Representation of Non-Western Cultural Knowledge on Wikipedia: The Case of the Visual Arts

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Abstract

We explore gaps in Wikipedia's coverage of the visual arts by comparing the representation of 100 artists and 100 artworks from the Western canon against corresponding sets of notable artists and artworks from non-Western cultures. We measure the coverage of these two sets of topics across Wikipedia as a whole and for its individual language versions. We also compare the coverage for Wikimedia Commons and Wikidata, sister-projects of Wikipedia that host digital media and structured data. We show that all these platforms strongly favour the Western canon, giving many times more coverage to Western art. We highlight specific examples of differing coverage of visual art inside and outside the Western canon. We find that European language versions of Wikipedia are generally more "Western" in their coverage and Asian languages more "global", with interesting exceptions. We suggest how both Wikipedia and the wider cultural sector can address this gap in content and thus give Wikipedia a truly global perspective on the visual arts.

Keywords: Wikipedia, knowledge equity, Wikimedia, open culture, visual arts, cultural bias

Contents

| Abstract | 1 |
|--|-----------------------------------|
| Contents | 2 |
| Introduction The impact of Wikipedia Cultural Bias The Visual Arts Paper Structure | 4 4 5 6 |
| Methods Definitions and Scope Identifying Western Artists Identifying Non-Western Artists Identifying Western Masterpieces Identifying Non-Western Masterpieces Quantitative comparison | 7 7 8 8 9 10 10 |
| Results Quantitative Analysis Wikipedia articles Digital media files Database statements Differences across language versions Comparative Examples | 12 12 12 12 13 13 |
| Discussion | 18 |
| Conclusions and Recommendations Recommendations for the cultural sector Recommendations for the Wikimedia contributor communities Recommendations for Wikimedia organisations Limitations and Further Research | 20 20 21 22 22 |
| Appendices 100 Western Artists 100 Non-Western Artists 100 Western Masterpieces 100 Non-Western Masterpieces Artist coverage ratios for some Wikipedias | 23 23 26 30 35 41 |

| Examples of major national museums and art galleries outside the (including indigenous art institutions in the West) | Western world 44 |
|--|---------------------|
| Select Bibliography | 47 |
| Acknowledgements | 48 |
| Experts consulted | 48 |
| Competing interests | 48 |
| Author roles | 48 |
| Works cited | 50 |

Introduction

The impact of Wikipedia

Wikipedia is the world's leading website through which people learn about history and culture. It is the number one informational site on the web, and gets many times more use than museum websites. For example, the Metropolitan Museum of Art (the Met)'s images on Wikipedia get roughly 10 million hits per month versus 2 million per month on the Met's online catalogue (Maher and Tallon (2018)). Each day, there are 260 million views on English Wikipedia from about 70 million users. While it is difficult to know what proportion are for "cultural" articles, it is fair to say there is on English Wikipedia the equivalent of at least one Exposition Universelle (nine million attendance) every single day. The English Wikipedia is just one of nearly three hundred language versions, maintained by volunteer communities of differing sizes. The magnitude of this influence brings with it a responsibility of equal measure: to ensure its content is representational of the great diversity of communities and cultures that it engages and informs.

Wikipedia is part of the Wikimedia movement, which includes online platforms, volunteer communities, and charitable organisations, sharing the goals of open knowledge for all. In its current strategy ("Wikimedia Movement 2017 Strategy/ Direction" (2021)), the Wikimedia movement has explicitly committed to the goal of knowledge equity as one of two core principles: "As a social movement, we will focus our efforts on the knowledge and communities that have been left out by structures of power and privilege." This strategy shapes the grant-making activities of the organisations, and the partnerships sought. For example Wikimedia's GLAM-Wiki Initiative works with cultural institutions to share their resources openly ("GLAM" is an umbrella term for the cultural heritage sector, encompassing Galleries, Libraries, Archives, and Museums) ("GLAM-WIKI" (2021). This includes Wikimedian-in-Residence programmes, in which experienced Wikipedian editors are commissioned by a cultural institution to support an open access culture in the host institution ("Wikimedian in residence" (2021)). Although this work is already being done, knowledge equity is such a big task that much more can potentially be done. In this paper we explore how Wikipedia could advance towards knowledge equity in the domain of the visual arts.

Cultural Bias

Various forms of bias on Wikipedia have already been described by research, and a focus of the activity for the Wikimedia organisations is activity to address these biases. Wikipedia's geographic bias and gender bias have their own literatures, so will be outside the scope of the present research. Here we focus specifically on cultural bias. That is, underrepresentation or misrepresentation of aspects of the

cultures of the non-Western world. It has long been observed in the literature that the different language versions of Wikipedia reflect cultural biases of, and celebrate the "local heroes" of, their respective language communities (Callahan and Herring (2011), Kolbitsch and Maurer (2006)). For example, the biographies in European-language Wikipedias do not follow the pattern of world population but greatly emphasise the culture of Western Europe and the United States (Graham, Hale and Stephens (2011)).

Cultural biases existing on Wikipedia can generally be considered a reflection (both a cause and a consequence) of biases existing in the literature and more widely in society. These societal biases have a long and well-documented history, rooted in systems of hegemony and oppression like imperialism. Seminal works such as Edward Said's "Culture and Imperialism" have spotlighted how many of these biases persist in the postcolonial era. Globalization facilitated less of a proportionate cross-cultural exchange and more a spread of the predominant culture (that is, Western). The internet initially promised to make geography irrelevant, but algorithms have created new kinds of inequality in the amount of data about physical locations and its availability to different language communities (Graham and Zook (2013)).

Recent activism, such as Black Lives Matter and the debate over the holdings of European museums, has underlined the urgency of unearthing overlooked or oppressed histories and cultures. These questions are being raised in the most traditional cultural institutions as well as by online platforms such as Wikipedia.

The Visual Arts

Whereas many forms of bias relating to a specific culture – such as its music, language, literature, performing arts, history, fashion, food, philosophical ideas – clearly exist, this paper pertains specifically to the visual arts. As per the scope of this paper, the culture under examination is the entire 'non-Western' world (a concept defined later).

A pro-Western cultural bias relating to the visual arts can be demonstrated with a superficial survey of visual-art-related lists on English Wikipedia, the largest language version. For example its "list of sculptors" is 99% Western, "list of painters by nationality" is around 75% European and its "list of contemporary visual artists" is 80% European. Moreover, many countries (even those with especially rich artistic traditions such as Libya and Mali) do not even have dedicated articles about their art in the same way as there exist exhaustive articles such as "Art of France" or "Art of Greece". This national bias is further evidenced by the "list of national museums" where non-Western national museums (even those among the most visited in the world e.g. Brazil) have relatively short, insufficient articles, often without collections galleries (something that is almost a given for most major Western museums). It is

also indicated by the fact that despite there being many museums in the non-West dedicated to a single artist, the articles covering the "list of single artist museums" and "museums devoted to one artist" are 90% Western.

One could imagine a situation where Persian Wikipedia had a similar emphasis on Middle Eastern art and so on: in other words, where these imbalances in coverage were all due to the "local hero" effect. Instead, we think a larger bias is at play. Our hypothesis is that Wikipedia (taking all its language versions as a whole) has significant and systemic imbalances in the representation of non-Western visual arts, and that these can be identified and addressed. As such, the main objectives of this research are: to identify those areas in Wikipedia's coverage of the (visual) arts where there are significant imbalances according to culture, language and geography; to ascertain the scale and nature of these imbalances; to describe what a more equitable representation of visual arts on Wikipedia would look like; and finally to suggest strategic and practical ways towards that greater balance, building on the work already being done by the Wikipedia communities and organisations.

Paper Structure

To test the hypothesis concerning the representation of non-Western cultural content on Wikipedia, this paper will take both a quantitative and qualitative approach. A research methodology based on making comparisons of the coverage of Western artists and artworks vis-à-vis their non-Western counterparts will be employed.

- Identifying 100 leading Western artists, assessing the extent and quality of their coverage in English and other languages
- Identifying 100 leading non-Western artists of comparable calibre/stature assessing the extent and quality of their coverage in English and other languages
- Making a comparison and drawing out several case studies as examples
- Identifying 100 leading Western masterpieces assessing the extent and quality of their coverage in English and other languages
- Identifying 100 leading non-Western masterpieces of comparable calibre/stature - assessing the extent and quality of their coverage in English and other languages
- Assessing the variation of imbalance according to the platform (Commons versus Wikipedia versions versus Wikidata)

Methods

Definitions and Scope

What exactly are we classifying as 'visual art'? In theory, visual art can refer to a range of artistic expressions including conceptual art, installation art and contemporary art, but this paper will focus on the traditional art forms that have been practiced over the centuries and across the world and have often been referred to as 'fine art'. Yet what is considered 'fine art' too differs according to different cultures – the hierarchy in the West has placed epic easel painting at the highest, whereas in the Islamic world calligraphy is among the highest, as are textiles and miniatures in Persia, calligraphic landscapes in China, and in Japan there is a special reverence for decorative and applied arts.

This study balances the need to be respectful to each of these hierarchies, whilst also standardising to some degree to allow for reasonable comparison. After careful consideration of these cultural sensitivities, it was decided that the paper largely focus on painting and sculpture but also include other media such as illuminated manuscripts, textiles and calligraphy. It does not include architectural features, although it must be noted that much artistry and craftsmanship – for example, the stained glass windows of European Cathedrals or the geometric tilework and calligraphic inscriptions in Samarkand, Bukhara and Alhambra – was recruited to towards the aims of aesthetic creativity. The study does not include architecture, ancient artifacts, manuscripts (unless with calligraphy and illumination of considerable merit), jewelry, furniture or fashion.

Many of the artists involved in these projects – particularly outside the West – remain anonymous.

The 'West' is a problematic term and concept, as it promotes the notion of a bipolar, dichotomic world. What is classified as non-Western culture is all culture originating and prevailing outside of Europe, Scandinavia, Russia and Eastern Europe and North America and Australasia, except for those cultures (now in the minority) indigenous to those lands such as aboriginal and Inuit. This is an extremely large group.

Is it fair to put Europe with a population of one sixth of the world against the rest? It would in theory be more apt to compare Europe with another continent such as Latin America or Africa. This should be an absurd exercise, but in fact the results show it is absurd for exactly the opposite reasons.

The time scope of art in this study is roughly 1000 years. There are many reasons for this. Firstly, this covers the emergence of the conventional East-West dichotomy,

and therefore the "West and the rest" narrative that continues to this day. Secondly, this period comprises major cultural civilisations from across the world and therefore various artistic golden ages, which celebrated, commissioned, recorded and preserved the works of leading artists. Thirdly, this covers the era of the great European empires, which collectively governed the majority of the non-European world – important, as (especially) the last 500 years of European colonialism suppressed or looted many indigenous works from the colonies, the legacy of which is much of the knowledge imbalance that this paper seeks to highlight. Fourthly, before this period artworks were often considered artifacts (or sometimes in the Western case antiquities) rather than masterpieces produced by an individual artist, or even a guild or atelier. A typical demonstration of this might be the exhibition of the piece in a historical museum rather than a dedicated fine art gallery.

Identifying Western Artists

English Wikipedia has a system of "Vital Article" lists which define topics which are judged to have different levels of encyclopedic importance ("Wikipedia:Vital articles" (2020)). Level 1 contains ten articles (including "The arts"), Level 2 contains one hundred articles (including "Visual arts"), and so on. These lists are compiled irrespective of the quality of the existing articles. It is fair to the Wikipedia community to use a standard they have set themselves, so we took the Vital Article lists as a starting point.

The 10,000 topics at Vital Article Level 4, as of November 2020, included 78 Western artists; our shortlist began with these. The additional 22 artists were selected after consultation with the wide range of lists available in media articles and published books. "Top 100 artists" lists are common with regards to Western artists. In our choices we aimed to diversify a list dominated by painters from a few European countries, introducing women, decorative artists and Scandinavian artists.

Identifying Non-Western Artists

The same methodology for establishing the set of leading non-Western artists was simply impossible. For instance, only three leading non-Western artists have vital articles (Hokusai, Riviera and Kahlo). No single definitive list exists as a counterpart to the abundance of sources defining the Western canon. Therefore a mixed methodology was developed towards making a list of 100 artists that could credibly serve as a counterpart to our Western list.

One of the starting points was to consult the lists already available on Wikipedia. The 'list of African artists' and 'list of Chinese artists', for example, provided a sound basis for further investigation, as it is these lists – however inadequate – that we intend to amend and enrich as a result of the research. This initial compilation of non-Western artists was then cross-referenced against those listed through Google

search's respective lists such as 'African artists' or 'Chinese artists'. As Wikipedia and Google lists of this sort are usually considered indicators of popularity, those appearing on both lists were shortlisted for further investigation.

Separately, a digital media search was conducted and a number of magazine articles for example 'Top African artists' or 'The Greatest Japanese sculptors' and other such rankings were consulted. Where names appeared frequently in different articles, those were shortlisted and again cross-referenced with existing lists. A high-level (though limited) literature review of books and articles was conducted to list the canon in each major region according to academic experts. These were again cross-referenced against existing lists with a view to shortlisting those artists that were both popular as well as critically acclaimed.

Another measure or 'marker' for artists deserving a place on this shortlist was whether they had attained official recognition through national and international awards, as well as receiving the highest national honours for their contribution to visual arts, as well as those considered 'national artists' or those appointed 'imperial court artists'. Some of these names overlapped with existing research whereas others required further validation. Much of this validation came from interviews with experts in the respective fields of art. These experts are listed in the Acknowledgements.

Finally we cut down the lists of Western and non-Western artists to make lists that were similar in terms of time period coverage and were diverse in multiple respects. It is important to note here that the resultant list (in the Appendix) is a representative and indicative sample, sufficient for this particular study to test the hypothesis and provide indicative results. It is not exhaustive and certainly not aimed at establishing a definitive 'top 100'. The latter would be outside the scope of this paper, and require extensive research and consultation, warranting a paper in its own right.

The English Wikipedia defines a topic as notable when it has significant coverage in at least three reliable sources. Language versions of Wikipedia differ somewhat in their notability standards. All the artists identified through the various forms of research can be considered notable, and therefore deserving of Wikipedia articles. For the purposes of this study, where the objective was to have a representative sample list of counterpart artists to those in Western culture, shortlisting through this process of verification suffices. Some names who created more than one masterpiece were also included.

Identifying Western Masterpieces

As with the Western artists, we used English Wikipedia's lists of Vital Articles as a starting point for our target list of masterpieces. Getting the relevant articles from Vital Articles Level 5 and filtering out some that were ancient or too recent gave us

170 works. Wikidata allowed us to identify that 78 of these works had articles in Encyclopedia Britannica, which was an additional cue to notability. The longlist included many cases of multiple works by the same artist, so we cut this list down to 100 while preserving diversity by removing works by artists who were already included.

Identifying Non-Western Masterpieces

The process of shortlisting a representative set for leading non-Western masterpieces was different from all of the above, though there are some similarities with the process of researching non-Western artists.

This list was the most challenging to compile - firstly, this is because no such list currently exists, and secondly because substantial research into non-Western masterpieces would simply unveil too many options to shortlist from. Though Wikipedia and Google search unearthed some notable examples of non-Western masterpieces, this method was not as helpful as it was for researching non-Western artists.

So we began by including the most celebrated works listed as 'national treasures' by various non-Western countries, namely those that subscribed to our remit of visual art. In addition, highlights from National Museum and Galleries collections across Asia, Africa and Latin America were also long-listed as were those identified from a media review as artworks of symbolic significance or representing an important cultural movement. We added to this a select number of works from the non-West that broke sales records at major auction houses, as well as names appearing repeatedly through our literature review. The list was finalised after cross-referencing with scholarly experts and shortlisted to 100 based on the expert discretion of the authors of this paper.

Quantitative comparison

The finalised lists of Western and non-Western artists and masterpieces defined four content areas whose coverage we could explore both quantitatively and qualitatively. The Wikimedia family of sites allow users to build, remix and share open content about visual art in different modalities. We measured how three different platforms represent the topics on our Western and non-Western target lists.

On Wikipedia, there are narrative articles. On Wikimedia Commons, there are freely-licensed images and other digital media with associated metadata. The images are used to illustrate Wikipedia articles and other educational materials, and constitute an educational and research resource in their own right. On Wikidata, there are machine-readable statements (such as that Auguste Rodin was born in Paris) with attached citations. These statements can be extracted by custom queries

and visualisations and are used in applications inside and outside Wikimedia. These include the "infoboxes" that give basic facts about a topic in a Wikipedia article or Commons category index. There are other Wikimedia platforms, but just these three – the most relevant to visual arts – are considered in this paper. Wikipedia exists in hundreds of different language versions, while Wikidata and Commons are each single, multilingual sites.

A Wikipedia article can be anything from a single line of text to a 20,000 word essay. A minimal Wikidata representation of an artist consists of a name, a one-line description, basic statements (e.g. this is a human being, of male gender, whose occupation is sculptor), and perhaps an authority file identifier. A more fully developed Wikidata representation will include dozens of biographical details including family relations, places of education and work, and identifiers in potentially hundreds of external sites and databases. So when measuring the representation of the topic, it is important to account for the size of the article or data item, not just its presence or absence.

The Wikimedia sites have APIs (Application Programming Interfaces) which allow external code to request specific information such as the length of an article ("API:Main page" (2021)). In the case of Wikidata, these can include sophisticated database queries. We wrote code that, via the APIs of Wikidata, Commons and the many different language versions of Wikipedia, extracted the quantitative information needed for our target lists.

Results

Quantitative Analysis

Wikipedia articles

Wikidata queries provide all the Wikipedia articles about a given topic - in this case, articles about the artists and artworks in our lists. Our code then requested the byte length of each article from the relevant language version of Wikipedia. Byte-length is a fairer measure of the content of an article than character count. For example, characters in English take one byte each, in Hebrew two bytes each and in Chinese three or four bytes each.

It was discovered that there were five times as many articles about our Western artists (total 7,808) as non-Western (1,621) and sixteen times as many for Western masterpieces (2,570) as for non-Western (165). The most-represented artist, Leonardo da Vinci, has articles in 222 language versions of Wikipedia. Taking article size into account, there is a little over seven times as much Wikipedia coverage of the Western artists (107 million bytes) as non-Western (15 million) and eighteen times as much of the Western masterpieces (25 million) as non-Western (1.4 million).

[figure 1 goes here] [figure 2 goes here]

Digital media files

Files on Wikimedia Commons can be tagged with an artist's name for many reasons. They may be a depiction of that artist, a photograph of an art work, or a document relating to them. The connection can be more tenuous: photographs of places where the artist lived, or of places named after them. A Wikidata query provided us with the categories relating to our chosen artists. Categories can contain sub-categories, and so on iteratively, so to get total numbers of files we used the Commons API and, for a few especially large categories, the PetScan tool created by Magnus Manske (https://petscan.wmflabs.org/). There might be files related to a topic that exist on Commons but are not categorised appropriately, or where the category link exists but is not known to Wikidata, so our measure might underestimate the coverage of obscure topics, although we mitigated this by searching directly on Commons and adding a few links that were missing in Wikidata.

We found twenty-one times as many files for Western artists (total 185,509) as for non-Western (8,980 files). All of the Western artists had a category on Commons, compared to 84 of the non-Western.

[figure 3 goes here]

Database statements

On Wikidata, all of our Western artists and masterpieces were already represented. Of the 100 non-Western artists, 99 already existed in Wikidata, along with 34 of the 100 non-Western masterpieces. Wikidata's query service allowed us to count the statements for each. We found just under four times as many statements about Western artists as non-Western artists, and nine times as many statements about Western as non-Western masterpieces.

[figure 4 goes here] [figure 5 goes here]

Differences across language versions

The language versions of Wikipedia have contributor communities that vary greatly in their size and where they are located. Thus they vary in the amount of text they have produced, and about what topics. For each pair of an artist and a language version of Wikipedia, our data have a byte count expressing the size of the artists' article in that language. By summing across each language, we can compare our matched lists, measuring the degree to which different Wikipedias prioritise the Western canon in the field of visual arts. Since we are comparing the coverage given to matched lists, our measure is not directly affected by the size of the Wikipedia itself.

Our measure is each Wikipedia's coverage of our Western artists, divided by its coverage of the non-Western artists. Thus, higher numbers mean a more Western focus and lower mean more global. The table below shows this ratio for 86 of the larger Wikipedias. Six of them give more coverage to our non-Western than to Western artists.

As expected, European languages tend to have higher ratios while Asian languages are lower. There are anomalies; Thai is the most Western in its coverage of visual arts, and English and Scots are among the most global. The ratio across all Wikipedias is, as we have seen above, just over 7. So Japanese Wikipedia, with a ratio more than 8, is more focused on the Western canon than the Wikipedias as a whole.

| Language | Language code | | Non-Western artists (bytes) | |
|----------|---------------|---------|--------------------------------|-------|
| Thai | th | 1577064 | 37777 | 41.75 |
| Galician | gl | 1560347 | 106539 | 14.65 |

| Italian | it | 3846109 | 279501 | 13.76 |
|-------------------|-----------|---------|---------|-------|
| Serbian | sr | 1877184 | 147803 | 12.70 |
| Polish | pl | 1856378 | 157538 | 11.78 |
| Simple English | en-simple | 478046 | 43888 | 10.89 |
| Hungarian | hu | 1553127 | 152783 | 10.17 |
| Hebrew | he | 1243742 | 137012 | 9.08 |
| Turkish | tr | 1130276 | 133821 | 8.45 |
| Portuguese | pt | 1822828 | 216634 | 8.41 |
| Japanese | ja | 2893884 | 344564 | 8.40 |
| Czech | cs | 1685339 | 204217 | 8.25 |
| German | de | 4513825 | 555219 | 8.13 |
| Spanish | es | 4202760 | 517974 | 8.11 |
| Dutch | nl | 1636039 | 228762 | 7.15 |
| French | fr | 6235180 | 876287 | 7.12 |
| Malayalam | ml | 1374045 | 205898 | 6.67 |
| Catalan | ca | 2254534 | 341903 | 6.59 |
| Welsh | су | 391141 | 68955 | 5.67 |
| Russian | ru | 5330034 | 958510 | 5.56 |
| Vietnamese | vi | 1042035 | 194942 | 5.35 |
| Chinese | zh | 1274771 | 242399 | 5.26 |
| Arabic | ar | 1401071 | 267791 | 5.23 |
| Ukrainian | uk | 2797317 | 614581 | 4.55 |
| Armenian | hy | 2239028 | 530142 | 4.22 |
| Persian | fa | 1634226 | 392738 | 4.16 |
| English | en | 5927835 | 1494254 | 3.97 |
| Indonesian | id | 565859 | 171585 | 3.30 |
| Hindi | hi | 337095 | 121612 | 2.77 |
| Punjabi | ра | 340529 | 177997 | 1.91 |
| Bengali | bn | 598682 | 343743 | 1.74 |
| Gujarati language | gu | 221480 | 165210 | 1.34 |
| Urdu | ur | 65583 | 110819 | 0.59 |

The full version of this table is given in an appendix.

Comparative Examples

Having explored the size of the content gap, we now illustrate it with specific examples of artists, artworks and art movements.

The Sistine Chapel in the Vatican and the Sultan Ahmed Mosque (Blue Mosque) in Istanbul are two of the world's most visited places of worship – each having approximately 5 million visitors a year, making them comparable in terms of places of considerable interest to devotees and to tourists. Importantly, interest in them is not only because they are places of religious and historical significance, but also because the interiors of these places are considered to be of works of tremendous artistic merit. This is particularly the case with their ceilings. The ceiling of the Sistine Chapel was painted by the master Michelangelo in the early sixteenth century and is itself considered an iconic masterpiece in the history of Western art. It is composed of various Biblical stories painted in traditional Renaissance figurative style. The ceiling of the Blue Mosque was likewise painted by a master; though in this case the master calligrapher, Syed Kasim Gubari. Like Michelangelo, Gubari is considered one of the great masters in the history of his region/culture's art (in this case Ottoman/Islamic).

Whereas Michaelangelo is extensively represented on Wikipedia (3,902,976 bytes in 198 language versions), Gubari has minimal representation (short articles in four languages, totalling 8,772 bytes). Moreover, "Sistine Chapel ceiling" has an extensive Wikipedia article whereas "Blue Mosque ceiling" does not have an article or even a Wikidata entry.

| | Sistine Chapel ceiling | Blue Mosque ceiling |
|----------------------|-------------------------------|---|
| Wikipedia | 936,019 bytes in 25 languages | n/a |
| Wikimedia Commons | 597 files | 253 files (Category: Interior of Sultan Ahmed I Mosque) |
| Wikidata | 52 statements | n/a |

Su Shi, the 11th century Chinese artist whose painting broke the record for highest selling Asian artwork, was a polymath, also celebrated as a poet, engineer, litterateur, scientist and political figure. He is covered in 35 language versions of Wikipedia, whereas the Western polymath and comparably versatile artist Leonardo da Vinci is one of the most covered artists on Wikipedia, with articles in 222 languages totalling nearly five million bytes.

| | Leonardo da Vinci | Su Shi |
|----------------------|----------------------------------|-------------------------------|
| Wikipedia | 4,823,238 bytes in 222 languages | 328,858 bytes in 35 languages |
| Wikimedia Commons | 23,164 files | 267 files |
| Wikidata | 376 statements | 120 statements |

Likewise, comparably celebrated royal court portrait painters such as Hans Holbein (15th century England) and Mihr Ali (18th century Persia) have remarkably different Wikipedia coverage levels.

| | Hans Holbein | Mihr 'Ali |
|----------------------|-------------------------------|-----------------------------|
| Wikipedia | 854,397 bytes in 63 languages | 40,854 bytes in 6 languages |
| Wikimedia Commons | 2,232 files | 21 files |
| Wikidata | 205 statements | 21 statements |

Beyond artists and artworks, another way of seeing the disproportionality in representation of the visual arts is by analyzing Western artistic movements vis-à-vis counterparts outside the West. For example the Pre-Raphaelite Brotherhood in 19th century England was a major movement which sought a return to traditional forms of Western art and comprised a number of notable artists, critics and patrons (such as Millais, Burne-Jones, Gabriel-Rossetti, Ruskin, Morris). It is extensively covered on Wikipedia, Commons and Wikidata. The Bengal School of Art likewise rejected modernism and sought a reversion to traditional forms and also included major artists, critics and patrons such as Bose, Tagore, and Kastghir. Its coverage on Wikipedia is minimal in comparison to that of the Pre-Raphaelite Brotherhood.

| | Pre-Raphaelite Brotherhood | Bengal School |
|----------------------|-------------------------------|---|
| Wikipedia | 876,061 bytes in 54 languages | 31,148 bytes in 3 languages (English, French, Bengali) |
| Wikimedia Commons | 10,233 files | 121 files |

Another suitable comparison might be the European post-impressionists and the Japanese Nihonga movement.

| | Post-Impressionism | Nihonga |
|----------------------|-------------------------------|-------------------------------|
| Wikipedia | 407,327 bytes in 65 languages | 136,979 bytes in 16 languages |
| Wikimedia Commons | 31,041 files | 2,322 files |
| Wikidata | 42 statements | 13 statements |

Discussion

We have replicated the common finding of a "local hero" effect, with European artists given higher priority in European-language Wikipedias, but that is not the most salient result. Looking at Wikipedia as a whole, and at the multilingual sites Wikidata and Wikimedia Commons, we found large differences in their relative coverage of our Western and non-Western artists: ratios of 7, 4 and 21 respectively. We showed earlier that an examination of English Wikipedia shows a strong emphasis on Western rather than non-Western art; it turns out that English is one of the least biased major Wikipedias in this respect.

By our quantitative measure, Wikidata has much less Western bias than Wikipedia collectively, and Wikimedia Commons has much more. The differences in ratio for different platforms can be understood in terms of how each platform sets floors or ceilings on the size of representations. Wikimedia Commons has no upper limit on the number of digital files that can be tagged with a given topic. While there is no technical upper limit on the statements about a topic in Wikidata, there are only a certain number of properties that can be represented in that database. Wikipedia's style guides put upper limits on the length of articles — usually that they should not exceed 100,000 bytes — although these can vary between languages and are not rigidly enforced.

That English Wikipedia is relatively balanced compared to other language versions (but still giving a small fraction of coverage to the non-Western artists) might be due to the great deal of scholarship being published in English and research done in English-language institutions. It might reflect the activity of Wikimedia chapters and groups that have built partnerships with cultural organisations. It could conceivably be a ceiling effect from it being the largest Wikipedia. If the Western canon is already as extensively documented as it can be, an English Wikipedia contributor wanting to create a new article about an artist is more likely to look to non-Western topics.

The Wikipedia versions with the largest coverage of non-Western artists are English, Russian and French. This suggests one interim way to address the imbalance and make other language Wikipedias more global may be to translate articles from these European languages to other languages. This would help improve the pro-European emphasis of Wikipedia as a whole, although it would mean that the articles are drawn primarily from sources in European languages. This would be a step in the right direction, but not a solution to the problem of knowledge inequity due to systems of power and privilege, for which we suggest bolder action later on.

We did a follow-up analysis focusing on coverage of the Arabic and Persian artists and masterpieces. Summing the coverage of these topics, excluding those languages whose total coverage is less than 100,000 bytes, gives us the following table:

| Lang code | Language | Total article size (bytes) |
|-----------|----------|----------------------------|
| fa | Persian | 332,648 |
| en | English | 326,158 |
| су | Welsh | 234,738 |
| ru | Russian | 229,462 |
| ar | Arabic | 169,081 |
| fr | French | 155,712 |
| de | German | 128,296 |
| es | Spanish | 127,264 |

This underlines that, although Russian (the seventh largest Wikipedia) gives a small proportion of its coverage to our non-Western art when compared to Western (a ratio of 5.6), its sheer size means that it has more content about Arabic and Persian visual arts than Arabic Wikipedia does. Hence it would help Wikipedia become more global, by our blunt quantitative criterion, if there were translations of articles from Russian or English to Arabic.

Welsh Wikipedia has deployed a sophisticated process for bulk-creating articles from textual templates and facts from Wikidata, which accounts for its extensive coverage despite having a relatively small community of volunteer contributors. While articles created this way lack the narrative nuance of a human-written article, they give basic facts about a topic and have automatically-generated citations. This demonstrates another way Wikipedias can build their coverage of an under-represented topic.

Conclusions and Recommendations

Recommendations for the cultural sector

The representation of a topic on the Wikimedia sites depends on multiple factors. Suitable sources need to be available; suitably-licensed images need to be uploaded, or put where Wikimedia volunteers can easily access them; and the writing, reviewing, and improvement of a Wikipedia article take effort. Organisations such as museums, galleries, and publishers can thus help extend the representation of non-Western art in various ways.

- Paywalled publications are a significant barrier for most Wikipedia contributors, so it is helpful if existing research can be put on open access.
- One way to kick-start Wikipedia articles is by repurposing existing text publications. These need to match Wikipedia's purpose, by summarising mainstream scholarship on a topic rather than reporting new research or synthesis, and they need to be freely licensed. Such articles can be pasted into Wikipedia and given an attribution template which credits and links the original source ("Help:Adding open license text to Wikipedia" (2021)).
- Wikipedia is a summary of reliable sources, and increasing the range of sources about non-Western art would serve the knowledge equity goal of "sharing knowledge [...] left out by structures of power and privilege". The implicit knowledge of experts was crucial to our research, and more of this implicit knowledge could be made explicit by being published.
- Image collections, whether out of copyright or freely licensed, can be shared by direct upload to Wikimedia Commons or at least placed openly online where Wikimedia volunteers can access them. There are tools and processes for doing this in bulk and for making sure the files have suitable metadata ("Commons:Guide to content partnerships" (2021)).
- By employing a Wikimedian In Residence, an institution makes the best use
 of Wikimedia platforms to ensure the visibility of its collections. An
 experienced Wikimedia contributor will be able to make images findable,
 engage a wider community and report on metrics of success. Wikimedia's
 local chapters can help institutions recruit suitable Wikimedians ("Wikimedian
 in residence" (2021)).
- Cultural institutions can also provide identifiers and basic biographical information for artists and works, which can be linked from Wikidata and used to establish notability.
- The Wikipedia Library (Orlowitz (2018)) is an initiative in which publishers of paywalled scholarship can give temporary access to selected Wikipedia

contributors, helping them create and improve articles with citations to those scholarly sources. Publishers of relevant material can consider joining this if open access is not an option. Oxford Art Online, published by the Oxford University Press, is a relevant source available through this method, which more publishers could adopt.

The OpenGLAM Principles (OpenGLAM Working Group (2011) set out how a
cultural institution can use its intellectual property policy and technical
infrastructure to promote the widest engagement with its collections. The
principles, currently being revised, capture actions that would be helpful to the
Wikimedia platforms as well as the wider community.

Recommendations for the Wikimedia contributor communities

Wikipedia and Wikimedia volunteer contributors can take action straight away to reduce the content gaps described in this paper.

- An outstanding example of work to reduce a content gap on Wikipedia is the Women In Red project ("Wikipedia:WikiProject Women in Red" (2021)). This addresses the gender content gap by using Wikidata and other sources to build "redlists": lists of notable women who do not yet have a Wikipedia article and whose links are therefore red. Volunteers can choose an article to create, turning the link from red to blue. We propose that there should be similar projects for the gaps in representation of the visual arts. The Wikidata identifiers and other information in our appendices can be used to make redlists.
- The community should consider adding artists and masterpieces from our non-Western lists to the Vital Article lists on English Wikipedia, and any counterparts on other language versions.
- Since 2015 Wikipedia has had a Content Translation tool which prepares a
 machine-translated version of an article which a human user can correct and
 publish (Dolmaya (2017)). We have seen that English, French and Russian
 Wikipedias have a relatively large volume of coverage of non-Western art, so
 translation of those articles into more languages would improve the balance.
- A crucial supply of Commons images comes from photographs of out-of-copyright works that museum visitors have taken and then uploaded.
 For museums that do not have a formal programme of digitisation, this informal digitisation is an option for creating digital content. It requires the institution to allow, even encourage, visitors to take photographs as part of their engagement during the visit.

Recommendations for Wikimedia organisations

Addressing knowledge gaps is already a main focus of the activity of the Wikimedia organisations (the San Francisco-based Wikimedia Foundation and the national and thematic Wikimedia Chapters). This takes the form of supporting or enabling community activities described in the previous section; funding dedicated research, software, or outreach; or building partnerships with other organisations ("Wikimedia Movement Strategy Recommendations" (2021)).

The list of existing cultural partnerships shows that Wikimedia has been successful in Europe and North American in building cultural partnerships with major institutions such as the Metropolitan Museum of Art and the British Library. There are many national institutions in the rest of the world that have not had any kind of partnership ("GLAM/Repository" (2021)). When looking on Commons for partnerships that had shared Islamic calligraphy, we found the Met, the Cleveland Museum of Art, the Library of Congress, Los Angeles County Museum of Art, and the National Library of Israel. So the material Wikimedians are working with to document Islamic art is coming mostly from the United States and not from institutions in the Islamic world. To address the gap described in this paper, the Wikimedia organisations should seek partnerships with national as well as grassroots cultural institutions across Asia, Africa, and Latin America as well as indigenous communities across North America and Oceania. We provide a list of relevant institutions in an Appendix.

Limitations and Further Research

Further subdivisions of the categories of Western and non-Western art and artists offer additional research questions that could be investigated. For example, examining gender parity in the history of Western art vis-à-vis the history of non-Western art in Wikipedia was outside the scope of this study, but clearly emerged as an important and necessary area of further research. Also related specifically to representation on Wikipedia, investigating the extent to which disproportionality in such content related to racial, ethnic, geographical, cultural, religious disproportionality in editors and readers would also be important.

Perhaps more indirectly related to representation on Wikimedia, investigating people's general knowledge of non-Western art history and exposing the bias or ignorance even among those considered to be 'cultured' or reasonably knowledgeable about art history (such as students and scholars) would be helpful in explaining how this is reflected on Wikipedia.

Appendices

100 Western Artists

| Century | Artist | Nationality | Vital level |
|---------|-----------------------------|----------------------|-------------|
| 13 | Giotto | Italy | 4 |
| 14 | Donatello | Republic of Florence | 4 |
| 14 | Jan van Eyck | Southern Netherlands | 4 |
| 15 | Masaccio | Italy | 4 |
| 15 | Filippo Lippi | Republic of Florence | 5 |
| 15 | Giovanni Bellini | Republic of Venice | 5 |
| 15 | Sandro Botticelli | Italy | 4 |
| 15 | Hieronymus Bosch | Southern Netherlands | 4 |
| 15 | Leonardo da Vinci | Republic of Florence | 3 |
| 15 | Albrecht Dürer | Duchy of Bavaria | 4 |
| 15 | Michelangelo | Republic of Florence | 3 |
| 15 | Raphael | Italy | 4 |
| 15 | Titian | Republic of Venice | 4 |
| 15 | Hans Holbein the Younger | Germany | 4 |
| 16 | Pieter Bruegel the Elder | Duchy of Brabant | 4 |
| 16 | El Greco | Spain | 4 |
| 16 | Caravaggio | Duchy of Milan | 4 |
| 16 | Peter Paul Rubens | Spanish Netherlands | 4 |
| 16 | Artemisia Gentileschi | Italy | 4 |
| 16 | Nicolas Poussin | France | 4 |
| 16 | Francisco de Zurbarán | Spain | 5 |
| 16 | Gian Lorenzo Bernini | Italy | 4 |
| 16 | Anthony Van Dyck | Southern Netherlands | 5 |
| 16 | Diego Velázquez | Spain | 4 |
| 17 | Claude Lorrain | Duchy of Lorraine | 5 |
| 17 | Rembrandt | Dutch Republic | 3 |

| 17 | Johannes Vermeer | Dutch Republic | 4 |
|----|----------------------------------|--|---|
| 17 | Canaletto | Republic of Venice | 5 |
| 17 | William Hogarth | United Kingdom | 4 |
| 18 | Johan Zoffany | Germany | - |
| 18 | Francisco Goya | Spain | 4 |
| 18 | Jacques-Louis David | France | 4 |
| 18 | William Blake | United Kingdom of Great Britain and Ireland | 4 |
| 18 | Caspar David Friedrich | Germany | 4 |
| 18 | J. M. W. Turner | Great Britain | 4 |
| 18 | John Constable | Great Britain | 4 |
| 18 | Jean-Auguste-Dominique Ingres | France | 4 |
| 18 | Eugène Delacroix | France | 4 |
| 19 | Christen Købke | Denmark | - |
| 19 | Gustave Courbet | France | 4 |
| 19 | Camille Pissarro | France | 4 |
| 19 | Édouard Manet | France | 4 |
| 19 | William Morris | United Kingdom of Great Britain and Ireland | 5 |
| 19 | James Abbott McNeill Whistler | United States of America | 4 |
| 19 | Edgar Degas | France | 4 |
| 19 | Paul Cézanne | France | 4 |
| 19 | Auguste Rodin | France | 4 |
| 19 | Claude Monet | France | 3 |
| 19 | Pierre-Auguste Renoir | France | 4 |
| 19 | Henri Rousseau | France | 4 |
| 19 | Ilya Repin | Russian Empire | 4 |
| 19 | Peter Carl Fabergé | Russian Empire | 5 |
| 19 | Paul Gauguin | France | 4 |
| 19 | Vincent van Gogh | Netherlands | 3 |
| 19 | John Singer Sargent | United States of America | 4 |
| 19 | Georges Seurat | France | 4 |

| 19 | Edvard Munch | Norway | 4 |
|----|-------------------------------|--|---|
| 19 | Henri de Toulouse-Lautrec | Second French Empire | 4 |
| 19 | Akseli Gallen-Kallela | Finland | - |
| 19 | Wassily Kandinsky | Russian Empire | 4 |
| 19 | Henri Matisse | France | 4 |
| 19 | Piet Mondrian | Kingdom of the Netherlands | 4 |
| 19 | Aubrey Beardsley | United Kingdom of Great Britain and Ireland | 4 |
| 19 | Nicholas Roerich | Russian Empire | 5 |
| 19 | Constantin Brâncuși | France | 4 |
| 19 | Kazimir Malevich | Russian Empire | 4 |
| 19 | Paul Klee | German Reich | 4 |
| 19 | Franz Marc | German Empire | 4 |
| 19 | Jacob Epstein | United States of America | - |
| 19 | Pablo Picasso | Spain | 3 |
| 19 | Edward Hopper | United States of America | 4 |
| 19 | Marc Chagall | France | 4 |
| 19 | Marcel Duchamp | France | 4 |
| 19 | L. S. Lowry | United Kingdom | - |
| 19 | Georgia O'Keeffe | United States of America | 4 |
| 19 | Jean Cocteau | France | 4 |
| 19 | Max Ernst | Germany | 4 |
| 19 | Joan Miró | Spain | 4 |
| 19 | Norman Rockwell | United States of America | 4 |
| 19 | M. C. Escher | Kingdom of the Netherlands | 4 |
| 19 | Henry Moore | United Kingdom | 4 |
| 19 | René Magritte | Belgium | 4 |
| 19 | Mary Cassatt | United States of America | 5 |
| 19 | Juan Gris | Spain | 5 |
| 19 | Pre-Raphaelite Brotherhood | United Kingdom of Great Britain and Ireland | 4 |

| 20 | Alberto Giacometti | Switzerland | 4 |
|----|----------------------|--------------------------|---|
| 20 | Barbara Hepworth | United Kingdom | 5 |
| 20 | Willem de Kooning | United States of America | 5 |
| 20 | Salvador Dalí | Spain | 4 |
| 20 | Francis Bacon | Ireland | 4 |
| 20 | Jackson Pollock | United States of America | 4 |
| 20 | Joseph Beuys | Germany | 4 |
| 20 | Lucian Freud | United Kingdom | - |
| 20 | Roy Lichtenstein | United States of America | 5 |
| 20 | Andy Warhol | United States of America | 4 |
| 20 | Gerhard Richter | Germany | 4 |
| 20 | David Hockney | England | 5 |
| 20 | Anthony Gormley | United Kingdom | - |
| 20 | Jean-Michel Basquiat | United States of America | 5 |
| 20 | Banksy | United Kingdom | 5 |

100 Non-Western Artists

| Date of | | | |
|------------|----------------------|-------------|-----------------------|
| Birth | Name | Nationality | Medium |
| 1036 | Wang Shen | Chinese | Painting, Calligraphy |
| 1037 | Su Shi | Chinese | Painting, Calligraphy |
| 1050 | Li Tang | Chinese | Painting |
| 1085 | Zhang Zeduan | Chinese | Painting |
| 1142 | Fujiwara no Takanobu | Japanese | Painting |
| 1150 | Unkei | Japanese | Sculpture |
| 1160 | Ma Yuan | Chinese | Painting |
| 1195 | Xia Gui | Chinese | Painting |

| 1200 | Chan Bana | Chinasa | Dainting |
|-----------------|-----------------------|-------------------|-----------------------|
| 1200 | Chen Rong | Chinese | Painting |
| 1242 | Yaqut Al Mustasimi | Turkish/Arab | Islamic calligraphy |
| 1254 | Ren Renfa | Chinese | Painting, Calligraphy |
| 1254 | Zhao Mengfu | Chinese | Painting, Calligraphy |
| 1269 | Huang Gongwang | Chinese | Painting |
| 1280 | Wu Zhen | Chinese | Painting |
| 1301 | Ni Zan | Chinese | Painting |
| 1308 | Wang Meng | Chinese | Painting |
| 1414 | Tenshō Shūbun | Japanese | Painting |
| 1417 | Gang Hui-an | Korean | Painting, Calligraphy |
| 1436 | Sheikh Hamdullah | Turkish (Ottoman) | Islamic calligraphy |
| 1450 | Kamāl ud-Dīn Behzād | Persian | Painting |
| 15th Century | Sultan Muhammad | Persian | Painting |
| 1510 | Mir Sayyid Ali | Persian | Painting |
| 1556 | Basawan | Indian | Painting |
| 1560 | Daswanth | Indian | Painting |
| 1564 | Xue Susu | Chinese | Painting |
| 1565 | Reza Abbasi | Persian | Painting |
| 1570 | Amanat Khan Shirazi | Iranian | Calligraphy |
| 1573 | Wu Bin | Chinese | Painting |
| 1578 | lwasa Matabei | Japanese | Painting |
| 1595 | Govardhan | Indian | Painting |
| 1598 | Chen Hongshou | Chinese | Painting |
| 16th Century | Abd al-Samad | Persian | Painting |
| 1626 | Zhu Da (Bada Shanren) | Chinese | Painting, Calligraphy |
| 1635 | Zanabazar | Mongolian | Painting |
| 17th Century | Seyyid Kasim Gubari | Turkish (Ottoman) | Calligraphy |
| 17th Century | Abdulcelil Levni | Turkish (Ottoman) | Painting |
| 17th century | Bishandas | Indian | Painting |

| 17th century | Bichitr | Indian | Painting |
|-----------------|-----------------------|----------------------------------|--|
| 18th Century | Mihr 'Ali | Persian | Painting |
| 1807 | Shibata Zeshin | Japanese | Painting |
| 1811 | Raden Saleh | Indonesian | Painting |
| 1842 | Osman Hamdi Bey | Turkish (Ottoman) | Painting |
| 1848 | Kamal-Öl-Molk | Iranian | Painting |
| 1848 | Raja Ravi Varma | Indian | Painting |
| 1861 | Rabindranath Tagore | Indian | Painting |
| 1864 | Qi Baishi | Chinese | Painting |
| 1871 | Abanindranath Tagore | Indian | Painting |
| 1874 | Joaquín Torres-García | Uruguayan-Spanish | Painting, Sculpture, Illustration |
| 1882 | Nandalal Bose | Indian | Painting |
| 1883 | José Clemente Orozco | Mexican | Painting, Muralism |
| 1886 | Tarsila do Amaral | Brazilian | Painting |
| 1886 | Diego Rivera | Mexican | Painting |
| 1889 | Anita Malfatti | Brazilian | Painting |
| 1891 | John Dunkley | Jamaican | Painting |
| 1894 | Hossein Behzad | Iranian | Painting |
| 1894 | Irma Stern | South African (German-Jewish) | Painting |
| 1895 | Pan Yuliang | Chinese | Painting |
| 1897 | Abdul Rahman Chughtai | Pakistani | Painting |
| 1897 | Mahmoud Said (Sa'id) | Egyptian | Painting |
| 1899 | Rufino Tamayo | Mexican | Painting, Printmaking, Lithography, Drawing, Etching |
| 1900 | Edna Manley | Jamaican | Sculpture (also known for painting and drawing) |
| 1902 | Wifredo Lam | Cuban | Painting |
| 1902 | Albert Namatjira | Aboriginal Australian | Painting |

| 1904 | Abilkhan Kasteev | Kazakhstani | Painting |
|------|--------------------------|--------------------------------------|---|
| 1907 | Frida Kahlo | Mexican | Painting |
| 1907 | Sudhir Khastgir | Indian | Painting |
| 1910 | Emily Kame Kngwarreye | Aboriginal Australian | Painting |
| 1910 | Tran Van Can | Vietnamese | Painting |
| 1911 | Roberto Matta | Chilean | Painting |
| 1912 | George Pemba | South African | Painting |
| 1913 | Gerard Sokoto | South African | Painting |
| 1913 | Amrita Sher Gil | Hungarian-Indian | Painting |
| 1914 | Allan Houser | Chiricahua Apache | Sculpture, Painting, Drawing, Murals |
| 1914 | Zainul Abedin | Bangladeshi | Painting, Drawing |
| 1914 | Anita Magsaysay-Ho | Filipino | Painting |
| 1915 | M. F. Husain | Indian | Painting |
| 1916 | Pudlo Pudlat | Canadian Inuit | Printmaking, Drawing |
| 1917 | Ben Enwonwu | Nigerian | Painting, Sculpture |
| 1918 | Luis Nishizawa | Japanese-Mexican | Painting, Ceramics |
| 1918 | Hatem El Mekki | Tunisian | Painting |
| 1919 | Rodrigo Arenas Betancort | Colombian | Sculpture |
| 1919 | Daphne Odjig | Odawa-Potawatomi-E nglish (Canadian) | Painting |
| 1919 | Wu Guanzhong | Chinese | Painting |
| 1919 | Tahia Halim | Egyptian | Painting |
| 1919 | Jawad Saleem | Iraqi-Turkish | Painting, Sculpture |
| 1922 | Abdulmejid II | Turkish (Ottoman) | Painting |
| 1922 | Fateh Moudarres | Syrian | Painting, Drawing |
| 1923 | Sadequain | Pakistani | Calligraphy, Painting |
| 1925 | Abd al-Hadi El-Gazzar | Egyptian | Painting |
| 1927 | Kenojuak Ashevak | Inuit | Soapstone carving, Drawing, Etching, Stone-cut, Printmaking |
| 1928 | Mokarrameh Ghanbari | Iranian | Painting |
| 1930 | Ibrahim El-Salahi | Sudanese | Painting |

| 1930 | Napoleon Abueva | Filipino | Sculpture |
|------|------------------------------|-----------------------|--|
| 1932 | Afewerk Tekle | Ethiopian | Painting |
| 1932 | Clifford Possum Tjapaltjarri | Aboriginal Australian | Painting |
| 1932 | Fernando Botero | Colombian | Painting, Sculpture |
| 1933 | Uche Okeke | Nigerian | Drawing |
| 1935 | Papa Ibra Tall | Senegalese | Tapestry weaving, Painting, and illustrating |
| 1936 | Malangatana Ngwenya | Mozambican | Painting |
| 1937 | Skunder Boghossian | Ethiopian-Armenian | Painting |

100 Western Masterpieces

| Date of | T:41 | Decement on in Wilder | Vital |
|----------|--------------------------------------|---|-------|
| creation | Title or common name | Description in Wikidata | level |
| 1070 | Bayeux Tapestry | embroidered tapestry depicting the Norman invasion of England | 4 |
| 1480 | The Birth of Venus | painting by Sandro Botticelli | 4 |
| 1490 | The Garden of Earthly Delights | Medieval triptych by Hieronymus Bosch | 4 |
| 1490 | The Last Supper (Leonardo) | mural painting by Leonardo da Vinci | 4 |
| 1597 | Pietà (Michelangelo) | sculpture by Michelangelo | 4 |
| 1642 | The Night Watch | 1642 painting by Rembrandt | 4 |
| 1789 | Songs of Innocence and of Experience | illuminated book by William Blake | 4 |
| 1863 | Le Déjeuner sur l'herbe | painting by Édouard Manet | 4 |
| 1882 | The Thinker | type of sculpture by Auguste Rodin | 4 |
| 1889 | The Starry Night | painting by Vincent van Gogh | 4 |
| 1895 | The Scream | group of paintings by Edvard Munch | 4 |

| The Persistence of Memory | painting by Salvador Dali | 4 |
|---|---|---|
| Guernica (Picasso) | oil painting by Pablo Picasso | 4 |
| Nighthawks (painting) | 1942 oil on canvas painting by Edward Hopper | 4 |
| Arnolfini Portrait | 1434 painting by Jan van Eyck | 4 |
| Water Lilies (Monet series) | series of approximately 250 paintings by Claude Monet | 4 |
| The Tribute Money (Masaccio) | fresco by Masaccio | 5 |
| Ghent Altarpiece | polyptych by Hubert van Eyck and Jan van Eyck | 5 |
| David (Donatello) | bronze statue by Donatello | 5 |
| David (Michelangelo) | statue by Michelangelo | 5 |
| Triptych of the Temptation of St. Anthony | triptych by Hieronymus Bosch, Lisbon | 5 |
| Mona Lisa | oil painting by Leonardo da Vinci | 5 |
| Sistine Chapel ceiling | painted ceiling of the Sistine Chapel in Vatican City | 5 |
| The School of Athens | fresco by Raphael | 5 |
| Bacchus and Ariadne | painting by Titian | 5 |
| The Burial of the Count of Orgaz | painting by El Greco | 5 |
| The Last Judgement (Michelangelo) | Sistine Chapel fresco by Michelangelo Buonarroti | 5 |
| The Tower of Babel (Bruegel) | three paintings by Pieter Bruegel the Elder | 5 |
| The Hunters in the Snow | painting by Pieter Brueghel the Elder | 5 |
| The Musicians (Caravaggio) | painting by Caravaggio | 5 |
| The Elevation of the Cross (Rubens) | triptych by Peter Paul Rubens in Cathedral of Our Lady, Antwerp | 5 |
| Las Meninas | painting by Diego Velazquez | 5 |
| Girl with a Pearl Earring | painting by Johannes Vermeer | 5 |
| A Harlot's Progress | series of paintings and engravings by William Hogarth | 5 |
| | Guernica (Picasso) Nighthawks (painting) Arnolfini Portrait Water Lilies (Monet series) The Tribute Money (Masaccio) Ghent Altarpiece David (Donatello) David (Michelangelo) Triptych of the Temptation of St. Anthony Mona Lisa Sistine Chapel ceiling The School of Athens Bacchus and Ariadne The Burial of the Count of Orgaz The Last Judgement (Michelangelo) The Tower of Babel (Bruegel) The Hunters in the Snow The Musicians (Caravaggio) The Elevation of the Cross (Rubens) Las Meninas Girl with a Pearl Earring | Guernica (Picasso) Nighthawks (painting) Nighthawks (painting) Arnolfini Portrait Arnolfini Portrait Arnolfini Portrait 1434 painting by Jan van Eyck Series of approximately 250 paintings by Claude Monet The Tribute Money (Masaccio) Ghent Altarpiece David (Donatello) David (Michelangelo) Triptych of the Temptation of St. Anthony Mona Lisa Oil painting by Hieronymus Bosch, Lisbon Mona Lisa Oil painting by Leonardo da Vinci Painted ceiling of the Sistine Chapel in Vatican City The School of Athens Bacchus and Ariadne The Burial of the Count of Orgaz The Last Judgement (Michelangelo) The Tower of Babel (Bruegel) The Hunters in the Snow (Rubens) Las Meninas Oil painting by Teiblo Place Sistine Chapel fresco by Masaccio Mona Lisa Oil painting by Hubert van Eyck and Jan van Eyck bronze statue by Donatello triptych by Hieronymus Bosch, Lisbon Oil painting by Leonardo da Vinci painted ceiling of the Sistine Chapel in Vatican City fresco by Raphael painting by Titian Painting by El Greco Sistine Chapel fresco by Michelangelo Buonarroti three paintings by Pieter Bruegel the Elder painting by Pieter Bruegel the Elder painting by Caravaggio The Hunters in the Snow Cathedral of Our Lady, Antwerp painting by Diego Velazquez Girl with a Pearl Earring painting by Johannes Vermeer series of paintings and |

| 1750 | Mr and Mrs Andrews | painting by Thomas Gainsborough | 5 |
|------|---|--|---|
| 1793 | The Death of Marat | painting of Jean-Paul Marat lying dead in his bathtub by Jacques-Louis David in 1793 | 5 |
| 1814 | Grande Odalisque | painting by Ingres | 5 |
| 1819 | The Raft of the Medusa | painting by Théodore Géricault | 5 |
| 1821 | The Hay Wain | painting by John Constable | 5 |
| 1830 | Liberty Leading the People | painting by Eugène Delacroix | 5 |
| 1834 | The Martyrdom of Saint Symphorian | painting by Jean Auguste Dominique Ingres | 5 |
| 1851 | Washington Crossing the Delaware (1851 painting) | painting by Emanuel Leutze | 5 |
| 1862 | Symphony in White, No. 1: The White Girl | painting by James Abbott McNeill Whistler | 5 |
| 1875 | The Gross Clinic | painting by Thomas Eakins | 5 |
| 1884 | Portrait of Madame X | portrait painting by John Singer Sargent | 5 |
| 1897 | Where Do We Come From? What Are We? Where Are We Going? | painting by Paul Gauguin | 5 |
| 1907 | The Kiss (Klimt) | painting by Gustav Klimt | 5 |
| 1911 | I and the Village | painting by Marc Chagall | 5 |
| 1912 | Nude Descending a Staircase, No. 2 | painting by Marcel Duchamp | 5 |
| 1913 | Composition VII | painting by Wassily Kandinsky | 5 |
| 1919 | The Ambassadors (Holbein) | painting by Hans Holbein the Younger | 5 |
| 1923 | Bird in Space | sculpture by Constantin Brâncuși | 5 |
| 1930 | American Gothic | painting by Grant Wood | 5 |
| 1948 | Christina's World | painting by Andrew Wyeth | 5 |
| 1330 | Navicella (mosaic) | mosaic by Giotto di Bondone | 5 |
| 1470 | Saint George and the Dragon (Uccello) | 1470s painting by Uccello | 5 |
| 1514 | The Feast of the Gods | painting by Giovanni Bellini and Titian | 5 |

| 1537 | Portrait of Henry VIII | lost painting by Hans Holbein the Younger | 5 |
|------|---|--|---|
| 1608 | The Beheading of St John the Baptist (Caravaggio) | painting by Caravaggio | 5 |
| 1612 | Judith Slaying Holofernes (Artemisia Gentileschi, Naples) | painting by Artemisia Gentileschi | 5 |
| 1624 | The Rape of Proserpina | Sculpture by Gianlorenzo Bernini | 5 |
| 1635 | Charles I in Three Positions | painting by Anthony van Dyck | 5 |
| 1660 | The Four Seasons (Poussin) | series of four paintings by Nicolas Poussin | 5 |
| 1667 | Wanderer above the Sea of Fog | oil painting by Caspar David Friedrich | 5 |
| 1753 | Veiled Christ | sculpture by Giuseppe Sanmartino | 5 |
| 1766 | The Swing (Fragonard) | oil painting by Jean-Honoré Fragonard (1767) | 5 |
| 1801 | Napoleon Crossing the Alps | series of paintings by Jacques-Louis David in 5 versions | 5 |
| 1814 | The Third of May 1808 | painting by Francisco de Goya | 5 |
| 1840 | The Slave Ship | painting by Joseph Mallord William Turner | 5 |
| 1841 | Le Désespéré | painting by Gustave Courbet | 5 |
| 1848 | Le génie du mal | religious sculpture by Guillaume Geefs | 5 |
| 1851 | Ophelia (painting) | painting by John Everett Millais | 5 |
| 1857 | The Gleaners | painting by Jean-François Millet | 5 |
| 1858 | The Bellelli Family | painting by Edgar Degas | 5 |
| 1859 | The Kiss (Hayez) | painting by Francesco Hayez | 5 |
| 1870 | Barge Haulers on the Volga | painting by Ilya Repin | 5 |
| 1877 | Côte des Bœufs at L'Hermitage | painting by Camille Pissarro | 5 |
| 1880 | Luncheon of the Boating Party | painting by Pierre-Auguste Renoir | 5 |
| 1884 | Bathers at Asnières | painting by Georges Seurat | 5 |
| | | | |

| 1885 | Fabergé egg | Jeweled Easter eggs mostly commissioned by the Czar of Russia | 5 | |
|------|--------------------------------------|---|---|--|
| 1887 | Girl with Peaches | painting by Valentin Serov | 5 | |
| 1887 | Luxembourg Gardens, Paris | painting by Albert Edelfelt | 5 | |
| 1890 | At the Moulin Rouge, The Dance | painting by Henri de Toulouse-Lautrec | 5 | |
| 1891 | Tiger in a Tropical Storm | painting by Henri Rousseau | 5 | |
| 1893 | The Card Players | painting series by Paul Cézanne | 5 | |
| 1895 | The Bronco Buster | sculpture by Frederic Remington | 5 | |
| 1898 | The Mature Age | sculpture by Camille Claudel | 5 | |
| 1909 | Dance (Matisse) | two related paintings made by Henri Matisse | 5 | |
| 1915 | Black Square (painting) | painting by Kazimir Malevich | 5 | |
| 1917 | Nu couché | painting by Amedeo Modigliani | 5 | |
| 1919 | Gassed (painting) | oil painting by John Singer Sargent | 5 | |
| 1920 | The Farm (Miró) | oil painting made by Joan Miró | 5 | |
| 1921 | The Elephant Celebes | surreal painting by Max Ernst | 5 | |
| 1922 | Twittering Machine | painting by Paul Klee | 5 | |
| 1926 | Black Iris (painting) | painting by Georgia O'Keeffe | 5 | |
| 1929 | The Treachery of Images | painting by René Magritte depicting a smoking pipe | 5 | |
| 1935 | Composition with Red Blue and Yellow | painting by Piet Mondrian | | |
| 1947 | L'Homme au doigt | sculpture by Alberto Giacometti | 5 | |
| 1948 | No. 5, 1948 | painting by Jackson Pollock | | |
| 1948 | Family Group (Moore) | sculpture series by Henry Moore | 5 | |
| | | | | |

100 Non-Western Masterpieces

| Date of creatio | | | | |
|-----------------|---|----------------------------------|------------------|----------------------------------|
| n | Title | Artist | Place | Medium |
| 1000-1600 | Hoa Hakananai'a | Hoa Hakananai'a islanders | Easter Island | Sculpture, Flow lava material |
| 1037-1101 | Wood and Rock | Su Shi | China | Ink, Colour/Paper |
| 11th Century | Shaka rising from the Gold Coffin | Unknown | Japan | Hanging scroll, color on silk |
| 1100-1200 | Scrolls of Frolicking Animals and Humans | Toba Sojo | Japan | ink and colors on paper |
| 12th Century | Green Tara | Unknown | Tibet | Painting |
| 12th Century | Shiva Nataraja, Lord of the Dance | Unknown | India | Sculpture, Copper alloy |
| 12th Century | Indian stele depicting Shiva & Parvati | Unknown | India | Sculpture |
| 1206 | The Book of Knowledge of Ingenious Mechanical Devices | Ismail al-Jazari | Jazira | Miniature paintings |
| 1236-37 | Maqāma of Al-Hariri | Yahya ibn Mahmud al-Wasiti | Iraq | Manuscript illuminated |
| 1244 | Nine Dragons | Chen Rong | China | Ink and color on Xuan paper |
| 1255-1327 | Five Drunken Kings Return on Horses | Ren Renfa | China | Ink, Colour/Paper |

| 13-14th Century | Bronze Head from Ife | Yoruba people | Nigeria | Copper Alloy Sculpture |
|-----------------------|--|--|------------------|---|
| 1348-1420 | Dwellings in the Fushun Mountains | Huang Gongwang | China | Ink/Paper |
| 1350 | Zhichuan Resettlement | Wang Meng | China | Ink/Paper |
| Early 14th Century | Rashid al-Din's Compendium | Rashid-al-Din Hamadani | Persia | Illustrated manuscripts |
| 14th Century | Nachi Falls | Unknown | Japan | Hanging Scroll, Colour on silk |
| Early 15th Century | Giant Uj and the Prophets | Unknown | Iraq or Iran | ink, gold and opaque watercolour on paper |
| 15th/16th century | Codex Borbonicus | Aztec priests | Mexico | Painting |
| 15th Century | Lamdre Lineage (sculpture set) | Khyentse Chenmo | Tibet | Sculpture |
| 15th/16th century | Aztec Double headed snake | Unknown | Mexico | Sculpture |
| 16th Century | Houghton Shahnameh | A wide variety of artists with many specialties | Iran (Persia) | Manuscript |
| 16th Century | Alexander Visits the Kaaba | Unknown | Iran (Persia) | Opaque watercolor, ink and gold on paper |
| 1525–35 | The Mi'raj or The Night Flight of Muhammad on his Steed Buraq | Sultan Muhammad Nur | Iran (Persia) | Ink, gold, and colors on paper |
| 1539-40 | The Ardabil Carpet | Unknown | Iran (Persia) | Carpet |
| circa 1564 | The Rukh Carries Hamza to his Home | Daswant in collaboration with Shravan | India | Opaque pigments on canvas |
| 1590s | A Young Lady Reclining After a Bath | Muhammad Mu'min | Afganistan | Ink, opaque watercolor, and gold on paper |

| 1609-16 | Ceiling of the Blue Mosque | Seyyid Kasim Gubari | Turkey (Ottoman) | Painting on the ceiling |
|----------------------|--|-------------------------------------|--|---|
| 1626 | Youth reading | Reza Abbasi | Iran (Persia) | Miniature |
| 1640 | The Mazarin Chest | Unknown | Japan | Chest: wood covered in black lacquer with gold and silver hiramakie and takamakie lacquee |
| 1698 | The Virgin of Guadalupe | Miguel Gonzalez | Mexico | Painting, Oil/Canvas, wood |
| 17th Century | Scene in and around the capital | Unknown | Japan | Pair of six-panel folding screens; ink, color, gold, and gold leaf on paper |
| 17th-18th century | Album of Mughal Portraits | Jahangir | Mughal | Brown morocco binding with gilt stamped medallions and borders |
| 1711 | Album of Mount Geumgang (Pungak-docheop) | Jeong Seon | Korea | Six leaves from a fourteen-leaf album; ink and light color on silk |
| 1740-50 | Marriage Procession of Dara Shikoh | Unknown | India | Painting |
| 1751 | Portraits of Periodical Offering | Xie Sui | China | Ink, Colour/Paper |
| 1760-1780 | Ndop of king Mishe miShyaang maMbul | Kuba people of Central Africa | Democrati c Republic of the Congo | Figurative Sculpture |
| 1777 | The Mexican Castes | Ignacio María Barreda | Mexico | Painting, Oil/Canvas |
| 18th Century | Dalai Lama Incarnation Lineage | Unknown | Tibet | Paintings |

| 1791-92 | Sitarah made for the Mosque of the Prophet in Medina | Unknown | Turkey (Ottoman) | Textile |
|---------|---|---|---------------------|--|
| 1809-10 | Portrait of Fath Ali Shah Standing | Mihr 'Ali | Persia | Painting, Oil/Canvas |
| 1829–33 | The Great Wave off Kanagawa | Hokusai | Japan | Color Woodblock |
| 1845 | Mecca Panorama | Muhammad 'Abdallah | Saudi Arabia | ink and opaque watercolour on paper |
| 1851 | Portrait of Manuelita Rosas | Prilidiano Pueyrredon | Argentina | Painting, Oil/Canvas |
| 1857 | The Arrest of Pangeran Diponegoro | Raden Saleh | Indonesia | Painting, Oil/Canvas |
| 1867–76 | Red silk mahmal | Unknown | Egypt | mahmal cover, banners and finial banners of red silk |
| 1870 | Shakuntala | Raja Ravi Verma | India | Painting, Oil/Canvas |
| 1880 | Girl Reciting Qur'an | Osman Hamdi Bey | Turkey | Painting, Oil/Canvas |
| 1880 | Ledger drawing of Haokah | Black Hawk | United States | Drawing |
| 1887 | The Maid Awakens | Eduardo Sivori | Argentina | Painting, Oil/Canvas |
| 1888-90 | Waves | Shibata Zeshin | Japan | Painting, Oil/Canvas |
| 1890 | Pair of Samurai Figures | Unknown | Japan | bronze, thick gilding, silver and shakudo |
| 1893 | Khalili Imperial Garniture | Japanese Imperial commission during the Meiji era | Japan | Cloisonné enamel on copper |
| 1898 | Haremde Goethe | Abdulmejid II | Ottoman | Painting, Oil/Canvas |

| 1899 | The Doshan Tappeh Street | Kamal-ol-molk | Persia | Painting, Oil/Cotton Duck |
|---------|---|----------------------------|-----------------|--|
| 1905 | Bharat Matha | Abindranath Tagore | India | Painting, Watercolours |
| 1922-25 | Bed of Arrows | Gaganendran ath Tagore | India | watercolour and gouache on paper laid on cardboard |
| 1925 | Twelve Landscape Screens | Qi Baishi | China | Ink, Colour/Paper |
| 1925 | Bachué | Rómulo Rozo | Colombia | Granite Carving |
| 1928 | Farm Jonkershoek with Twin Peaks Beyond, Stellenbosch | Jacob Hendrik Pierneef | South Africa | Painting, Oil/Canvas |
| 1929-35 | The History of Mexico | Diego Rivera | Mexico | Mural |
| 1930 | Image actions Mahatma Gandhi (Bapuji) on the Dandi March | Nandalal Bose | India | Linocut print on paper |
| 1931 | Construccion en blanco | Joaquín Torres-García | Uruguay | Painting, Oil/Canvas |
| 1933 | Self Portrait | Amrita Sher-Gil | India | Painting, Oil/Canvas |
| 1934 | Les Chadoufs | Mahmoud Saiid | Egypt | Painting, Oil/Panel |
| 1934 | The People and its Leaders | José Clemente Orozco | Mexico | Mural |
| 1935 | Maria Assumpta | Basuki Abdullah | Indonesia | Painting, Oil/Canvas |
| 1936 | Birth of Fascism | David Alfaro Siqueiros | Mexico | Painting, pyroxylin, masonite |
| 1940s | Hill Fair | Mookherjea Sailoz | India | Painting, Oil/Card |

| 1942 | The Barber Shop | Cundo Bermúdez | Cuba | Painting, Oil/Canvas |
|---------|--|--------------------------------------|-----------------|---|
| 1943 | Little Girl Thuy | Tran Van Can | Vietnam | Painting, Oil/Canvas |
| 1943 | Omi Obini | Wilfredo Lam | Cuba | Painting, Oil/Canvas |
| 1944 | Two Young Girls and a Kid | To Ngoc Van | Vietnam | Painting, Oil/Canvas |
| 1945 | Arab Priest | Irma Stern | South Africa | Painting, Oil/Canvas |
| 1945-46 | Glow of Hope | S.L. Haldankar | India | Painting, Watercolours |
| 1946 | Ramayana | Jamini Roy | India | Painting, Oil/Canvas |
| 1947 | The Song of the Pick | Gerard Sokoto | South Africa | Painting, Oil/Canvas |
| 1948 | Masacre del 9 de abril | Débora Arango | Colombia | Painting, Oil/Canvas |
| 1949 | Garden of Eden | George Pemba | South Africa | Painting, Oil/Board |
| 1955 | Birth | F N Souza | Indian | Painting, Oil/Board |
| 1959 | Washing of the feet | Anita Magsaysay - Ho | Philippine s | Painting, Oil/Canvas |
| 1960s | Blue Composition | Alexander "Skunder" Boghossian | Ethiopia | Acrylic, gouache and air brush on panel in artist's frame |
| 1960 | Horses | M.F. Husain | India | Painting, Oil/Canvas |
| 1961 | Man Carrying Reluctant Wife | Pudlo Pudlat | Canada | Drawing-Watercolor, Stencil |
| 1961 | Self-Portrait of Suffering | Ibrahim El-Salahi | Sudan | Painting, Oil/Canvas |
| 1962 | Metro Ride | Demas Nwoko | Nigeria | Painting, Oil/Canvas |
| 1965 | Adam and Eve | Uche Okeke | Nigeria | Painting, Oil/Board |
| 1965 | The Construction of the Suez Canal | Abdul Hadi El-Gazzar | Egypt | Watercolour, gouache and ink on paper |
| 1969-89 | Centre South North Spring Garden | Nguyễn Gia Trí | Vietnam | Painting, Oil/Canvas |

| 1971 | Honey ant dreaming | Kaapa Tjampitjinpa | Australia | Mural |
|------|---|------------------------------------|------------------|-------------------------------------|
| 1973 | Beef Issue at Fort Sill | T. C. Cannon | United States | Acrylic on Canvas |
| 1973 | Tutu | Ben Enwonwu | Nigeria | Print Multiple |
| 1973 | Sadequain Mural - Quest for Knowledge | Sadequain | Pakistan | Painting, Oil/Canvas |
| 1977 | Warlugulong | Clifford Possum Tjapaltjarri | Australia | Painting, Oll/Canvas |
| 1977 | Defender of His Country | Afewerk Tekle | Ethiopia | Painting, Oil/Canvas |
| 1980 | Bindu | S.H. Raza | India | Serigraph (Silk Screen on Paper) |
| 1984 | Five Stories | Michael Nelson Jagamara | Australia | Painting, Oll/Canvas |
| 1986 | Silent in Our Beauty We Stand | Daphne Odjig | Canada | Painting, Acrylic/canvas |
| 1990 | Lament | Allan Houser | United States | Sculpture, Bronze |
| 1991 | Kame- Summer Awelye II | Emily Kame Kngwarreye | Australia | Painting, Oll/Canvas |
| 1992 | Sarajevo | Omar El-Nagdi | Egypt | oil on canvas, in three parts |

Artist coverage ratios for some Wikipedias

Higher numbers mean more focus given to Western artists; lower numbers mean the coverage is more "global".

| | Langua ge code | Western artists (bytes) | | |
|----------|-------------------|----------------------------|-------|-------|
| Thai | th | 1577064 | 37777 | 41.75 |
| Asturian | ast | 1919617 | 67649 | 28.38 |

| Danish | da | 844509 | 29857 | 28.29 |
|--------------------------|-----------|---------|--------|-------|
| Lithuanian | It | 1052747 | 38249 | 27.52 |
| Croatian | hr | 856295 | 31519 | 27.17 |
| Belarusian (Taraškievica | | | | |
| orthography) | be-tarask | 616393 | 23751 | 25.95 |
| Afrikaans | af | 810092 | 31723 | 25.54 |
| Estonian | et | 1035236 | 45392 | 22.81 |
| Maltese | mt | 474881 | 22481 | 21.12 |
| Slovene | sl | 1240942 | 60240 | 20.60 |
| Finnish | fi | 1131659 | 57190 | 19.79 |
| Greek | el | 1754996 | 91687 | 19.14 |
| Serbo-Croatian | sh | 870333 | 48966 | 17.77 |
| Chechen | ce | 632678 | 36870 | 17.16 |
| Bokmål | nb | 865480 | 58757 | 14.73 |
| Romanian | ro | 1125666 | 76623 | 14.69 |
| Galician | gl | 1560347 | 106539 | 14.65 |
| Italian | it | 3846109 | 279501 | 13.76 |
| Georgian | ka | 923232 | 70247 | 13.14 |
| Tarantino | it-x-tara | 339477 | 26214 | 12.95 |
| Belarusian | be | 1674464 | 129302 | 12.95 |
| Nynorsk | nn | 313037 | 24588 | 12.73 |
| Serbian | sr | 1877184 | 147803 | 12.70 |
| Bulgarian | bg | 1713494 | 137441 | 12.47 |
| Bashkir | ba | 1026273 | 84497 | 12.15 |
| Polish | pl | 1856378 | 157538 | 11.78 |
| Esperanto | ео | 1055956 | 91345 | 11.56 |
| Simple English | en-simple | 478046 | 43888 | 10.89 |
| Hungarian | hu | 1553127 | 152783 | 10.17 |
| Swedish | sv | 818566 | 82437 | 9.93 |
| Hebrew | he | 1243742 | 137012 | 9.08 |
| Latin | la | 354863 | 39975 | 8.88 |
| Burmese | my | 277540 | 31299 | 8.87 |
| Macedonian | mk | 976674 | 112845 | 8.66 |

| Turkish | tr | 1130276 | 133821 | 8.45 |
|-----------------|-----|---------|---------|------|
| Portuguese | pt | 1822828 | 216634 | 8.41 |
| Japanese | ja | 2893884 | 344564 | 8.40 |
| Czech | cs | 1685339 | 204217 | 8.25 |
| German | de | 4513825 | 555219 | 8.13 |
| Spanish | es | 4202760 | 517974 | 8.11 |
| Basque | eu | 922139 | 118435 | 7.79 |
| Korean | ko | 817959 | 106942 | 7.65 |
| Dutch | nl | 1636039 | 228762 | 7.15 |
| French | fr | 6235180 | 876287 | 7.12 |
| Malayalam | ml | 1374045 | 205898 | 6.67 |
| Catalan | ca | 2254534 | 341903 | 6.59 |
| Tamil | ta | 807774 | 130211 | 6.20 |
| Welsh | су | 391141 | 68955 | 5.67 |
| Azerbaijani | az | 582431 | 104254 | 5.59 |
| Russian | ru | 5330034 | 958510 | 5.56 |
| Quechua | qu | 123473 | 23071 | 5.35 |
| Vietnamese | vi | 1042035 | 194942 | 5.35 |
| Chinese | zh | 1274771 | 242399 | 5.26 |
| Arabic | ar | 1401071 | 267791 | 5.23 |
| Mongolian | mn | 182916 | 39047 | 4.68 |
| Tuvan | tyv | 141294 | 30547 | 4.63 |
| Ukrainian | uk | 2797317 | 614581 | 4.55 |
| Bavarian | bar | 187597 | 44027 | 4.26 |
| Armenian | hy | 2239028 | 530142 | 4.22 |
| Persian | fa | 1634226 | 392738 | 4.16 |
| Scots | sco | 84459 | 20599 | 4.10 |
| Kazakh | kk | 271106 | 68156 | 3.98 |
| English | en | 5927835 | 1494254 | 3.97 |
| Uzbek | uz | 88073 | 23337 | 3.77 |
| llocano | ilo | 91575 | 24379 | 3.76 |
| Indonesian | id | 565859 | 171585 | 3.30 |
| Egyptian Arabic | arz | 109731 | 34582 | 3.17 |
| | | | | |

| Tagalog | tl | 72327 | 24203 | 2.99 |
|-------------------|-----|--------|--------|------|
| Hindi | hi | 337095 | 121612 | 2.77 |
| Kannada | kn | 589153 | 233009 | 2.53 |
| Malay | ms | 215268 | 92333 | 2.33 |
| Santali | sat | 87847 | 38464 | 2.28 |
| Western Armenian | hyw | 292330 | 135260 | 2.16 |
| Punjabi | ра | 340529 | 177997 | 1.91 |
| Assamese | as | 205877 | 109196 | 1.89 |
| Bengali | bn | 598682 | 343743 | 1.74 |
| Kyrgyz | ky | 86522 | 50137 | 1.73 |
| Marathi | mr | 186189 | 116482 | 1.60 |
| Gujarati language | gu | 221480 | 165210 | 1.34 |
| Western Punjabi | pnb | 131598 | 106697 | 1.23 |
| Maithili | mai | 21493 | 22838 | 0.94 |
| Nepali | ne | 23021 | 31253 | 0.74 |
| Odia | or | 58447 | 79614 | 0.73 |
| Tajik | tg | 25632 | 41554 | 0.62 |
| Urdu | ur | 65583 | 110819 | 0.59 |
| Telugu | te | 21206 | 106810 | 0.20 |

Examples of major national museums and art galleries outside the Western world (including indigenous art institutions in the West)

| Name | Country | Link |
|-----------------------------------|-----------|------------------------------------|
| Art Gallery of New South Wales | Australia | https://www.artgallery.nsw.gov.au/ |
| Bangkok Art and Culture Centre | Thailand | https://www.bacc.or.th/ |
| Bardo Museum | Tunisia | http://www.bardomuseum.tn/ |
| Capital Museum | China | http://en.capitalmuseum.org.cn/ |

| Centro Cultural Banco do Brasil | Brazil | https://www.bb.com.br/pbb/pagina-inicial/ sobre-nos/cultura/ccbb |
|--|---------------|---|
| Chilean National Museum of Fine Arts | Chile | https://www.mnba.gob.cl/sitio/Contenido/ Colecciones-digitales/87330:Itinerario-de- la-coleccion-del-MNBA |
| Egyptian Museum | Egypt | https://web.archive.org/web/20171023043 006/http://www.sca-egypt.org/eng/mus_e gyptian_museum.htm |
| Hanoi Contemporary Arts Centre | Vietnam | https://web.archive.org/web/20080103094 509/http://www.iapone.org/Pages/Hanoi Contemp Arts Ctr.html |
| Iroquois Indian Museum | United States | https://iroquoismuseum.pastperfectonline.com/ |
| Israel Museum | Israel | https://www.imj.org.il/en |
| Istanbul Museum of Modern Art | Turkey | https://www.istanbulmodern.org/en |
| Jordan National Gallery of Fine Arts | Jordan | https://nationalgallery.org/ |
| Matarazzo Ciccillo (Bienal) | Brazil | http://www.bienal.org.br/pavilion |
| MMCA, Gwacheon | South Korea | https://www.mmca.go.kr/eng/contents.do? menuId=5050011511 |
| Museum of Contemporary African Diasporan Arts | United States | https://mocada.org/digital |
| Museum of International Folk Art | United States | http://collection.internationalfolkart.org/collections:jsessionid=8DD6AF94A2B04425 C65DF97FC4188168 |
| Museum of Islamic Art | Egypt | https://www.miaegypt.org/ |
| Museum of New Zealand | New Zealand | https://collections.tepapa.govt.nz/ |
| Nairobi National Museum | Kenya | https://www.kenyamuseumsociety.org/ |
| National Art Gallery | Pakistan | https://pnca.org.pk/galleries |
| National Gallery of Modern Art | India | http://ngmaindia.gov.in/ |
| National Gallery of Modern Art | Nigeria | https://web.archive.org/web/20101126030 128/http://nigeria-vacation.com/users/profiles.php?id_usr=186&tong=3 |
| National Gallery of Victoria | Australia | https://www.ngv.vic.gov.au/ |
| National Gallery of | Zimbabwe | http://www.nationalgallery.co.zw/ |

| Zimbabwe | | |
|--|--------------|---|
| National Gallery Singapore | Singapore | https://www.nationalgallery.sg/ |
| National Museum of Anthropology | Mexico | https://www.mna.inah.gob.mx/ |
| National Museum of China | China | http://en.chnmuseum.cn/ |
| National Museum of Fine Arts | Philippines | http://www.nationalmuseum.gov.ph/#page =page-1 |
| National Museum of Fine Arts of Algiers | Algeria | http://www.musee-beauxarts.dz/ |
| National Museum of Indonesia | Indonesia | https://www.museumnasional.or.id/ |
| National Museum of Iraq | Iraq | https://www.theiraqmuseum.com/ |
| National Museum of Korea | South Korea | https://www.museum.go.kr/site/eng/home |
| National Museum of Modern and Contemporary Art | South Korean | https://www.mmca.go.kr/eng/ |
| National Museum of Sudan | Sudan | http://sudannationalmuseum.com/ |
| National Palace Museum | Taiwan | https://www.npm.gov.tw/en/ |
| National Taiwan Museum of Fine Arts | Taiwan | https://www.ntmofa.gov.tw/en/ |
| National Visual Arts Gallery (Malaysia) | Malaysia | https://www.artgallery.gov.my/?page_id=1 5⟨=en |
| Patan Museum | Nepal | http://www.patanmuseum.gov.np/ |
| Queensland Gallery of Modern Art | Australia | https://www.qagoma.qld.gov.au/ |
| Rwanda Art Museum | Rwanda | https://www.museum.gov.rw/index.php?id =74 |
| Salar Jung Museum | India | http://www.salarjungmuseum.in/ |
| Shandong Art Museum | China | http://www.sdam.org.cn// |
| Shanghai Museum | China | https://www.shanghaimuseum.net/mu/frontend/pg/index |
| Shangri La Museum of Islamic Art, Culture & Design | Hawaii | https://collection.shangrilahawaii.org/galle |
| Sharjah Art Museum | UAE | https://www.sharjahartmuseum.ae/ |
| South Africa National | South Africa | https://www.iziko.org.za/museums/south- |

| Gallery | | african-national-gallery |
|---|-----------|--|
| Sursock Museum | Lebanon | https://sursock.museum/ |
| Tel Aviv Museum of Art | Israel | https://www.tamuseum.org.il/en/ |
| The Latin American Art Museum of Buenos Aires (MALBA) | Argentina | https://coleccion.malba.org.ar/ |
| The Museum of Islamic Art | Qatar | http://www.mia.org.qa/en/ |
| The National Museum of Iran | Iran | http://gallery.netbaran.com/museum-National%20Museum%20of%20IRAN.htm |
| Tokyo Metropolitan Art Museum | Japan | https://www.tobikan.jp/en/ |
| Tokyo National Art Center | Japan | https://www.nact.jp/english/ |

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Experts consulted

- Professor Christian Luczanits, SOAS Himalayan Art
- Professor McCausland, SOAS Chinese and East Asian art
- Professor Chika Okeke-Agulu, Princeton University African art
- Professor Crispin Branfoot, SOAS Indian art
- Professor Sir Nasser David Khalili, The Khalili Collections Islamic and Japanese art
- Professor Maria Madero, London Interdisciplinary School Latin American art
- Dr Heather Igloliorte, Concordia University North American indigenous art

Competing interests

Waqas Ahmed is the Artistic Director at the Khalili Collections and is on the steering panel of Art UK.

Martin Poulter is a freelance consultant working on partnerships between Wikimedia and cultural institutions.

Author roles

Authors are listed in descending order by significance of contribution. The corresponding author is wa. Roles in the CREDIT CONTRIBUTOR ROLES TAXONOMY:

| Conceptualization | wa |
|------------------------|-------|
| Data curation | тр |
| Formal analysis | mp |
| Funding acquisition | wa |
| Investigation | wa,mp |
| Methodology | mp |
| Project administration | wa,mp |
| Software | тр |

| Validation | тр |
|----------------------------|-------|
| Visualization | wa,mp |
| Writing – original draft | wa,mp |
| Writing – review & editing | wa,mp |

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