Chapter 6
Citizen Humanities

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Abstract Citizen humanities is the term for citizen 'science' in the humanities. It has a long tradition and, since the object of investigation is human culture, raises questions about values, cultural significance, and deeper meaning of phenomena related to human culture.

The development of digital technologies not only led to the emergence of digital humanities but also to new ways of involving citizens in the activities of cultural heritage institutions and academic research. Participants' contributions to academic research and to the preservation of cultural heritage range from uncovering treasures hidden in archives and digital environments to tapping local knowledge. Their tasks have included tagging, transcribing, or cataloguing artefacts, through which they acquire specialist knowledge and competences, while assisting scholars and researchers to gain new insights. Challenges in the citizen humanities include biases, participant training and retention, as well as the advancement of digital technologies, such as artificial intelligence.

Citizen humanities can combine topical issues in society with academic knowledge, demonstrate the relevance of the humanities for society, and establish a direct link to its members. In addition to the advancement of knowledge, the citizen humanities can unlock the potential of embedded, diverse, and culturally sensitive knowledge and play a crucial role in preserving and enriching cultural heritage.

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Introduction

Citizen humanities is the term for citizen 'science' in the humanities. While (citizen) science comprises natural sciences, such as biology, chemistry, and physics, (citizen) humanities encompass fields such as languages, literature, history, philosophy, and art. The humanities' primary object of investigation is human culture, ranging from the organisation of life in society or the state to the interpretation of the world in language, art, philosophy, and academia. In comparison to the sciences, the humanities do not (only) focus on explaining but rather understanding texts and artefacts, thus favouring methods of interpretation, critical thinking, and analysis.

While the main outputs of the humanities are texts, the digital humanities produce additional forms, such as images, platforms, and multimedia corpora. Moreover, while the humanities apply methods of analysis, narration, and critique, the digital humanities increasingly rely on computational methods allowing for automated analysis, including digital data and new techniques and forms of (re-)presentation. In brief, the concept of the digital humanities refers to the change in scholarship in the humanities driven by digital tools, digitally available (big) data, digital repositories, and virtual research environments. These not only bring to light new research questions but also new ways of analysing, combining, visualising, presenting, storing, and sharing pre-existing data as well as new ways of publication and collaboration among scholars.

Current developments in the digital humanities provide new tools, methods, and infrastructures and allow for various new forms of collaboration and communication with citizens and nonacademic actors in humanities research. However, voluntary contributions to the humanities have a long tradition. In addition to the generation of new knowledge (through research), they have been important for cultural institutions in various ways, such as establishing and maintaining contact with members of local and special interest communities.

History

Although the term *citizen humanities* was only coined recently (Adamson 2016a; Hedges and Dunn 2018), its practice has a long tradition. On the one hand, citizens may initiate and undertake studies without the help of scholars, such as genealogy, local history, and research on cultural heritage. On the other hand, professional researchers may rely on contributions from citizens. In both cases, they may draw inspiration from each other.

Citizen humanists are working both in digital environments and on-site and are applying methods from the humanities, such as collecting, transcribing, and annotating (historical) primary sources. Research undertaken by citizens is both old and new (Finke 2014). Professional research in the humanities, as we know it today, could only emerge because citizens who were not part of institutions engaged in research. Until the late eighteenth century, citizens collected (historical) information and objects and compiled them in catalogues and publications or developed typologies. One of these citizens was Johann Joachim Winckelmann, who lived in eighteenth-century Germany. Today, he is known as the founder of academic archaeology and art history, but his family was poor. While working as a librarian in Italy, he developed the first typologies for ancient art, which he published in epoch-making works. He also stressed the importance of archaeological excavation campaigns, which had hardly existed before that time (Disselkamp and Testa 2017). The passion and curiosity of people like Winckelmann made the institutionalisation of museums and the humanities disciplines, as well as the preparation of academic publications, possible in the first place (Mahr 2014). Although academic research in the humanities has been conducted in academic institutions since the nineteenth century, private engagement with the humanities has never completely ceased. Citizen researchers are still active, be it autonomously, in private associations, or as partners of public heritage authorities, archives, libraries, and museums. In universities, however, the citizen humanities are currently still struggling to gain a foothold.

Over the past few years, citizens have also increasingly engaged in digital research projects – most of the time initiated by museums and heritage authorities. Among the first digital projects in the citizen humanities mentioned in the literature are the British projects Old Weather and Transcribe Bentham. Both projects started in 2010 and focus on transcription (with and without additional markup) for the purpose of academic research.

Participants may also tag historical objects so that automatic tools can enrich data. In 2004, several North American museums joined forces under the pseudonym *Steve* (steve.museum) to make cultural heritage accessible through tagging and to explore new forms of relationships between visitors and cultural heritage (Trant 2009).

This shows that digital infrastructures, tools, and techniques can facilitate citizen humanities. Nevertheless, volunteers also contribute in various non-digital ways to humanities research, for example, by travelling to archives and collecting local and special knowledge and documents (e.g. on declining professions or changing cultural landscapes) and conducting archaeological field surveys and experimental archaeology.

In the English-language literature on citizen science, the Christmas Bird Count is described as the longest running citizen science project in the world (Silvertown 2009). In the humanities, the compilation of a *Dictionary of Mediaeval Latin* also required more than 100 years of public participation (Dobreva and Azzopardi 2014).

The visibility of citizen humanities projects is low compared to citizen science projects. This is especially apparent in the European citizen science landscape (see Haklay et al., this volume, Chap. 2; Vohland et al., this volume, Chap. 3) and citizen

science project directories (Heinisch 2017). Nevertheless, the citizen humanities are gaining ground in different academic disciplines, such as linguistics, history, archaeology, art, and philosophy.

Types of Citizen Humanities

Similar to citizen science, typologies to classify activities in the citizen humanities have been proposed. Although termed *humanities crowdsourcing* and focusing on digital approaches, the typology by Dunn and Hedges (2012) covers the main aspects of humanities research, that is, tasks, assets, processes, and outputs. It links assets, primary resources such as text, audio, and video with outputs, for example, structured data. The processes and tasks between input and output refer to the methods used in the citizen humanities, such as collaborative tagging, transcribing, categorising, mapping, georeferencing, contextualising, and translating.

Simon (2010), on the other hand, elaborates on visitor contributions to institutions, such as museums. Her typology addresses the degree to which participants are involved in creating content, developing research questions, analysis, and have their say in the project framework. Based on the 'Public Participation in Scientific Research' study (Bonney et al. 2009), she derives four forms of citizen humanities in the museum context – contributory projects designed by researchers, to which participants contribute data; collaborative projects designed by researchers, to which participants contribute data and input; cocreated projects, which are not only designed by researchers and members of the public together, but public participants are also involved in most steps of the research process; and hosting, which means that institutions are mere hosts for citizen research projects.

Citizen Humanities in Different Disciplines

Exemplified by citizen humanities projects in the fields of archaeology, history, and linguistics as well as crowdsourcing in the cultural heritage domain (Oomen and Aroyo 2011) and interdisciplinary projects, this section gives an insight into projects characterised by public participation in the humanities.

Archaeology and History

In the fields of archaeology and history, the citizen humanities are well established since historical records and archaeological finds lend themselves to public participation. This may take the form of transcription of handwritten texts, tagging, interpretation of pictures or text, provenance research, or field studies often relying on local knowledge and local research material. The citizen humanities hold the

potential to open up historical data for humanities research. This is illustrated by the Ancient Lives project, which was one of the first Zooniverse humanities projects. It enabled volunteers to help decode the papyri of the ancient Egyptian city of Oxyrhynchus. Documents recovered from ancient rubbish mounds, preserved through time by drifting sands, have, through the combined powers of digital technology and international volunteers, been read for the first time in two millennia, adding to our understanding of Graeco-Roman Egyptian culture. This shows that the discarded information of the past can become the knowledge of the future, fuelling new possibilities for humanities research.

Linguistics

In the field of linguistics, the two projects below address language and depict different forms of participation. The first project covers multilingualism and linguistic landscapes and the second one language variation in a monolingual country.

First, Lingscape has been combining citizen 'science' and linguistic landscaping in Luxembourg since 2016. Participants are asked to make pictures of signs and lettering in public spaces, upload them to an app, and provide additional information, such as geographic location or language (variety) used on a sign. Since signs in the public space form the linguistic landscape of a place or community, the project aims to analyse the diversity and dynamics of public writing as part of a linguistic landscape (Purschke 2017).

Second, 'On everyone's mind and lips – German in Austria' (abbreviated as *IamDiÖ*) addresses the use and perception of the varieties of the German language in Austria. *IamDiÖ* combines different citizen science approaches. First, *IamDiÖ* engages in cocreation with a format entitled Question of the Month. Here, citizens can raise and answer questions related to the topic of German language in Austria supported by researchers. Second, in a linguistic treasure hunt, the project focuses on data collection and data analysis. Citizens take, save, and tag pictures of written information in the public space with the Lingscape app, thus contributing to the study of the linguistic landscape in Austria. The main challenge though proved to be the cocreation approach (according to Bonney et al. 2009) to the Question of the Month. Interestingly, the online strategy to collect research questions from participants proved less successful than personal dialogue with participants. Moreover, only one participant was willing to answer her own question. However, *IamDiÖ* was able to increase academic literacy among the participants and to illustrate that there are still research gaps that need to be addressed (Heinisch 2020).

Interdisciplinary Projects

Interdisciplinary projects are those bridging (citizen) (social or natural) science and (citizen) humanities. Their value ranges from harnessing differences, such as complementary approaches. These approaches, including knowledge, theories, concepts, data, methods, tools, and ways of interpretation, can complement each other to gain a holistic understanding of phenomena.

The Archaeological Spessart Project (ASP) (Ermischer 2016), for example, was founded by the archaeologist Gerhard Ermischer and funded by the European Union in the 1990s. The ASP addresses the cultural landscape of the Spessart region in south-central Germany in all its dimensions: history, language, culture, landscape development, and natural environment. Universities and research institutions are working closely together with people living in the region, for example, with citizen history associations, heritage and nature conservation associations, and schools, to conduct research and impart Spessart's history and development. Here, a wide range of formats is used, from research projects and archive research, archaeological excavations, and surveys to the collection of geographical or biological data, which are combined in a geographic information system that draws a comprehensive picture of the Spessart for the first time. The ASP acts as an initiator and coordinator of research in the region since both researchers and citizens can suggest and address topics. Additionally, citizens can suggest or initiate communication measures to connect local people to the history of their region. These include the establishment of cultural routes, publications, exhibitions, lectures, seminars, the training of landscape guides, and projects with children. The ASP is currently active in various European projects and is involved in the implementation of the European Landscape Convention as an advisory non-governmental organisation to the Council of Europe. In addition to this far-reaching impact, the project also reflects an open understanding of who is a researcher and who is a layperson. This becomes apparent when citizens teach researchers and students about local history or archive research.

Another large research project was Constructing Scientific Communities: Citizen Science in the nineteenth and twenty-first centuries (2014–2019) funded by the Arts and Humanities Research Council in the UK. It had both citizen science and citizen humanities at its heart and broke down barriers between the two forms. In the nineteenth century, it looked at the role played by non-professionals in the construction of scientific practices, paying particular attention to the huge growth of periodicals, from local natural history magazines to the proceedings of learned societies, in order to track the ways in which science is actively created through the processes of exchange, processes which the humanities are best equipped to understand and address (Dawson et al. 2020). This understanding then informed the work with citizen humanities and science in the digital age.

The Constructing Scientific Communities project created two projects which draw on research into nineteenth century natural history and bridge citizen science and humanities: Science Gossip and Orchid Observers.

Science Gossip was developed in collaboration with the Biodiversity Heritage Library and the Missouri Botanical Garden to uncover the rich imagery hidden away in natural history periodicals. The project was based on the premise that *optical character recognition* (OCR) has become valuable in allowing researchers to word search and transcribe historical texts but has entirely overlooked the visual landscape of books and periodicals. No other automated technology, moreover, could accurately search out and identify when and where images were located on printed pages. Working with 17 fully digitised natural history periodicals from the nineteenth century, Science Gossip asked participants to help identify six key attributes: was there an image on a page; where was it located on the page; what kind of image was it; did it depict any species of plant or animal; who made the image or engraving; and were there any keywords we could associate with it. The project was launched in 2015 and has had over 10,000 participants classifying over 160,000 pages of nineteenth-century periodicals. The data from the project have helped uncover a broad range of image makers and producers working in the nineteenth century and has allowed the Biodiversity Heritage Library to incorporate thousands of keywords and historical animal and plant species identifiers into their online portal. Working with citizens on this data set also opened up new research questions which were not part of the original framing of the project. For example, a group of citizen scientists who worked regularly on the project decided to start up their own thread on the discussion forum for participants and to create a new hashtag for any image produced by a woman. The participants of Science Gossip were not merely involved in classifying images; by engaging with the materials themselves, they posed new questions and in the process contributed significantly to the understanding of previously invisible labour in the work of Victorian natural history.

The interdisciplinary project Orchid Observers combined natural science and historical studies and was able to provide evidence of climate change. It was run in collaboration with the Natural History Museum, London, and has helped transform the museum's modes of engagement with citizen science. This was the first large-scale citizen science project to combine field and online approaches and to bring aspects of citizen humanities together with active science research. The project drew together outdoor nature enthusiasts and amateur–expert naturalists with an online community of citizens focusing on historical transcription. Orchid Observers worked with the country's expert orchid community and the Botanical Society of Britain and Ireland (BSBI – an organisation which brings together all those interested in nature study, dating back to 1836) to devise the field study, thus involving members of the public in scientific design as well as analysis. Those taking part in the study, either photographing the orchids in the field or identifying them online, were from a more diverse background, many with little or no experience of orchids or nature study. In addition, the project included a historical dimension, analysing data from nineteenth-century herbarium sheets. Overall, 1956 participants were involved in the study which aimed to investigate how the flowering times of 29 orchid species have been influenced by climate change. The field observations have been shared with the BSBI and will be made freely available through the charity and umbrella organisation, the National Biodiversity Network, contributing

to the records of biodiversity which have been maintained by the natural history community since the nineteenth century. By bringing together the historical data from the herbarium sheets, records of the BSBI, and the contemporary data, the project has produced evidence of climate change stretching over a 180-year period. The study has also led to the identification of over 200 new UK locations for the orchid species concerned, including rare and threatened taxa. Accuracy of online identification and transcription has been very high, demonstrating the potential for building on this model for drawing large numbers of the general public into nature study, historic research, and scientific practice. In essence, the project was a digital extension of the practices of nineteenth-century natural history, drawing in large numbers of the public to participate in a community of science.

Platforms

Similar to citizen science projects that focus on crowdsourcing (collecting or analysing huge amounts of data with the help of a large number of volunteers), citizen humanities concentrating on the collection or analysis of large amounts of data may use citizen science platforms, such as Zooniverse or SciStarter, to attract participants to their projects. These platforms lend themselves to increasing a project's visibility (Liu et al., this volume, Chap. 22). However, citizen humanities projects that have another focus, for example, gathering research questions or collecting local or implicit cultural knowledge, may need different ways of approaching potential volunteers.

The US platform SciStarter lists about 40 projects from the humanities among 5000 projects; while the *Bürger schaffen Wissen* platform in Germany, featuring citizen science projects in Germany, lists about 45 projects from the humanities among 130 projects (in November 2019). Although Zooniverse started initially with a scientific project, it has developed a strong portfolio in humanities projects and offers considerable potential for a range of future humanities work. The platform can, for example, be applied to historical data in the service of science: the Old Weather project, for instance, draws on volunteer historians to work on old ships' logs to chart historical weather patterns, which can then be fed into current climate change research. A similar interface powers another of the Zooniverse projects, Notes from Nature. This is a project for the transcription and identification of materials held in natural history museums, with the aim of increasing our understanding of historical biodiversity and thus enabling current research on species extinction, ecosystem changes, and environmental health. Zooniverse has helped launch over a hundred new projects and is particularly valuable for humanities researchers who have documents that require transcription or images that need analysis.

In addition to these platforms listing all forms of citizen science, there are also platforms dedicated to digital crowdsourcing in the citizen humanities alone. For example, MicroPasts presents only projects from the humanities, listing about

200 projects for thousands of users. This international platform, which is hosted by the British Museum, started in 2013 and is one of the most comprehensive platforms for citizen humanities projects in Europe. It comprises mainly tagging and transcription projects from all historical eras and different regions in Europe and the Mediterranean (Bonacchi et al. 2014). The platform hosts projects, fosters community interaction, offers learning opportunities for the participants, and provides research data. It is also an experimental platform for researchers to dive into more general questions about citizen humanities, such as how to attract citizens and get their contributions in the long run or how to assure quality in digital projects. While MicroPasts is using approaches and tools similar to other citizen humanities platforms, it differs in one respect: its website is a whole ecosystem and unites different institutions in one location. This has the advantage that website visitors become aware of all projects and thus also of institutions they may have not known before. This relieves individual institutions from the burden of having to appeal to participants.

Artigo is a German citizen humanities platform focusing on art museums and historical paintings. It is dedicated to the tagging of historic pictures from museum collections (Weinhold 2016). Founded in 2010 at the University of Munich, the project started with a mere tagging approach to enhance the information in museum databases with both academic information on art history as well as non-professional user-centric information. Due to time constraints and engagement barriers on the museums' site, the platform has only been used by two museums. However, it is still being developed by the university in order to test new approaches in the digital citizen humanities. Over the last ten years, the platform has featured tagging games and an open analysis tool based on the data created by Artigo. Anybody can use this tool to raise and answer research questions related to art history, perception of art, or user behaviour. However, its main users are researchers. This platform also tries to connect people to build face-to-face communities.

Implementing Citizen Humanities

Institutions that engage in citizen humanities are, among others, universities and cultural heritage institutions, such as libraries, museums, and archives (Ridge 2014). Depending on the project objective and/or research purpose, public participation in the citizen humanities can take different forms, such as transcribing and annotating (hand-written) text or museum objects, adding (contextual) information from different sources, interpreting digitised documents, or even developing citizens' own research questions related to the humanities. The tasks of citizen humanists may also include historical geocoding (Cura et al. 2018). The contributions from the participants may be collected online or in person.

Citizens can contribute to citizen humanities projects in different ways, for example, by participating in various research steps or even in project development. To implement a citizen humanities project, a number of aspects have to be

considered: first, projects need participants. To recruit and retain participants constant communication is needed, including information about the relevance of the project's topic for both the academic discipline and society, the project's goals and progress, and the specific contributions and tasks of the participants. The project managers should therefore be trained or experienced in community management, participation, and humanities communication. This is illustrated by the Spessart project and the Bavarian State Archaeological Office introduced in this chapter. Also, the example of Artigo underlines how even the best approaches may fail due to lack of time and engagement by the related institutions. In the following, the up-to-date approaches of *gamification* and *artificial intelligence* are highlighted to illustrate possible formats and designs of citizen humanities projects.

Gamification

To make tasks more appealing to participants, gamification is the means of choice in some projects. Gamification refers to elements of game playing, such as competition or point scoring that can be applied in citizen science to encourage the participants' engagement with an activity. The different ways to design citizen humanities games are illustrated by Artigo, which offers different options for different objectives. In the basic game, two players are connected anonymously and are shown a series of pictures to which they should assign keywords. Users only get high scores if both players assign the same terms. Only these matching terms are transferred to the database. This four-eye principle helps to collect the probably most meaningful and/or fitting terms. The game variants Artigo Taboo, Karido, Tag-a-Tag, and Combino supplement this principle. When playing Taboo, the most frequently used terms for the respective pictures are taboo, so that the user is forced to use less trivial terms. In Karido, the players have to find the most exact, selective terms for pictures which previously have been tagged very similarly. The variants Tag-a-Tag and Combino do not use the pictures but the tags assigned to them. Tag-a-Tag is used to describe individual tags in more detail. In Combino, many of the tags assigned to a work are displayed, and users have to combine them with each other to allow a more precise description of the work (Weinhold 2016).

Artificial Intelligence and Big Data

However, tagging tasks in citizen humanities may become obsolete due to two recent developments (Oswald 2019; Oswald and Mucha 2021), such as *machine learning* (Franzen et al., this volume, Chap. 10). First, artificial intelligence has made advances in tagging and transcribing text. This means that a lot of digital citizen humanities fields may not need a large number of participants for these tasks in the future and only require minimal human intervention. This applies mainly to

contributory projects in which participants are principally data collectors and do not bring in their own perspectives or ideas. Second, tasks such as tagging do not address participants' desires to be working in communities and forging connections to people with similar interests. This applies especially to participants in digital citizen humanities projects, who – as the challenges section below shows – represent a certain group of society that is especially interested in spending time on cultural contents or activities together with other interested people. This potential still needs to be exploited in the citizen humanities.

Although *big data* is often perceived as a distinctly modern phenomenon, that is, the product of computer-generated information, it is important to place it within an historical framework: Linnaeus's undertaking to classify the entire flora of the world, or the dedicated observations of nineteenth-century amateur naturalists who mapped their local regions, for example, also generated huge quantities of data. The rise of statistics in the nineteenth century also gave birth to the new sciences of epidemiology and preventive medicine, founded on the aggregation of large quantities of locally gathered statistical data. Additionally, the development of documentation methodologies for population censuses and electoral behaviour in the nineteenth century have resulted in large data sets that are still used today by historians and political and social scientists for their research (Heidborn 2017). Research on topics such as biodiversity and climate or the development of societies, including the formation and shift of majorities in favour of political parties, the change of cultures through migration, and the change of languages, have highlighted the importance of understanding historical patterns if we want to predict, and meet, the challenges of the future. Citizen (social) science and citizen humanities play an important role in this respect.

Unique Methods

While tasks such as tagging and online participation are also used by the sciences, the humanities do employ some exclusive methods. These include experimental archaeology and (historical) re-enactment. Although they apply similar methods, they differ in their actors and motivation. Re-enactment (Agnew et al. 2020) is mainly carried out by non-researchers based on their personal interest in history. They reconstruct events or lifestyles of a certain historical epoch – ranging from the Germans to the Vikings or from the Middle Ages to the world wars – and re-enact them. In experimental archaeology, they not only read original sources but also recreate the artefacts necessary for the re-enactment themselves using only historically accurate technologies. Re-enactors, for example, weave clothes on replica looms, forge weapons, and make fishing nets. In the process, they acquire profound knowledge, which is usually not considered in academia because; on the one hand, a replica of the past can only be achieved to a certain degree, even when paying attention to details. On the other hand, re-enactment is often accompanied by falsification, idealisation, or political abuse, for example, when certain groups

present the 'real' ways of life of their 'ancestors' to justify their ideology. Nevertheless, cooperation with re-enactors can help to document their experimental approaches and make them accessible for research, for example, for experimental archaeology. Experimental archaeology follows an approach similar to re-enactment: to find out how people of the past have produced certain objects or carried out certain activities with experiments (Flores 2014; Narmo and Petersson 2011). In the case of experimental archaeology, however, the performers are archaeologists supported by interested citizens at the various stages. In contrast to re-enactment, the experiment takes place in a controlled environment, and it is verifiable.

Challenges

The challenges in the field of citizen humanities are twofold. On the one hand, the citizen humanities face challenges related to the research design and, on the other, challenges concerning the management of participants. The approaches may also be twofold: first, scholars may need the help of the crowd to work on (large amounts of) data. In this case, the research design may need to be changed so that the tasks accomplished by the citizens meet academic rigour as well as the expectations of the participants. Participants may become quickly bored of simple tasks such as tagging. Therefore, they may cease contributing to the project. Meaningfulness, and if applicable, also fun and entertainment, should be considered from the start, for example, by adopting gamification approaches. This may not only require the training of the participants but also require the academic professionals to be open-minded and patient regarding the input of participants.

The second approach may go beyond using the work capacities of the crowd and may include tapping into local knowledge, challenging existing paradigms, and gaining new insights. Here, the expertise and knowledge of the participants are seen as resources. In both cases, the challenges regarding participant management comprise the recruitment of, communication with, and training of the participants (Land-Zandstra et al., this volume, Chap. 13).

Objectivity and Biases

The humanities are often seen as rather interpretative in nature without applying strict methods. However, the humanities are also characterised by academic rigour. Therefore, the challenges related to research include biases, the selection and application of methods, as well as data coverage and quality. In research, *observation* cannot be neutral since values, ideologies, theories, and instruments frame our perception and interpretation (Adamson 2016b). For example, the transcription of primary sources necessitates a certain degree of interpretation and, sometimes, also

research for additional information to understand the material to be transcribed (Dunn and Hedges 2018). Although some biases can be reduced by means of clearly defined research methods and training, other biases, such as the self-selection of project participants, are harder to eliminate.

Regarding the self-selection of participants, studies in Western Europe show that only a small number of the population visits cultural and research institutions regularly. The main barrier mentioned by visitors is the unapproachable image of these institutions. Therefore, the citizen humanities are sometimes regarded as an instrument to address hitherto uninterested people, due to the idea of open participation. Unfortunately, this aim can rarely be reached. This is demonstrated by a study on MicroPasts, which is a popular platform, especially in the UK. The platform primarily addressed academics and people who are already interested in humanities topics and institutions (Bonacchi et al. 2019). To attract new participant groups and keep them active in the long term, citizen humanities projects have to target the interests of broader social groups, and address certain groups and minorities directly.

Participant Training and Retention

As in any citizen science project, the comprehensible explanation of research methods and the usability of the tools are additional challenges. Even though citizen humanities projects are intended to save time for the institutions in the long run, their implementation needs a lot of time and resources, especially in projects where participants are not only supposed to perform simple tasks like tagging but have to be trained and supervised extensively in order to acquire the necessary competences and to understand how the researchers of the respective discipline are working. Heritage institutions where participants are involved regularly in specific tasks over a long period, such as archaeological surveys, transcription, or research, have therefore developed special gradual training schemes with permanent supervisors. The Bavarian State Archaeological Office, for example, has a department for working with volunteers. These volunteers are not only trained but can also develop own ideas for the preservation and communication of cultural heritage together with the department (Obst and Mayer 2016).

To attract participants and engage them actively in the long run, a project must not only be interesting to the researcher but also to broader groups of people. Therefore, projects should offer links to the participants' everyday lives, both in terms of topic and the lessons learned and the competence acquired by the participants. In addition, science communication and guidance play a central role in any citizen science project. However, in some projects, for example, due to orientation towards research, these can be addressed only to a limited extent, which may not be sufficient for successful participant retention. The reasons may be a researcher's lack of time and

resources or a lack of competence when communicating with the public. Opening up the humanities and cultural heritage institutions by allowing public participation is not enough to attract participants. If projects want to address certain groups, for example, minorities, these must be invited directly. The project's added value as well as the relevance for them has to be clarified.

Digitalisation

Another challenge in the citizen humanities is the use of digital tools and techniques by the participants. Digital (humanities) tools primarily target researchers and specialists. Moreover, annotation schemes used for analysis may be hard to grasp for non-specialists. As with any citizen science tool or method, the usability for the participants is key. Therefore, adaptations and simplifications may be necessary without sacrificing academic rigour.

Moreover, the data compiled and analysed in citizen humanities projects should be as re-usable as possible and may feed into digital (humanities or cultural heritage) infrastructures. Research in the humanities may rely on collections (of text), that is, corpora and databases. These corpora may be compiled individually or re-used. CLARIN, which stands for Common Language Resources and Technology Infrastructure, or DARIAH, which is the acronym for Digital Research Infrastructure for the Arts and Humanities, are existing infrastructures providing resources. Moreover, specialised tools are used for the collection, analysis, and visualisation of (textual) data. These allow the creation and visualisation of (historical) data in networks and maps. In addition, the Text Encoding Initiative (TEI) XML standard, which is a common standard for encoding electronic text, is widely used in the digital humanities to enrich digital objects.

This shows that the citizen humanities are embedded in larger research and cultural heritage frameworks and that standards should be followed to allow for interoperability. Digitalisation also allows for 3D reconstructions of cultural heritage, such as the 3D models used in archaeology, the combination of data from different sources in visualisations, the use of linked data and ontologies, as well as the analysis of large amounts of data and the creation of digital collections.

Added Value of the Citizen Humanities

The epistemic and societal outcomes of the citizen humanities include the enhancement, preservation of, and access to cultural heritage, the creation and access to databases of lasting value, or the generation of new findings and new knowledge in the humanities (see Fig. 6.1).

Public participation may help enhance (cultural) material and may change the relationship between citizens and cultural organisations. The citizen humanities,
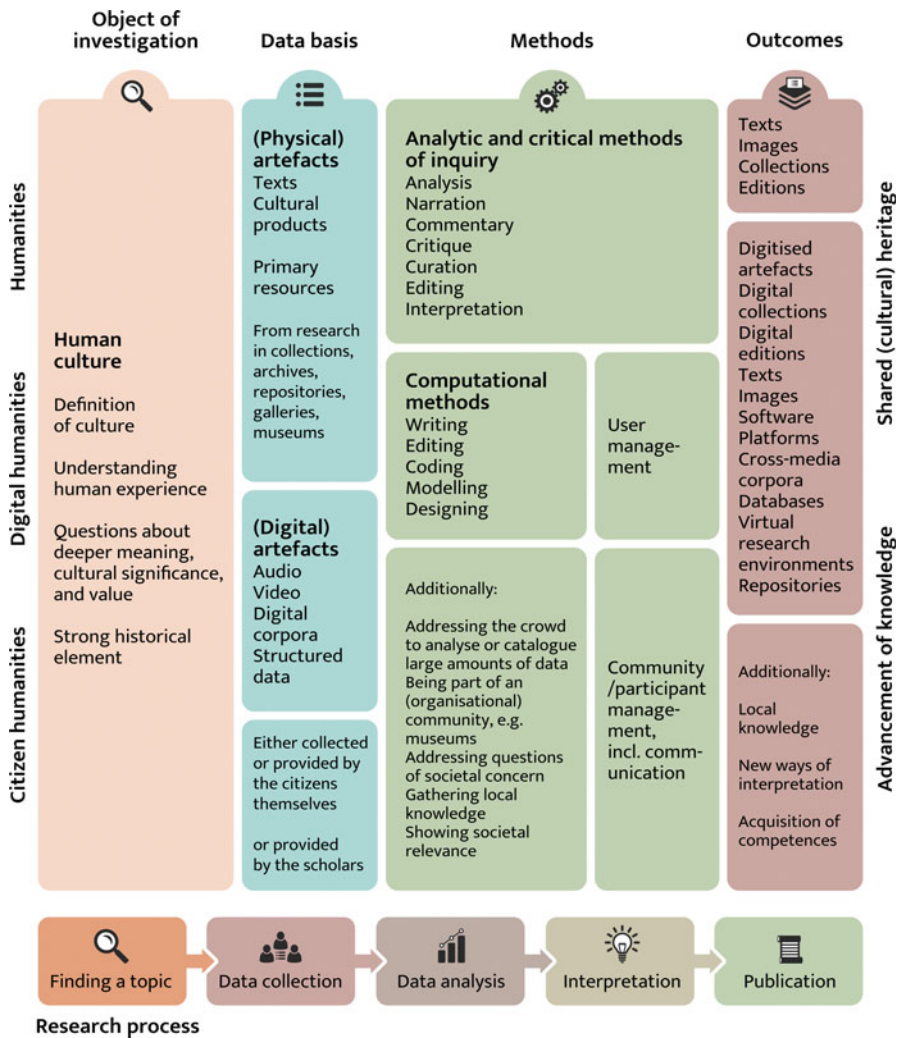
Fig. 6.1 Comparison of humanities, digital humanities, and citizen humanities throughout the research process

similar to citizen science, provide an insight into the academic research process and thus increase academic literacy among nonacademics. Participants may increase their knowledge of the topic, may apply more critical and connected thinking, enhance their presentation and writing skills, use generic platforms as tools for learning, and become well versed in using primary sources (Dunn and Hedges 2018).

Tapping Local Knowledge and Critical Reflection

The inclusion of non-professional researchers brings new and different knowledge into the research process. This is particularly evident from indigenous or experimental knowledge, which is embedded both locally and in everyday practices, for example, knowledge about the occurrence of animal and plant species and their use, about local (mythically embedded) heritage sites and objects, or about cultural traditions. Studies have shown that indigenous knowledge of local biodiversity is often similar to the results of scientific field studies (Danielsen et al. 2018). This form of knowledge is called *situated knowledge* (Haraway 1988), and objectivity may only be generated from it if specific perspectives are added.

The participation of citizens in scholarly research thus has the potential to question the common view that academic knowledge is objective and to expand our concept of knowledge. This discussion goes beyond the dimension of authentic knowledge and relates to questions of locality, experience, and perspective. Nevertheless, citizen science does not always generate site-authentic or situated knowledge. This is rather one aspect of a diverse practice that revolves around participation in and access to the academic exploration of the world. The dimension of local knowledge may not be specific to the humanities as such, as the example of indigenous biodiversity knowledge shows, but the humanities alone provide the methodological apparatus for the appropriate recognition of this kind of knowledge. With the approach of understanding, the humanities preserve and interpret the diversity of perspectives and their cultural embedding in local contexts. If local knowledge is regarded merely as a resource to supplement the 'objective' knowledge of science, its special quality may be lost.

The humanities also provide a rich pool of approaches and theories that re-evaluate the knowledge of non-experts and highlight it as a complement to academic knowledge (Boltanski and Thévenot 2006; Rancière 1991). Additionally, reflections on the change of societies, knowledge systems, and canons are among the core tasks of the humanities – they can help other fields of research reflect on the changes they undergo through the influence of citizen science.

In the heritage sector, for example, there is currently an intense and emotional debate about postcolonialism and the handling of objects with a colonial background. The use of citizen humanities here is closely connected to the topics of learning in citizen science as well as citizen science leading to social innovation (Butkeviciene et al., this volume, Chap. 16). The term postcolonialism describes the fact that although there are almost no (European) colonies remaining today, former colonial powers have often not come to terms with their colonial history and its consequences until today. This is illustrated by power–political divides and the patriarchal behaviour of the colonial countries (i.e. the 'Western world', or the 'Global North') towards their former colonies (i.e. the 'Global South'). This affects the cultural sector and the humanities, for example, in the form of the low recognition of indigenous cultural traditions in the humanities canon and their designation as 'exotic' or "indigenous' compared to the allegedly global universality and meaning

of European cultural traditions and objects (Albrecht 2019; Durer et al. 2018). The current debate mainly focuses on objects from former colonised countries that still remain in the hands of the colonial powers' museums and heritage institutions. In addition to limited resources and legal issues, provenance research for these objects can be difficult (Stack 2019; Storm 2019). Here, citizen humanities research undertaken with people from the countries of origin can help collect information that would otherwise be difficult to reconstruct and to establish relationships with their original owners. Additionally, these forms of citizen humanities do not only contribute to a better political relationship with former colonies but also broaden the understanding of objects and object groups through the perception and knowledge of the local population, by associated traditions and rites as well as by the relevance of these historical objects in today's living cultures. Thus, these citizen humanities approaches can contribute to the academic knowledge which is strongly influenced by the European or North American perspectives. In addition, the participating citizens do not only provide researchers with information but also with new research questions and topics – and at the same time they gain access to the academic institutions and knowledge of the Western world. A similar application of citizen humanities is in the field of future-oriented studies of the past, for example, on the topics of house building, climate, and environment. Here, researchers together with local communities can research and revive the specific historical building activity, the tools and materials used to adapt to special climate conditions, the construction methods, and use of resources in the respective region in order to convey the importance of resource conservation, improve people's lives, and learn from and with them. These approaches can be regarded as so-called extreme citizen science initiatives and technologies for social innovation, which have mainly been applied by the social sciences so far.

Relevance

The humanities are relevant to the citizen science landscape in various ways. Digital humanities that combine humanities and digital technologies in manifold ways open up new opportunities to collaborative research and, thus, to citizen humanities. Nevertheless, recent advances in the field of artificial intelligence are likely to render some tasks done by volunteers obsolete, since tasks such as tagging and transcribing lend themselves to automation. Thus, the citizen humanities need to adapt to recent developments and find new approaches to engage and involve volunteers. This may require different ways to participate in a project or a stronger focus on the value of the project for the participants.

The humanities play a crucial role in teaching critical thinking competences. In a world that is driven by technological progress, citizens need a critical mind when confronted with novel information and developments. In times of fake news, misinformation, and scepticism towards research and academia, it is necessary to see citizen humanities not only as a way to generate new research data and

knowledge but also as a means to establish closer links between scholars and citizens. Citizen humanities means to learn from each other. Scholars can learn from the participants' ideas and perspectives on their research, and the participants can learn the critical handling of sources and the application of research methods to classify and assess information. In addition to the acquisition of specialist knowledge, participants in citizen humanities projects can gain transferable skills, such as presentation or analytical skills. This means that the citizen humanities are not only a way to learn *about* the humanities but also a way to acquire critical competences and increase life quality via the humanities (Matarasso 1997). The acquisition of these competences and the related effects can be placed at the centre of project communication. This may help to address those people that do not have an intrinsic motivation to participate in citizen humanities projects. Certificates that document the participants' competences may help address new target groups through extrinsic motivation. Additionally, well-educated citizen humanities participants can play a central role as multipliers and advocates for humanities topics and research in society, starting with their families, friends, and neighbours.

One of the exciting possibilities of citizen humanities is that they can place the large quantities of information languishing in notebooks in museum collections in a new light: no longer 'dead' information but potentially the key to new forms both of historical understanding and scientific advancement.

Compared to (digital) citizen science, (digital) citizen humanities are a rather new development, but the contributions of volunteers have always played an important role in preserving, understanding, and making accessible cultural heritage.

A future trend for the citizen humanities is their contribution to the achievement of the Sustainable Development Goals and the biocultural diversity discourse (Adamson 2016b; Poole 2018) since they raise questions about values, cultural significance, and deeper meaning. Citizen scientists are also regarded as a universal data source, for example, for the reporting mechanism of the Sustainable Development Goals. The topic of postcolonialism shows how citizen humanities projects can combine current topics with academic knowledge, demonstrate the relevance of the humanities for society and politics, and establish a direct link to society.

Conclusions

Although there are many commonalities between the citizen humanities and citizen (social) science, related to the research process and participant management, their objects of investigation and their methods differ in several respects. The citizen humanities aim to reach people who join forces in applying humanities' methods that range from transcribing and tagging to tapping local knowledge. The citizen humanities can help uncover rich treasures hidden in archives, digital environments, and the minds of people. They may open up new research questions through mutual learning between scholars and participants or through the analysis of previously discarded

information. Additionally, the profound (local) knowledge of citizens may challenge the understanding of experts.

While the digital humanities revolve around the application of digital tools and digital resources to the humanities, developments, such as artificial intelligence, may replace citizens in those projects that are oriented towards crowdsourcing. Therefore, citizen humanities may need to concentrate on the added value for the participants, competence development, and societal relevance.

The different approaches to the citizen humanities range from on-site projects to digital-only projects, from researcher-driven projects to community-driven initiatives, from data collection and data preparation that makes (scholarly) research possible in the first place to knowledge production and critical reflection on practices. They also range from cultural heritage considerations, revolving around issues of preservation and access to cultural heritage, to research considerations which are primarily aimed at the advancement of knowledge. This demonstrates that citizen humanities can take different forms, for example, from crowdsourcing to solving issues of public concern (in a wide range of disciplines). As part of interdisciplinary projects, they place issues in a historical context or allow for their critical analysis, which is required to predict and meet the challenges of the future.

In addition to the advancement of knowledge, citizen humanities can unlock the potential of embedded, diverse, and culturally sensitive knowledge and play a crucial role in preserving and enriching cultural heritage.

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