflection on technology's role in participation and engagement. For technological innovation to be meaningful in promoting inclusion, it must be designed and implemented with input from both tech and socio-cultural professionals. Additionally, it requires awareness-raising, support, and evaluation from policymakers.

5.1.3 Capacity building

It is essential to strengthen the capacity of those involved in promoting access, participation, and inclusion through cultural heritage. This involves activating capacity-building processes that develop not only hard skills (technical and theoretical knowledge) but also soft skills, such as creativity and empathy, which are crucial for fostering community engagement — central to the DE-BIAS project. Good practices from other sectors, particularly the social sector, can inspire our efforts, always keeping in mind the principles of the right to cultural participation.

⁵ Council of Europe Framework Convention on the Value of Cultural Heritage for Society (FARO Convention), 27 October 2005, <https://rm.coe.int/1680083746>

5.2 Recommendations for policy makers

5.2.1 Paradigm change

1. **Encourage institutional change:** Encourage cultural heritage institutions to embrace change and foster openness in collaborating with underrepresented groups. This involves revising existing policies to facilitate inclusive practices and support innovative approaches to cultural heritage management.
2. **Support the practice of trans-sectoral monitoring:** Monitoring technological innovation for engagement and participation should be conducted through a holistic approach. This involves utilising various systems to assess the level of social response to proposed innovations, ensuring that the societal aspects of any technological development are given due consideration.
3. **Institutional commitment and collaboration:** Policies should emphasise the importance of long-term commitment and collaboration across various institutional departments to effectively engage with local communities. This cross-departmental approach can enhance the institution's dedication to inclusivity and improve resource allocation for community engagement efforts.
4. **Intersectionality and diverse representation:** Policy frameworks should emphasise the importance of considering intersectionality in cultural heritage practices. This involves recognizing the diverse backgrounds and experiences within underrepresented communities to ensure comprehensive and representative metadata practices.
5. **Capacity building and training:** Support national and European-level training programmes for cultural heritage professionals that focus on detecting and curating harmful language. Certification programs can recognise institutions that demonstrate excellence in inclusive metadata practices.

5.2.2 Funding schemes

6. More operational programs from the European Union must offer **opportunities for projects grounded in a 'cultural approach' complemented by 'experience-based' activities.**
7. Funding schemes should integrate **agility and adaptability** as core principles of any project.
8. Calls for funding should **not impose overly restrictive criteria** regarding the types and levels of technologies to be used in proposals.
9. Governmental funding should ideally focus on enhancing and supporting **capacity-building processes for professionals** working in multidisciplinary and

trans-sectoral contexts, helping them develop competencies and skills in assessment and evaluation.

10. The range of support training activities developed through innovative means and tools should **go beyond traditional approaches** to cultural and social mediation.
11. Funding bodies should support the cultural heritage sector in **researching and testing specific indicators** that focus on cultural and social innovation and sustainability. This will aid in evaluating both the short-term efficiency and long-term impact of innovative tools and workflows.

5.2.3 Metadata

12. **Foster the development of sectoral guidelines for inclusive metadata** to be developed by cultural heritage practitioners and heritage communities, ensuring they reflect best practices for diversity and inclusion.
13. **Promote the use of bias detection tools:** Raise awareness and establish funding mechanisms to encourage CHIs to develop, implement, and integrate AI-driven bias detection tools into their workflows, enabling the systematic analysis of large volumes of metadata.
14. **Raise awareness of the importance of intersectionality in metadata:** Policymakers are well-positioned to promote metadata guidelines that adopt an intersectional approach to bias detection. This involves recognizing how various categories, such as (dis)ability, ethnicity, and gender, intersect and contribute to biased or outdated representations of cultural heritage.
15. **Promote inclusive metadata value standards:** Develop policies that mandate the use and support the creation of standards for inclusive and respectful language in metadata, ensuring these policies apply to all cultural heritage institutions.
16. **Propose bias detection frameworks:** Propose frameworks for detecting and analysing bias within cultural heritage metadata. Frameworks like the DE-BIAS typology aid in recognizing and mitigating various forms of bias, promoting a more inclusive representation of cultural heritage.
17. Encourage the creation of **standardised yet domain- and community-specific thesauri** of inclusive terms and promote their adoption throughout Europe.
18. **Contextualisation over replacement of offensive terms:** Policymakers should advocate for the contextualization of offensive terms in cultural heritage metadata instead of outright replacement. This approach maintains historical accuracy while offering essential context for understanding the original usage of these terms. It is also vital to consult with the represented communities to achieve a more inclusive metadata representation.

5.2.4 Community engagement

19. **Community collaboration mandate:** Design policies that mandate collaboration with local and affected communities in the review and updating of cultural heritage collections. Engaging these communities ensures that cultural narratives are accurately represented and that biases are effectively identified and addressed.
20. **Support and fund community engagement:** Allocate funding and resources to support community engagement projects focused on co-creating inclusive metadata. Establish grants and incentives for institutions that actively collaborate with communities to curate their collections respectfully.

5.2.5 Technology

21. Encourage the integration of results from Diversity, Equity, and Inclusion (DEI) initiatives into **AI development** to ensure that AI usage is **ethical, inclusive, and equitable**.
22. **AI and human-in-the-loop approaches:** Encourage the use of AI for initial bias detection in metadata, supplemented by human oversight from both professionals and community representatives. While AI can efficiently process large volumes of data to identify potential biases, human oversight provides nuanced understanding and appropriate context.

5.3 Recommendations for CHIs

5.3.1 Metadata

1. **Perform metadata audits:** Adopt an institutional practice of conducting regular reviews and updates of cultural heritage metadata to ensure that it aligns with current social values and is free from bias. These audits should emphasise the application of inclusive and accurate descriptions for cultural assets while ensuring that outdated or harmful terms are properly contextualised rather than removed. Special attention should be given to collections that reflect the heritage of marginalised and historically disadvantaged communities.
2. **Examine your collections' metadata** by considering three aspects: the images, the metadata itself, and how they relate to each other. Think about this from two angles: first, look for terminological bias, which means using outdated or harmful language to describe things. Second, consider nominative bias, which is when the metadata misrepresents the objects. This can happen when individuals or items are not properly named, are generalised, or are not mentioned at all.
3. In the same vein, conduct your analysis with the understanding that **bias** often arises from a **combination of words rather than from isolated words**. It's important to explore whether the tools and workflows you use consider expressions

as a whole, rather than focusing solely on individual words. For instance, look into how they handle phrases like "medicine man" and compound words such as "multiracial" and "Judenschule."

4. **Be language- and time-sensitive when assessing your metadata.** Like socio-political realities, ethics, and conventions, language is constantly evolving. Expressions deemed harmless and neutral in one era may later be viewed as inappropriate, reappropriated, or redefined — and vice versa. Moreover, instances of bias often do not translate directly across different languages.
5. **The importance of disambiguation cannot be emphasised enough.** When a term that is typically considered offensive is part of a name, organisation, or place, it can lead to false positives in automated analyses. Additionally, many terms can be perceived as either offensive or neutral depending on their context (for example, "ape" as an animal versus an insult). While the use of Named Entity Recognition (NER) and Large Language Models (LLMs) can help mitigate this risk, it is crucial that existing descriptions provide sufficient context for successful disambiguation.
6. **Implement flexibility in metadata value standards:** CHIs should adopt flexible metadata standards that facilitate the continual updating of terms and descriptions as new biases are identified or societal norms evolve. This approach will help institutions maintain the relevance of their collections and eliminate harmful language. While citing controlled vocabularies is generally considered best practice, it does not eliminate the presence of biased language. Therefore, it is essential for the governing bodies of these vocabularies to conduct careful and ongoing reviews.
7. **Adopt an intersectional review process.** Biases are often compounded when metadata overlooks the intersection of multiple identities, such as gender, race, and geographic origin. To address this, use intersectionality as a guiding principle when reviewing terms that may appear innocuous in isolation but reveal deeper systemic issues when considered in combination with other fields. Establish a **cross-category review system** that assesses metadata not just for individual biases, but for intersecting biases across categories. For instance, terms in the **ethnicity** field may also carry implicit **geographic** biases that require attention.
8. **Focus on high-risk metadata fields:** Metadata fields that commonly include free text, such as titles and descriptions, are more likely to contain bias and should be prioritised in audits and revisions.
9. CHIs should develop **quick assessment methods**, such as immediate audits, and provide users with **easy feedback options** to flag problematic content. This approach will help address issues in a timely manner, ensuring more accurate representation.
10. **Incorporate bias detection frameworks:** Utilise frameworks for detecting and analysing bias within cultural heritage metadata. Frameworks such as the DE-BIAS

typology offer a structured approach to identifying and mitigating bias, ultimately enhancing the accuracy and inclusivity of cultural narratives.

11. Consider using or creating **standardised, yet domain- and community-specific thesauri** of inclusive terms that are relevant to your collections and the heritage communities they represent.
12. **Contextualisation over replacement of offensive terms:** It is highly recommended to contextualise offensive terms in cultural heritage metadata rather than replacing them outright. This approach ensures historical accuracy while providing the necessary context to understand the terms in their original usage.
13. **Address “Shades of Bias”⁶:** Subtler forms of bias, such as **euphemisms**, generalising terms, or politically charged language, can be pervasive and often go unnoticed. Aim to recognize and address these **shades of bias** by training staff to identify linguistic patterns, such as the transformation of neutral terms into dysphemisms (e.g., the pejorative use of "foreigner").
14. **Adopt cataloguing practices and metadata updates that incorporate adjusted thesauri**, including terms that reflect more specific and less generalised identities. For example, replace the broad term "Asian" with specific ethnic or national identifiers.
15. **Dynamic and flexible approaches:** Maintain flexibility in controlled vocabularies to accommodate emerging terms and concepts that reflect the dynamic nature of culture and identity. Encourage experimentation and innovation in metadata practices to more effectively represent diverse communities.

5.3.2 Technology

16. **Use of AI and human oversight for bias detection:** AI-powered tools, such as the DE-BIAS tool, can assist CHIs in automatically detecting and flagging biases within their metadata. However, the use of these tools should be complemented by human oversight to ensure that the nuances of language and cultural context are accurately represented in metadata revisions. Staff must be trained to understand the tool’s outputs and to contextualise the flagged terms within the broader narrative of the collections.
17. **Regularly update and expand tools** based on user feedback and evolving language. Consider utilising tools and platforms that allow for dynamic updates —

⁶ “Shades of bias”: Analysis of patterns of bias in cultural heritage collections, particularly in Europeana, revealed varying degrees of misrepresentation at the linguistic level, e.g. misappropriation, stereotypes, derogatory language, diminutive language, euphemism, omission/erasure, fragmentation. See: D 2.1 “Report on research into bias types and patterns, including a typology applied to Europeana use cases and a vocabulary co-created with communities.”

such as vocabulary edits or adaptations of institutional bias-detection rules — without requiring extensive redevelopment.

18. **Consider a phased approach for implementation.** Implementing a bias-detection tool can be resource-intensive. A phased approach enables institutions to gradually integrate the tool while assessing its effectiveness. Begin by applying the tool to a small subset of the collection, focusing on high-risk metadata fields.
19. **There is a need for truly participatory environments** — software and procedures that actively facilitate participation. Provide platforms that promote respectful interaction, fully recognizing contributions and shared responsibilities. We recommend gathering best practices for community engagement software and platforms, shifting from crowdsourcing to genuine co-creation and co-curation activities. Additionally, develop a validated code of conduct and user rights agreement for these platforms as a counterbalance to the one-sided End User Licence Agreements of commercial platforms.
20. **Adapt the technology:** Technological solutions must address the needs of the institutions and communities they serve. Utilise customization features to enhance accuracy, such as selecting collection-specific vocabularies and implementing context-sensitive rules.
21. **Do not forget the user interface.** When developing or deploying AI-supported solutions to enhance diversity and fairness in your metadata, consider the experience you want to create for online visitors to your collections. This could range from content warnings or generic messages to record-specific links that provide context and information. Explore a variety of approaches to ensure a meaningful experience.

5.3.3 Community engagement

22. **Develop a co-creative community-centred approach.** CHIs should consider participatory processes as a cornerstone of their strategies and operations. These processes can be conducted remotely using collaborative tools to create safe spaces, but they must always be facilitated by social and technological mediators. It is essential to consider the needs of the targeted communities to ensure they are effective partners rather than merely informants for ideas.
23. **Community-centric metadata curation:** Consulting with represented communities is vital for achieving inclusive metadata representation. Their involvement provides valuable insights and helps identify biases that may not be apparent to outsiders. To ensure diverse perspectives are included, engage community representatives in the metadata creation and review process. Organise regular workshops and feedback sessions with community members to discuss and update the language used in metadata. This not only fosters a sense of ownership over their cultural representations but also ensures that their voices are integral to the institution's practices.

24. CHIs should explore strategies to **invite and involve staff members with community backgrounds** in this process, if they wish to participate. It is essential to acknowledge the sensitivities and knowledge that exist within the institution's staff and to include them in these efforts. To enhance community knowledge within its team, a CHI should actively seek to improve diversity and representation among its staff.
25. **Diversified community involvement:** Involve community members from various generations, genders, and professional backgrounds to enhance the critical analysis of sensitive collection metadata. This diversity of perspectives contributes to creating a more inclusive and accurate representation of cultural heritage.
26. **Building trust with community representatives:** Engage with community representatives as allies to build trust and strengthen relationships between the institution and local communities. This engagement involves regular, respectful communication and the establishment of clear protocols for collaboration.
27. **Preparation and knowledge sharing:** Empower community members to become well-prepared and knowledgeable about your collections, operations, and collaboration objectives. This can include demonstrations of search terms that enhance the findability of collections, training opportunities, and providing resources to community representatives so they can effectively contribute to metadata practices.
28. **Sustainable engagement:** Recognise that collaborating with underrepresented groups requires ongoing attention, commitment, and dedication. Engagement should not be viewed as a one-time event; rather, it should inspire a long-term, sustained effort that is embedded in the institution's operations.
29. **Acknowledge contributions:** True engagement with user communities involves recognising contributor rights and effectively navigating and moderating dissenting voices. It must be founded on a mutual agreement based on equality.

5.3.4 Process - workflows

30. **Transparency and accountability:** Implement transparent processes for the public to report offensive or harmful language found in cultural heritage metadata. Establish accountability mechanisms to address and rectify issues promptly.
31. **Document biases and corrective measures:** When biases are detected and corrected, CHIs should document these instances to ensure transparency in their processes. This documentation can also serve as a valuable resource for other institutions seeking to implement similar practices in metadata management.
32. **Ensure transparent reporting:** Metadata bias detection and correction should be an open process with clear reporting mechanisms in place. CHIs should provide public access to information about how biases were detected, the steps taken to correct them, and the measures implemented to prevent future occurrences.

33. **Be ready to participate in innovative capacity building processes:** It is crucial for cultural professionals to understand the complexity of contemporary society and be open to engaging with disciplines beyond traditional sectoral boundaries. Actively participating in lifelong learning activities should be a process embraced by all members of the organisation.
34. **Practice-driven and -oriented training:** Train staff on the significance of inclusive language and the impact of harmful language on communities. Provide ongoing professional development opportunities that focus on best practices for inclusive metadata management.
35. **Documentation and dissemination of best practices:** Document successful practices widely within the GLAM sector. Create a repository of case studies and practical guidelines to assist other institutions in implementing similar initiatives. Share the frameworks and guidelines developed within your organisation to help guide the efforts of peer institutions and accelerate sector-wide de-biasing efforts.

6 Implementation strategy for CHIs

This outline presents a roadmap for cultural heritage institutions (CHIs) to implement the recommendations, encompassing short-term, medium-term, and long-term steps.

- **Short-term steps** include immediate actions such as auditing high-risk fields and utilising technological support like the DE-BIAS tool.
- **Medium-term goals** focus on capacity building, ongoing staff training, and establishing transparent processes.
- **Long-term objectives** involve institutionalising regular metadata updates, creating inclusive vocabularies, and fostering sustained community partnerships.

This phased approach can help CHIs manage the process efficiently, particularly when dealing with vast volumes of data and limited resources.

The following roll-out is based on priority:

6.1 Phase 1: Immediate focus on high-risk fields

- **Priority:** Collections and metadata fields likely to contain references to **ethnicity, race, geography, and civilisation** should be prioritised for review, as they often hold the most concentrated instances of bias.
- **Action:** Use automated tools like the DE-BIAS tool to scan these fields, identifying high-risk terms. Manual oversight should then be employed for contextual updates and sensitivity checks.
- **Key Focus:**
 - Identify and correct any overtly offensive or outdated terms in these fields.
 - Engage with affected communities to gain insights into preferred terminology and suggestions for contextual notes.

6.2 Phase 2: Training and awareness on intersectionality and bias detection

- **Priority:** Provide staff with the skills needed to detect and address biases that intersect across multiple categories.
- **Action:** Conduct **training focused on intersectionality** to help CHI professionals recognize how categories such as race, ethnicity, and gender intersect and reinforce biases. Be mindful of staff members who may be sensitive to these issues due to their personal experiences.
- **Key Focus:** Train your staff on bias detection, emphasising multi-layered biases that span several fields.

6.3 Phase 3: Subtler forms of bias (shades of bias)

- **Priority:** In the final phase, focus on addressing more subtle biases, including euphemisms, umbrella terms, and terms with politically charged origins.
- **Action:** Conduct a detailed review of thesauri, paying close attention to **shades of bias** such as overgeneralizations and the political framing of terms.
- **Key Focus:** Transition from broad updates to metadata fields to more nuanced corrections, ensuring that even subtle biases are adequately addressed.

6.4 Phase 4: Ongoing auditing and updating process

- **Priority:** Establish long-term protocols for the ongoing auditing and updating of metadata.
- **Action:** Establish **regular auditing schedules** to continuously review metadata for bias. This should include incorporating community feedback loops and adapting to evolving language and societal norms.
- **Key Focus:** Institutionalise a process for regular updates to ensure that metadata remains responsive to changes in community preferences and social values.

Annex 1: Analysis of the DE-BIAS Vocabulary

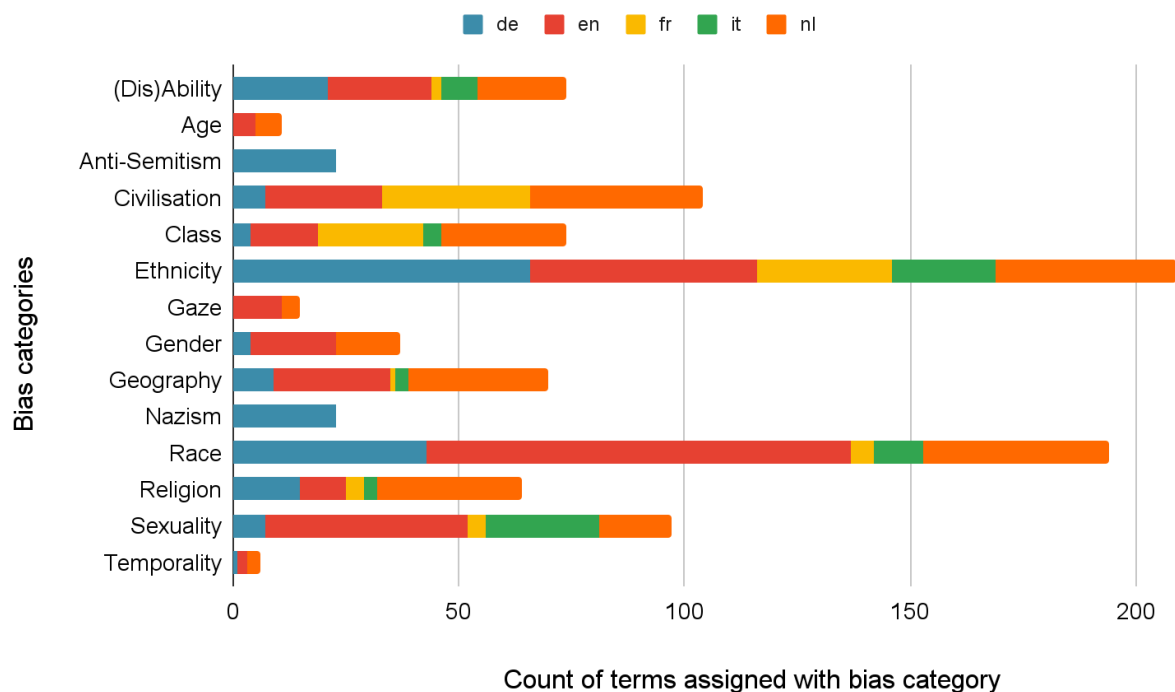
The following two charts present a statistical analysis of the second and current versions of the DE-BIAS vocabulary created in WP2. They show how the bias categories identified in D2.1 occur in the different language versions of the DE-BIAS vocabulary (as of August 20, 2024). This vocabulary exists in five languages, with teams from different partner organisations fluent in their respective languages working on them.

It is important to note (for the Graphs in Annex 1 as well as in Annex 2) that the language versions of the vocabulary are not simple translations of each other; rather, they are distinct vocabularies that focus on and include terms relevant to the specific linguistic and cultural contexts of their respective countries. They also reflect the varying main focuses in community engagement, with the Italian partner emphasising Gender and Sexuality, the Belgian and Dutch partners concentrating on Colonialism, and the German partner focusing on Anti-Semitism. While the categories of bias identified in D2.1 "Bias Types and Patterns: A Typology Applied to European Use Cases" are applied by each language team, the application may vary slightly based on individual interpretations of the terms.

Additionally, each vocabulary includes a different number of overall terms, sometimes, but not only, due to the inclusion of male and female versions of certain words. Given this variability, the comparability of detection results is challenging. Nonetheless, the following graphs effectively illustrate how the theory of intersectionality and the categories of bias outlined in D2.1 have been integrated into the current version of the vocabulary.

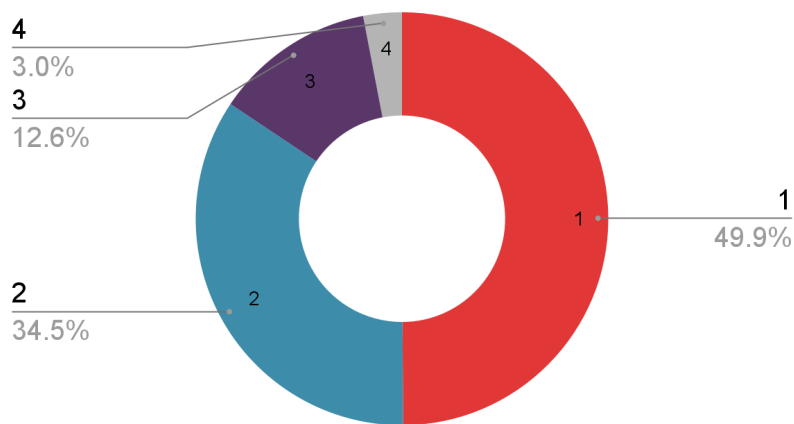
All graphs below were compiled based on the DE-BIAS vocabulary (as of August 20, 2024), which will be publicly released in its final version at the end of the project.

Chart 1: Distribution of bias categories across terms in the DE-BIAS vocabulary



The graph illustrates the distribution of bias categories across all 607 terms in the DE-BIAS vocabulary. Since each term can be assigned one or more categories, the total count exceeds the number of terms. This analysis shows that the thematic approaches used in developing the vocabulary are reflected in the distribution of categories. Notably, the topics "Migration & Colonial Past" and "Ethnicity and Ethno-Religious Identity" account for the significant presence of terms associated with the categories of Ethnicity, Race, Civilization, and Geography. Additionally, the focus on "Gender and Sexual Identity" results in the category of Sexuality being the fourth most frequently attributed. Community efforts addressing antisemitic language within the thematic strand "Ethnicity and Ethno-Religious Identity" resulted in the addition of Anti-Semitism and Nazism to the list of bias categories.

Chart 2: Number of bias categories assigned per contentious term

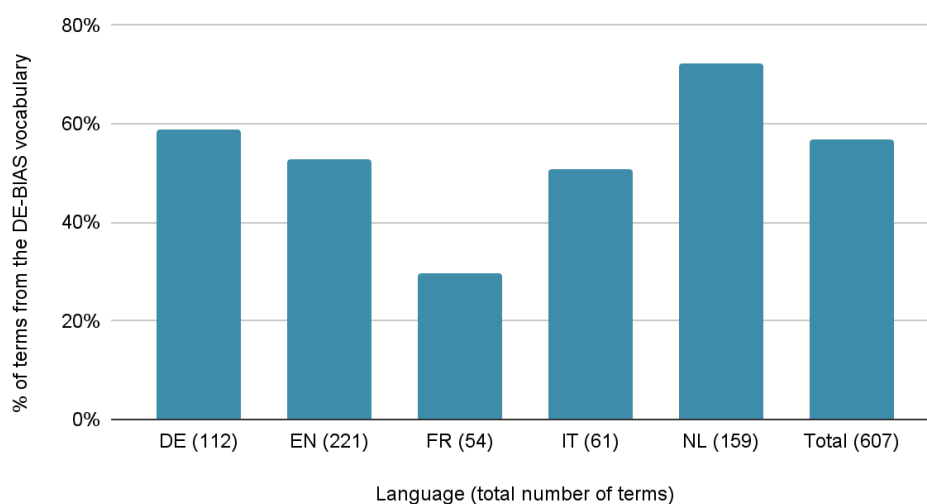


The chart illustrates the number of bias categories linked to individual terms in the vocabulary. It shows that while half of the terms in the DE-BIAS vocabulary are assigned only one category, the remaining 50% are associated with two or more categories. This analysis supports the project's decision to adopt an intersectional approach. Intersectionality refers to the framework that examines how various social identities, such as race, gender, class, and sexuality, interact in the context of discrimination.

Annex 2: Results of processing Europeana records with the DE-BIAS Tool

The following charts are based on the processing of 211 datasets (6.7 million records) available on Europeana with the DE-BIAS tool. In 136 of these datasets biased terms from the DE-BIAS vocabulary were detected. While the validation of these analysis results is currently conducted in task 4.2, initial reviews of the tool results already led to the decision to exclude certain terms for the charts.⁷

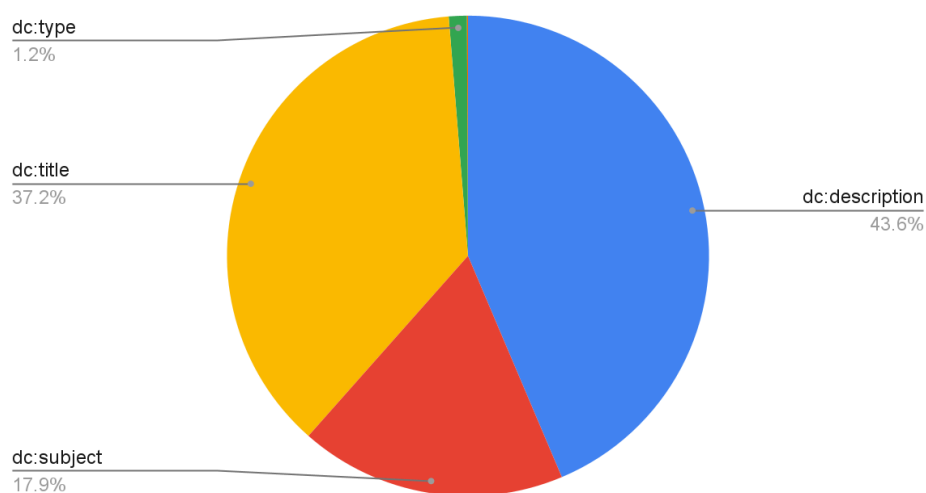
Chart 3: Percentage of detected terms per language



This diagram illustrates the percentage of terms from each language-specific vocabulary detected during the processing of datasets with the DE-BIAS tool. Nearly two-thirds of the 607 terms in the DE-BIAS vocabulary were identified in the records included in the subset. The Dutch vocabulary has the highest coverage rate, with 72% of its terms detected in at least one record. At the time of processing, the French vocabulary contained 54 terms; this number has since increased to 73 in order to enhance detection rates in the upcoming reprocessing of French datasets.

⁷ The following terms have been excluded from the term based detection analysis, because they are deemed to be false positives in the vast majority of detections: `debias:t_113_de` (Zwerg), `debias:t_105_de` (Farbig), `debias:t_64_it` (Giallo), `debias:t_65_it` (Gialla), `debias:t_14_it` (Zingara, not a false positive, but duplicate detection in parallel to “Zingaro”), `debias:t_19_nl` (Blank), `debias:t_23_nl` (Bruin), `debias:t_49_nl` (Gekleurd), `debias:t_157_nl` (Wit), `debias:t_160_nl` (Zwart), `debias:t_83_en` (Exchange), `debias:t_53_en` (Costume).

Chart 4: Distribution of detections across metadata elements

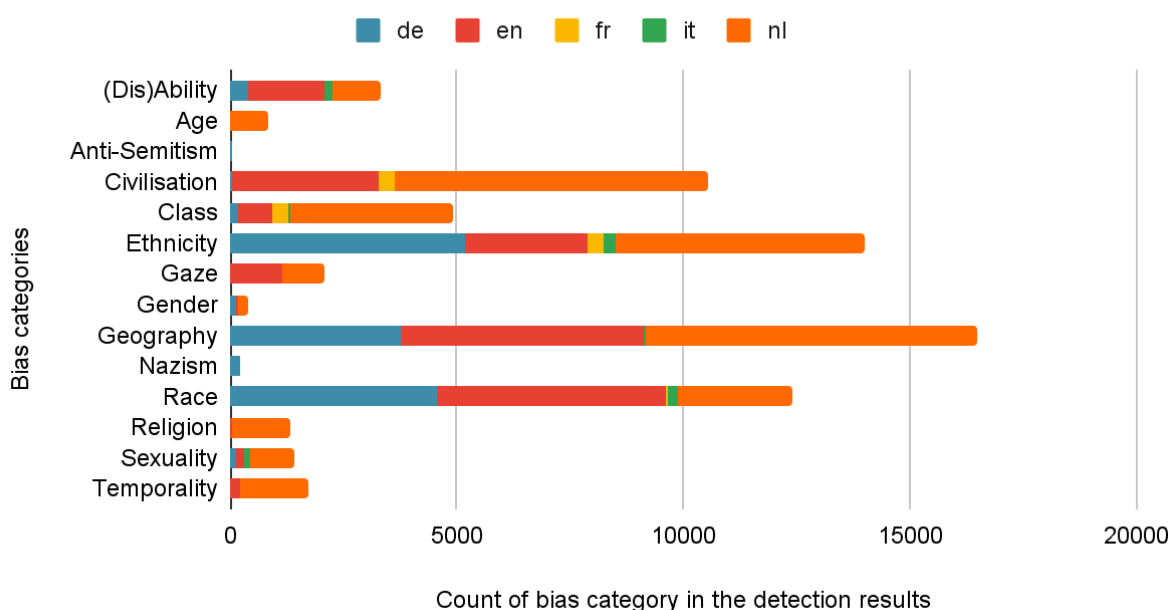


This pie chart illustrates the distribution of biased term detections by the DE-BIAS tool across the examined metadata elements. Since the project focuses on descriptive metadata, only fields expected to contain literal values (including those from controlled vocabularies) were analysed. As anticipated, the majority of biased term detections occur in `dc:title` (the metadata element for titles) and `dc:description` (the element for scope and content descriptions). Notably, the fact that `dc:subject` accounts for 18% of all detections highlights the need to include controlled vocabularies in analyses for biased language.

While using controlled vocabularies for assigning keywords in `dc:subject` is considered best practice, this does not eliminate biased language. However, the data analysis does not distinguish between bias found in controlled terms and uncontrolled values in `dc:subject`. Making this distinction would require additional knowledge about the origins of the content in this element or the inclusion of supplementary data, such as URIs that indicate the use of controlled vocabularies. Further research would be needed to determine whether biased language is more prevalent in controlled or uncontrolled values within this metadata element.

Lastly, this chart indicates that for future deployment of the tool on Europeana metadata, the metadata fields `dc:type` (containing object types) and `dcterms:alternative` (holding alternative titles of an object) can be excluded to save time and processing resources. Bias was found in only 0.1% of detections in `dcterms:alternative`, leading to its exclusion from the pie chart above.

Chart 5: Distribution of bias categories across detected terms



The chart shows a very high occurrence of terms associated with bias in the areas of *Geography*, *Ethnicity*, *Race*, and *Civilisation*. This aligns with the distribution of these categories in the DE-BIAS vocabulary (see [Chart 1](#)) with the exception that terms categorised with *Geography* lead the detection results, despite being only the sixth most common category in the vocabulary. This stems from the high detection counts of terms revolving around appellations like the German “Indianer”⁸, the English “Oriental”⁹, and the Dutch “Lokaal”¹⁰. In the latter two cases, validation is still required to determine whether these terms have been accurately detected or if they are false positives. The low detection rate for the category of Sexuality aligns with insights gained from community workshops focused on bias related to gender and sexuality, as detailed in D2.2 “Community Interactions: Scenarios and Results.” The bias in this category does not manifest through the use of derogatory or problematic language; rather, it reflects the “persistent invisibility and underrepresentation of LGBTQIA+ stories in museum collections” (p. 12f).

Regarding the category of “antisemitism,” the number of detected results is low for several reasons. Firstly, antisemitism and terms associated with Nazi ideology have primarily been addressed by the German partner DFF, and the linguistic and cultural specifics of these terms often was not translatable or applicable in other languages. Moreover, antisemitism often manifests in underlying ideas rather than overt derogatory language within catalogue data. While the Inclusive Terminology Glossary, a key resource used in the DE-BIAS project, lists terms related to antisemitism, such as “control,” “conspiracy,” and “diseases,” (which

⁸ debias:t_38_de (3.132 counts)

⁹ debias:t_168_en (1.825 counts)

¹⁰ debias:t_84_nl (1.037 counts)

are only considered antisemitic in specific contexts) these cannot be incorporated into the DE-BIAS vocabulary due to potential false positives.¹¹

Annex 3: Categories of bias

This overview, initially presented in D2.2, outlines the categories of bias examined in Europeana as part of the DE-BIAS project. It is revisited here in connection with the graphs above.

Age	Axis classification of persons according to a division from child to adolescent, adult, middle age and old age, with adulthood as the norm.
Civilisation	The classification according to a perceived level of education and culture, with European culture as the norm.
Class	Hierarchical determination of individuals according to their position in society and the capital (economic as well as social, symbolic and cultural) or power they possess (Bourdieu, 1985). The most common division, from the position of maximum power to the position of maximum subordination, is that of the ruling classes or elites (nobility, religious and political leaders, the (upper and lower) middle class(es) and the working class). A newer class that has been added is the precariat (people in precarious economic or social conditions).
(Dis)ability	Classifications based on physical and/or mental deviation from a norm of health or ability.
Ethnicity	The identification of groups of people based on geographical location and/or culture (language and customs).
Gaze (positionality)	The specific form of bias related to who or what is the object of the gaze and who is the beholder (Foucault, 1977; Berger, 1990; Mulvey, 1975).
Gender	Classification of people according to the binary opposition of male/female and stereotypical characteristics associated with normative masculinity or femininity, with masculinity being the dominant gender position in patriarchal societies.
Geography	Bias in the representation of geographical locations and centres of power, with both the West and the North seen as dominant, as opposed to the South or the East (Anderson,

¹¹ See Chew Inclusive Terminology Glossary https://itg.nls.uk/wiki/History_of_Antisemitism

	1991). In addition, the distinction between nature and culture (city) can be fraught with bias (Williams, 1973).
Race	A set of physical categories used to define groups of people (with the Caucasian position as the norm in many European collections) and subsequently to associate a people with inferiority or even inhumanity.
Religion	Identification of people as belonging to a religious group, according to a hierarchy in which a particular religion, e.g. Christianity, is seen as dominant and (implicitly) taken as the norm, and other religions are seen as inferior, barbaric or pagan.
Sexuality	Classification of people according to their sexual preferences and practices as related to their identity, with adult heterosexuality as the norm.
Temporality	The representation of historical periods and the distinction between modernity and primitivism.