

integrated understanding of visitor interest and reactions to specific exhibitions or the museum overall and to track visitor satisfaction [68,70]. In addition, ChatGPT appears well suited to extract pertinent data from longer documents and to provide a succinct summary [71], which could be employed in the creation of exhibition texts [72,73] and scripts for audio guides [73], while data extraction from object inventory data can result in the creation of exhibit labels and catalogue information [73] and museum guides [74]. This can be extended in the form of customized tours of exhibits and museum holdings that reflect a visitor's personal interests or information needs [68,70]. This is readily implementable given the increased digitization of museum holdings and their presentation to the public in the guise of digital exhibits, which was supercharged by the digital pivot required in response to the shuttering of museums during the COVID-19 pandemic [75–79]. Not surprisingly, some concerns have been raised as to how ChatGPT could affect museum studies projects in school curricula by encouraging plagiarism and reducing active enquiry [80].

While ChatGPT appears to have considerable success in responding to fact-based tasks [37,47], the question arises whether it can provide similarly valid responses when tasked with explaining theoretical concepts.

While some of the limitations of large language models such as ChatGPT are known, with such models occasionally labeled “stochastic parrots” [81,82] (but see [83]), and while it has been argued that ChatGPT cannot reason [84–86], there is, at least at the time of writing, no published or preprint information on ChatGPT's capability of synthesizing and presenting complex concepts beyond its well-documented capacity to extract and summarize factual information. Yet it is this kind of capability that will be very useful, if not essential, to a user who is generally “naïve” about a topic and wants to engage in a conversation-like question-and-answer fashion rather than reading a summary page provided on a general user platform such as Wikipedia.

This paper is informed by the researcher's longstanding interest in cultural heritage theory and management, and his role as a teaching academic in that discipline (with multi-decade experience) being concerned by the possible (ab-)use of ChatGPT as a tool to generate undergraduate assignments.

1.3. Background: The Nature and Assessment of Values Attributed to Cultural Heritage Assets

In broad terms, cultural heritage is the result of peoples' interactions, both with each other and with the environment in which they live. The outcome of these interactions expresses itself in a number of forms. Peoples' interactions with each other result in intangible manifestations which find their expression, inter alia, in language, folklore, sounds, skills, cultural knowledge, performing arts and customs [87–90], whereas people's interaction with the environment manifests itself in a tangible form, such as the built and constructed environment, cultural landscapes, resource extraction and refuse sites, as well as in moveable artefacts and objects [88]. Both spheres can overlap where multisensory experiences occur in tangible spaces [91]. Whether these manifestations are deemed cultural heritage depends on the level of importance ascribed to them and the extent to which they are deemed to be important enough to be transmitted on an intergenerational scale by a community or section thereof.

Management processes aim at fostering the conservation and preservation of tangible heritage assets through the identification and intervention of decay processes [92–94], as well as the identification of adaptive reuse options for places that have lost their original function [95–97] and the maintenance of intangible heritage assets through documentation and in particular through ongoing practice. Despite public rhetoric that espouses the notion that heritage is being preserved for the future [98,99], this preservation of cultural heritage assets occurs to service present-day desires and aspirations. As such, management cannot presuppose future perceptions of heritage significance [100]. Any preservation of assets, however, affords the next generation the ability to make decisions [101].

Whether heritage assets are “worthy” of preservation and conservation is underpinned by how and to what degree individuals, groups of individuals and entire communities

value these assets and what level of importance they ascribe to their preservation. Whether cultural practices and tangible assets inherited from past generations are valued by a present-day community is dependent on the degree to which these define or circumscribe the cultural identity of the group or community and to what extent the current cultural identity is anchored in and dependent on these experiences and traditions.

All attributions of value are anthropogenic, and often also anthropocentric constructs that are projected on an inanimate (e.g., tangible heritage sites and objects) or animate human (e.g., intangible cultural heritage) and non-human world (e.g., the natural environment). Consequently, nothing possesses “intrinsic value” (i.e., valuable in and of itself) unless human individuals, singly or as a group, attribute such value onto a given entity. While the basic needs to be met on Maslow’s pyramid are often attributed intrinsic value (such as food, water and shelter), the history of the industrial pollution of air and water demonstrates that the intrinsic values are not universally held. The same applies to the natural environment, which, although ascribed intrinsic value by ecologists and ethicists [102], has long been regarded as exploitable in a knowing fashion, even to the extent of the extinction of species or the exhaustion of natural “resources”. In view of their anthropogenic origin, both the nature and the perceived importance of values will differ between individuals and groups of people, wherein cultural traditions and group identity shape, define and consolidate these values. Humans as social creatures are embedded in a complex web of past and present interpersonal, intra- and inter-group and community relationships. These relationships result in—and shape—a person-centered equally complex web of values that we project on the various expressions of heritage and that are contingent in strength on the valuer’s position in their social space at that point in time. Differences in the perception of values, which can be perceived as positive, neutral or negative, may result in value trade-off or, where non-negotiable, in value conflicts [103–105].

The authorized heritage discourse (*sensu* Smith) is founded on four axiomata, namely that tangible cultural heritage assets are scarce; finite; non-renewable and valuable. It posits that heritage assets are inherently valuable, with some authors even attributing intrinsic value [106]. The authorized heritage discourse commonly relies on the identification and assessment of four sets of heritage values, aesthetic, historic, scientific and social value, which are enshrined in many formal charters, standards, regulations and guidelines [107–112]. The assessment of these values leads to a determination of heritage significance, from which all management and conservation actions flow (or the abstention therefrom). The assessment of these values, however, is prone to be influenced by the dominant culture and by professional practitioners [88,113–116]. While some of this can be overcome with broad-based consultation or even community-based assessment and co-creation [109], intra-group dynamics will influence the process [117].

Heritage values and the significance derived therefrom are neither universal nor static. Rather, as expression of a culture, they are culturally relative entities [118,119] and subject to an individual’s cultural positioning [120] and also mutable entities due to changing professional [121,122] and intergenerational perceptions and perspectives [123]. Indeed, the past two decades have seen a widened understanding of the interpretation and application of values, in particular in terms of gender [124,125] and Eurocentrism [126–128], with studies looking at the epistemological basis of the various conceptualizations and descriptors of values attributed to heritage (instrumental, authenticity, etc.) [129].

While most scholars see the instrumental value of heritage in terms of identity [130–133], the tourism literature in particular examined the instrumental value of heritage, both in its tangible and intangible manifestations to the tourism product and the economics derived therefrom [134–136].

Any discussion of the specifics of heritage values projected on tangible and intangible manifestations will depend on the cultural positioning and standpoint of the valuer. Although numerous approaches are possible, all discussions should cover aspects of the authorized heritage discourse, cultural relativity, the subjectivity of assessment and the mutability of values.

the words [138] and which expresses the complexity in terms of (US) grade levels. This ranges from 4.8 to 6.5 for recreation books, 13 to 15 for textbooks used in tertiary education and in excess of 17 for scientific writing [139–141]. Among the latter category, a trend of increasing complexity has been observed [141]. The Flesch–Kincaid score for the essays written by ChatGPT ranged between 16 and 19.5, with an overall average of 17.8 ± 0.9 ($n = 36$; Table 1).

3.1.2. References Cited in the Essay Task

As part of the essay task, ChatGPT was asked to provide references. The majority of the iterations generated by ChatGPT cited between four and five references per iteration (Figure 2), which, with few exceptions, were presented in alphabetical sequence. Where not in alphabetical order, the sequence of genuine references seems to reflect the order in which sources were drawn upon.

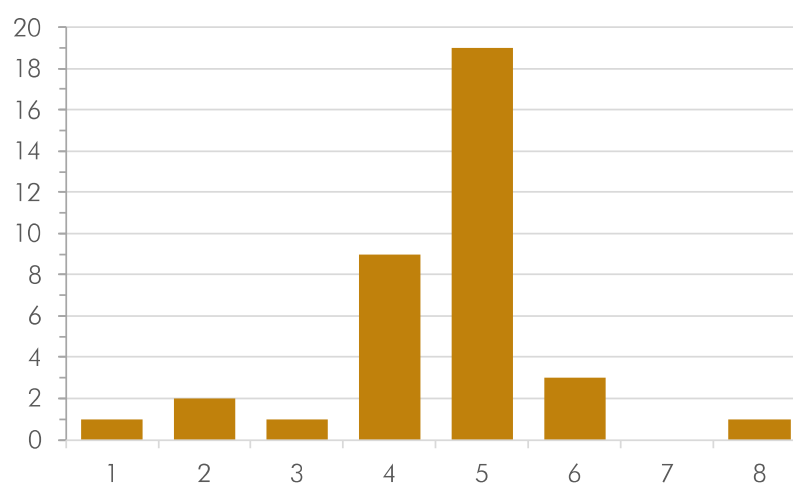


Figure 2. Frequency of the number of references cited per iteration.

With two exceptions, none of the statements in the essay texts were referenced within the paragraphs, with references given in the form of a bibliography at the end. In both instances, where essays referenced assertions made in the text within the paragraph (essays A4 and B12), each paragraph of the body of the essay (excluding the introduction and the conclusion) carries one reference. The references are broadly contextual, but the relevance of each citation was drawn from a key term in its title (with one additional fictitious reference in essay B12).

ChatGPT explicitly commented in one essay (A1): “It will draw upon scholarly references and case studies to support the discussion.” The reader has to assume that the references are genuine and generally there is no indication by ChatGPT that this may not be the case. Only one iteration (B9), which cited a single, fictitious reference, added the following caveat at the end the manuscript text: “Note: *This essay is a product of an AI language model and the references provided are fictional. Please consult academic sources for authentic references on the topic*”.

To a casual user who is not firmly familiar with the literature, however, *all* references appear valid because (i) the titles appear plausible; (ii) journal titles are those of genuine publications and (iii) and the vast majority of authors’ names were those of academics publishing in the fields of cultural heritage or archaeology or were from cultural heritage organizations such as UNESCO or ICOMOS. Only 6.0% of the authors “cited” did not publish in the discipline, with another 1.8% being dual non-existent author combinations where one author did publish in the relevant fields.

The veracity of all references was verified through title searches in GoogleScholar. Depending on the run set, between 40% and 56.4% of the references existed, while between 23.6% and 40% of the references were entirely fictitious (Table 2).

Three commented on subjectivity or cultural relativism, while the others diverged considerably. The remaining essays simply described the heritage values without specific framing, one of which did so without any contextualization or qualification (Table A6).

A second group of seven essays framed their exposition in overarching, more fundamental concepts of values. These essays lead off with a description of intrinsic values followed by a section on instrumental values (five essays). Thereafter, the expositions diverge considerably without any discernable clear pattern, generating individual essays that all cover different aspects with a different emphasis (Table A7).

A third group of five essays framed their exposition in terms of heritage significance (Table A7), but then widely diverged in their line of argument (A10, B3, B7, C5 and C10). Three additional essays framed their exposition as “understanding cultural heritage values” (A5, A9 and C7). Common to all is that the level of exposition also involves overarching, more fundamental concepts of values, with common aspects of subjectivity and cultural relativism. Again, ChatGPT generated individual essays without any discernable clear pattern that all cover different aspects with a different emphasis.

The fourth group started their exposition with commentary on the subjectivity of values, with two essays progressing to comment on the diversity of values and their evolving nature (Appendix B, Table A9). Again, all essays are individual in their approaches and emphasis. One of these included a case study (Sydney Opera House), an approach that had not been taken by any of the other iterations (essay B9).

The remaining two iterations (essays A12 and C3) commenced with a discussion of the multidimensional nature and the subjectivity cultural heritage values and then also diverged, again discussing overarching, more fundamental concepts of values.

3.3.3. Coherence and Complexity of the Argument

When considering the essays, the two framing sentences in the introduction set out the general focus of the paper, while the following sentence merely repeats the essay task. While the essays broadly follow what the first two sentences of the introduction signal is the focus of the essay, the exposition itself often does not follow this. While the exposition section is generally structured as a description and definition of a select set of values (or criteria) followed by broader concepts and limitations, there is no coherent line of argument. Instead, the exposition is a sequence of discussion points that are commonly presented in an unconnected form. The discussion section seemingly provides a generic summary, but when examined more closely, reflects only part of the exposition and does not tie back to the aims as stated in the introduction. The following example (essay A7) is one such example.

“Introduction: Cultural heritage plays a vital role in shaping our identities, understanding our history, and fostering a sense of community. As societies evolve, it becomes crucial to assess and evaluate the significance of cultural heritage sites and objects. However, the assessment of cultural heritage significance is a complex process that involves a range of values. This essay explores the nature of values used in the assessment of cultural heritage significance, highlighting their diversity and the influence they exert on the preservation and interpretation of our shared heritage”.

The introduction is straightforward and sets up expectations regarding a discussion of the nature and diversity of values, but also their role in heritage preservation and interpretation. The following exposition presents eight topics as numbered dot points in the following order:

1. Cultural Heritage Significance.
2. Intrinsic Values.
3. Historical Values.
4. Aesthetic Values.
5. Social Values.
6. Spiritual and Religious Values.
7. Scientific Values.
8. Cultural Diversity and Multicultural Values.

The lead paragraph, which clearly follows the authorized heritage discourse, notes that *“Cultural Heritage Significance: Cultural heritage significance refers to the value and importance ascribed to a particular heritage site or object. Significance assessment enables us to understand and prioritize cultural heritage resources for conservation, management, and interpretation. It involves examining both the tangible and intangible aspects of cultural heritage, including historical, aesthetic, social, spiritual, and scientific values”*.

Instead of following its outline sequence, ChatGPT first proceeds to discuss “intrinsic values”, which it constructs as follows: *“Intrinsic values refer to the inherent qualities and characteristics of cultural heritage that make it valuable in and of itself. These values are independent of human perceptions and interactions. For instance, the age, rarity, and authenticity of an artifact contribute to its intrinsic value. Intrinsic values are essential in determining the uniqueness and irreplaceability of cultural heritage, guiding decisions on preservation and conservation”*.

Setting aside the problematic definition of “intrinsic value” (see Discussion), there has been no lead-in that considers the anthropogenic, and often anthropocentric, nature of values, within which the concept of intrinsic value needs to be situated. Rather than building on this by considering and outlining instrumental values, ChatGPT picks up its outline and presents the “standard” values as prescribed by the authorized heritage discourse: historical, aesthetic, social, spiritual and religious and scientific values. Each of these sections is written as a standalone paragraph without any connection to the previous or the following section. There is also no attempt made to arrange the sequence in a logical structure, such as presenting the values with increasing or decreasing levels of subjectivity.

The final numbered section, which covers “cultural diversity and multicultural values”, highlights that cultural heritage encompasses a “diversity of human experiences and perspectives” and the “importance of different cultures, traditions, and languages.” This section does not follow from the previous section, nor is it signposted in the beginning. It is also purely descriptive and fails to comment on cultural relativism.

The conclusion section briefly summarizes the exposition, but does not draw out any common threads, nor does it highlight the importance of the nature of values or any commonalities they may have: *“The assessment of cultural heritage significance is a multifacet [sic] process that requires the consideration of various values. Intrinsic, historical, aesthetic, social, spiritual, scientific, and cultural diversity values collectively contribute to our understanding of cultural heritage and inform decision-making processes. Recognizing and valuing this diversity of values is essential to ensure the preservation, interpretation, and enjoyment of our shared heritage for present and future generations”*.

Overall, there is little coherence to the argument within a ChatGPT-written essay, as the sequence is arbitrary, without any defined thread, and the text is basic, without any depth or complexity. In terms of Bloom’s revised taxonomy, the essays produced by ChatGPT, which are essentially a reconfiguration of data extracted from various sources, can be situated at the “understand” level [142] as ChatGPT has shown to be unable to analyze and evaluate concepts related to heritage values. Setting aside conceptual flaws such as inverted logic in some of the sections, the essay could possibly pass as a junior high school assignment where the collation and selective presentation of data on a topic is an acceptable standard, but falls short of what would be expected in senior school, which requires the ability to analyze, let alone at a university level, which requires essays that are based on the perusal of diverse literature and that demonstrate reasoning and an ability to evaluate, to critique and to advance a balanced discussion [143].

3.3.4. Iterations vs. Fresh Starts

After the provision of the first response to a prompt, the ChatGPT interface gives the user the opportunity to “regenerate” that response. Any request to regenerate carries with it an implied level of dissatisfaction on behalf of the user with content or detail provided by ChatGPT in its first response. Potentially, therefore, ChatGPT can learn from any request for regeneration of a response. After the first regeneration, the user is provided with a

At a superficial glance, the types of values that are included in the essay responses make sense, but the responses are patchy, and a more in-depth examination exposes problems that seem to be due to the generative nature of ChatGPT and which highlight its limitations. In the following we look at a select number of examples, which are representative but by no means exhaustive.

Consider the following, which at first sight appears reasonable: *“Historic values are concerned with the historical context, narratives, and events associated with cultural heritage. These values emphasize the significance of heritage in conveying historical knowledge and understanding. Historical values often emerge from the connection between heritage and significant events, figures, or periods in history. For example, a site where a historic event occurred may be considered culturally significant due to its historical value”* (essay A8). Upon closer examination, the second sentence is fundamentally flawed, as it inverts the conceptual sequence. It constructs historic value as *“emphasiz[ing] the significance of heritage in conveying historical knowledge”*. In common usage by the heritage profession, heritage assets may indeed be attributed historic value if they contribute significantly to our understanding of the course or pattern of an area’s history [109]. The overall heritage significance, however, is derived from the nature and strength of that contribution and not the other way round.

In another example, one essay presents the “category” of “Historical and Associative Values” and expounds as follows: *“Historical values pertain to the significance of a heritage element in relation to past events, periods, or people. Associative values refer to the connections between a heritage element and individuals or groups who have interacted with it, such as cultural, religious, or political associations. These values highlight the importance of heritage as a record of collective memory and identity”* (essay B10). This highlights two fundamental problems. The first sentence again inverts the conceptual sequence. It again constructs value as to whether a “heritage element” has significance “in relation to past events, periods, or people”. The second sentence is a *mélange* derived from British approaches to heritage assessment [111,150]. While these sources use historic associative value, this does not relate to “cultural, religious, or political associations” as constructed by ChatGPT, but relates to an asset’s “association with a notable family, person, event, or movement” [111]. The ChatGPT AI language model appears to have split “historic associative value” into historic and associative value and then proceeded to split “people” into “individuals or groups”, while also assuming an equivalence of “associative” with “associations”.

A third example is the treatment of “social value” in a different essay (A7). ChatGPT states that *“[s]ocial values highlight the role of cultural heritage in society and its impact on communities. They encompass the sense of identity, pride, and belonging that individuals and communities derive from their heritage. Social values also include the educational, inspirational, and recreational opportunities provided by cultural heritage”*. Once again, this is an inverted logic. Social value does not “highlight the role of cultural heritage in society” but is derived from the importance that communities (or sections thereof) attribute to heritage assets or practices and that are instrumental to the social or cultural wellbeing of that community. While cultural heritage undoubtedly provides educational, inspirational and recreational opportunities, these are not social values as used in heritage assessment.

The same essay notes that *“[a]esthetic values pertain to the artistic and visual qualities of cultural heritage. They encompass the beauty, craftsmanship, and creativity of artifacts, architecture, and landscapes. Aesthetic values evoke emotional responses and are instrumental in creating a sense of awe and appreciation”*. Once again, aesthetic values do not evoke “emotional responses” and a “sense of awe and appreciation” to cultural heritage assets, but the perception of such responses may contribute to a notion that aesthetic value can be attributed to a cultural heritage asset. Yet, when examining other values discussed in the same essay, such as scientific value or spiritual values, the logic is not inverted, and the explanations are quite reasonable.

While many essays make reference to the subjectivity in evaluation (66.7%), cultural relativism (47.2%) and evolving societal perspectives (52.8%) (Table 3), none of them frame values as anthropogenic, and often anthropocentric constructs are projected on

inanimate objects, structures and landscapes or on people's cultural activities and practices. This lack of fundamental understanding results in ChatGPT presenting the concept of "intrinsic value" in a third of the essays (Table 3), with formulations such as "[i]ntrinsic values pertain to the inherent qualities and attributes of cultural heritage, such as its aesthetic, historic, scientific, or spiritual significance" (essay C11). In almost all instances, the aesthetic/artistic, scientific, spiritual, or historical qualities of heritage items are drawn upon to exemplify "intrinsic value" (essays A4, A11, B2, B4, B8, B11 and C11). The definition of intrinsic value as inherent worth is derived from finance theory [151], with wide application among environmental ethicists [152,153]. Except possibly for a small segment of fundamentalist heritage professionals, aesthetic, historic, scientific or spiritual values would not be construed as intrinsic, but as instrumental and part of community wellbeing [131].

A more elevated comment is made in essay A7, where ChatGPT expounds that "[i]ntrinsic values refer to the inherent qualities and characteristics of cultural heritage that make it valuable in and of itself. These values are independent of human perceptions and interactions. For instance, the age, rarity, and authenticity of an artifact contribute to its intrinsic value." Contrary to its assertions that the cited value examples "are independent of human perceptions", both "rarity" and "authenticity" are subjective and mutable constructs, while "age" can also be subject to evidentiary biases—all of which are "independent of human perceptions and interactions". It appears that ChatGPT conflates the ontological components of artefacts with their value.

ChatGPT juxtaposes these intrinsic values with instrumental values, which refer "to the usefulness or benefits that cultural heritage provides to society beyond its inherent worth. It includes economic, social, educational, and environmental dimensions" (essay A4). Again, in all instances where instrumental values were referred to (essays A4, B2, B8, B11 and C11), the exemplification involved economic (incl. tourism), educational and social benefits, including "community cohesion" and "sustainable livelihoods" (the latter essay B2).

A further example of confused logic is a section in an essay, which notes that "[e]thical and spiritual values are integral to the assessment of cultural heritage significance, particularly when considering indigenous or sacred sites. These values encompass the rights, beliefs, and practices of communities that have a deep spiritual or ancestral connection to the heritage element. Respecting these values is crucial for ethical and culturally sensitive heritage management" (essay B7). While it is appropriate to respect spiritual values held by First Nations communities when engaging in ethical and culturally sensitive heritage management, these are not ethical values associated with heritage assets, but professional ethics. That this confused logic is not aberration is underlined by another essay which noted that "[e]thical considerations and intangible values are integral to the assessment of cultural heritage significance. Ethical values address issues such as ownership, repatriation, cultural appropriation, and the impact of heritage management practices on local communities" (essay C2).

The concern with these, and a plethora of other examples, is that such formulations can pass careless or cursory reading. Moreover, members of the general, non-specialist public are less likely to identify such shortcomings.

One of the limitations of ChatGPT seems to be that while the resulting product is plausible in language and expression, it suffers from inverted logic, as shown above. The following observation suggests that this is, at least in part, caused by initial word substitution, which then sends ChatGPT off track.

As noted in the introduction, cultural heritage manifests itself in tangible and intangible forms. All of these relate to the outcomes of peoples' interactions, both with each other and with the environment in which they live. In several essays discussing cultural heritage values, ChatGPT commingled the concept of tangible and intangible "heritage" with tangible and intangible "values" (essays A5, B7, C2, C5, C8 and C10). Clearly, as all values are intangible concepts that are projected on tangible (and intangible) products of a community,

the concept of “tangible value” is an oxymoron. In most instances, ChatGPT drew on definitions of tangible and intangible heritage and substituted “value” for “heritage”.

One essay includes a section on environmental and natural values, where ChatGPT expounds that “[c]ultural heritage is not limited to man-made structures and traditions but also includes natural landscapes, ecosystems, and biodiversity . . . Evaluating the environmental values of cultural heritage ensures the integration of conservation efforts with cultural preservation” (essay C8). Several papers comment on the fact that there is a continuum between natural and cultural heritage [154,155], even though value conflicts are not uncommon [105]. In this example, ChatGPT seems to have used a snippet of information related to this nexus, and, possibly triggered by the mention of cultural landscapes, focused on the noun and substantive term of “landscapes”. From this it then constructed the notion that natural landscapes, ecosystems, and biodiversity are manifestations of cultural heritage.

Another example is the assertion by ChatGPT that heritage assessments can be based on objective criteria, but then proceeds to exemplify this with “historical importance, architectural or artistic merit . . . and scientific value”, all of which are subjective criteria held by sections of society. In the interpretation of the ChatGPT model, these are somehow different from the subjective values which the essay addresses in the subsequent paragraph, and which are noted as being “deeply rooted in cultural, social, and personal perspectives” (essay B3).

As noted in the discussion of the example presented in the results section, and which applies to all essays assessed in this paper, there is, overall, little coherence to the argument made in each essay. The sequence of the argument in each exposition seems arbitrary, without any defined thread, and appears to be triggered by the sequence of terms and concepts enumerated in the introduction. In essays written by humans, the argument is structured, and commonly completed, before the introduction and conclusions are written, which can then tightly frame and summarize the arguments made. At this point in its development, ChatGPT does not seem to be able to reflect on the coherence of its argument and improve the text before it is presented. The complexity of the argument is also left wanting.

One of the potential limitations of the approach taken in this paper is that ChatGPT was given a set task, and that multiple iterations of the same task were generated rather than systematically tweaking and adjusting the prompt to engineer “better” outcomes. This approach was deliberate, however, as the aim of the paper was to emulate a generic query by a “naïve” user, rather than to generate a response for an already informed and knowledgeable user.

4.3. Can ChatGPT Reflect on and Improve Its Own Work?

While writing this discussion section, it seemed apposite to assess whether ChatGPT can provide some reflection and then integrate that reflection into a better version. A separate conversation was carried out (for full text see Appendix A). As before, ChatGPT was tasked to “Write a 1500 word essay that discusses the nature of values used in the assessment of cultural heritage significance” and to provide references. In response, it generated a 673-word essay (incl. six references) that framed the exposition by stating that “determining the value of cultural heritage involves a complex interplay of subjective and objective factor” and that the essay would “explore the nature of values . . . highlighting the multidimensional and dynamic nature of these values”.

The exposition then presented the reader with the following seven groups of values: “tangible and intangible values”; “historical and social values”; “aesthetic and artistic values”; “symbolic and spiritual values”; “environmental and sustainable values”; “economic and tourism values”; and “community and identity values.” Each of these comprised a descriptive sentence or two followed by a sentence that outlined what would be required to assess the respective value (e.g., “Evaluating these values requires an understanding of the historical context and societal dynamics that shape the heritage’s significance”).

In common with all previous essays presented by ChatGPT, the essay lacked coherence and linkages, and also lacked overall complexity. In the same session, ChatGPT was then provided with the following prompt: *“What are the shortcomings in the essay that you just wrote?”*

To this, ChatGPT responded thus: *“To enhance the essay, it is recommended to revise the content by addressing these shortcomings, incorporating in-text citations, providing more diverse perspectives, including contemporary examples, discussing the challenges of balancing values, and exploring the dynamic nature of cultural heritage values”*. It then proceeded to provide explanatory two-sentence paragraphs to each of these points. Two of these relate to the mechanics of an essay (“lack of in-text citations” and “absence of contemporary examples”), while the remaining three are apposite critiques, such as “limited coverage of perspectives”, “insufficient discussion on balancing conflicting values” and “limited discussion on the dynamic nature of values”. The explanations of these three points, as provided by ChatGPT, provide reasonable pointers to revise the essay. There are obviously numerous other concepts that have been considered that ChatGPT used in other iterations of the essay, such as cultural relativism, the subjectivity of values or the concept of evolving societal perspectives.

ChatGPT was then provided with the following prompt: *“Can you rewrite and improve your initial essay by incorporating the critique that you just wrote? Keep in mind that the word limit is 1500 words, so have more room to expand your discussion”*.

Based on this instruction, ChatGPT returned an 844-word essay (incl. ten references). The new essay followed the first attempt in structure and content. A side-by-side comparison revealed that while the introduction had changed, the bulk of the text of the exposition remained the same. For each of the points made, ChatGPT rewrote the final sentence that outlined what would be required to assess the respective value. This reformulation, which rarely goes beyond paraphrasing, does not introduce any new dimensions of the values discussed. In the case of aesthetic and artistic values, it does add the comment that *“[i]ncorporating contemporary examples, such as modern art installations, helps to highlight the dynamic nature of aesthetic values”*. Throughout the revised text it fails to incorporate in-text citations, fails to provide more diverse perspectives, fails to discuss the challenges of balancing values and fails to explore the dynamic nature of cultural heritage values.

Based on the example provided in this paper, as well as repeat examples, ChatGPT seems to be able to highlight shortcomings in its own work, but then fails to integrate and incorporate these into a new essay that is substantively different from the initial attempt.

5. Conclusions

As noted in the introduction, ChatGPT has the capacity to extract and summarize factual information. The generation of multiple essays with the same topic has shown that its ability to synthesize concepts and to present them in the form of an essay, however, is limited. The concepts presented, which are often flawed and suffer from inverted logic, are presented in an arbitrary sequence with limited coherence and without any defined line of argument. Given that it is a generative language model, ChatGPT often splits concepts and uses one or more words to develop tangential arguments. At present, ChatGPT has shown to be able to provide some critique of its own work but seems to be unable to incorporate that critique in a meaningful way to improve a previous draft.

This then has implications on how a generative AI language model interprets cultural heritage values. An understanding of how values work in human society is fundamental to an interpretation of values, i.e., that values are broadly conditioned through enculturation and education but personalized through upbringing and life experience; that the strength attributed to a value is conditional on personal circumstances at the point of evaluation; and that, therefore, values are but tradeable and diachronically mutable entities. Any interpretation of values in general requires both an understanding of the fundamental nature of values in general as well as the specific types of values and their definitions as agreed upon by the respective discipline.

texture, artifacts, and landscapes, while intangible values encompass customs, rituals, languages, and knowledge systems. The assessment of significance must consider both aspects, recognizing that intangible values often imbue tangible heritage with deeper meaning.

2. **Historical and Social Values:** Historical values pertain to the significance of cultural heritage in relation to a society's past, encompassing its role in shaping history, historical events, and important figures. Social values, on the other hand, relate to the cultural heritage's role in fostering social cohesion, community identity, and inclusiveness. Evaluating these values requires an understanding of the historical context and societal dynamics that shape the heritage's significance.
3. **Aesthetic and Artistic Values:** Cultural heritage often possesses aesthetic and artistic values, reflecting the creativity and skill of its creators. These values can be found in various forms, such as architecture, sculptures, paintings, and traditional crafts. The assessment of aesthetic and artistic values involves considering elements such as form, design, craftsmanship, and the beauty or emotional impact conveyed by the heritage.
4. **Symbolic and Spiritual Values:** Cultural heritage can hold profound symbolic and spiritual meanings. Symbolic values are derived from the associations and representations linked to the heritage, such as national symbols or emblems of identity. Spiritual values, on the other hand, arise from the sacred or religious significance attached to certain sites, objects, or practices. Assessing these values necessitates understanding the cultural beliefs, narratives, and rituals connected to the heritage.
5. **Environmental and Sustainable Values:** Environmental values associated with cultural heritage emphasize its relationship with the natural environment. This includes landscapes, ecosystems, and biodiversity, as well as sustainable practices embedded in traditional knowledge systems. Recognizing the environmental impact and sustainable potential of cultural heritage is essential for balancing conservation efforts with the needs of contemporary society.
6. **Economic and Tourism Values:** In today's globalized world, cultural heritage often has economic significance, both locally and internationally. Economic values arise from tourism, cultural industries, and the potential for job creation and revenue generation. The assessment of economic values involves considering factors such as visitor numbers, economic impact studies, and sustainable development opportunities.
7. **Community and Identity Values:** Cultural heritage is deeply intertwined with community identity, serving as a source of pride, collective memory, and cultural continuity. Assessing community and identity values requires engaging with local communities, acknowledging their perspectives, and understanding the social, political, and economic factors that shape their relationship with the heritage.

Conclusion: The assessment of cultural heritage significance is a multidimensional and dynamic process that considers various values. From tangible and intangible elements to historical, social, aesthetic, symbolic, spiritual, environmental, economic, and community values, each dimension contributes to the overall significance of cultural heritage. Recognizing and balancing these values is crucial for effective conservation, management, and sustainable development of cultural heritage. By considering the diverse perspectives and voices involved, we can ensure the preservation of cultural heritage for future generations.

References:

1. UNESCO. (2016). Cultural Heritage. Retrieved from <https://whc.unesco.org/en/culturalheritage/> (accessed on 23 June 2023).
2. Smith, L. (2006). *Uses of Heritage*. New York: Routledge.
3. Waterton, E., & Watson, S. (2015). *Heritage and Community Engagement: Collaboration or Contestation?* New York: Routledge.
4. Graham, B., & Howard, P. (Eds.). (2008). *The Ashgate Research Companion to Heritage and Identity*. New York: Routledge.

5. Pereira Roders, A., & Van Oers, R. (Eds.). (2017). *Value in Heritage Management: Understanding Significance in Dynamic Contestations*. Cham: Springer.
6. Meskell, L. (2005). *Archaeological Heritage: Concepts, Issues, and Case Studies*. Cambridge: Cambridge University Press.

DHRS

What are the shortcomings in the essay that you just wrote?

ChatGPT

Upon reviewing the essay, there are a few shortcomings that should be addressed:

1. **Lack of In-text Citations:** The essay lacks in-text citations to support the statements and arguments made throughout the text. Although references are provided at the end of the essay, it is essential to incorporate proper citations within the body of the essay to attribute specific ideas or information to their respective sources.
2. **Limited Coverage of Perspectives:** While the essay touches upon various dimensions of cultural heritage values, it could benefit from a more comprehensive exploration of diverse perspectives. For instance, it could delve deeper into the viewpoints of indigenous communities, marginalized groups, or postcolonial critiques to provide a more inclusive understanding of cultural heritage significance.
3. **Absence of Contemporary Examples:** The essay lacks specific and current examples to illustrate the discussed concepts. Integrating real-world case studies or examples would enhance the understanding of how values are assessed in the context of cultural heritage.
4. **Insufficient Discussion on Balancing Conflicting Values:** The essay briefly mentions the need to balance values, but it does not delve into the challenges or strategies involved in managing conflicting values. Exploring the complexities of decision-making when values clash would provide a more nuanced perspective on the topic.
5. **Limited Discussion on the Dynamic Nature of Values:** While the essay acknowledges the multidimensional nature of cultural heritage values, it does not extensively address the dynamic and evolving nature of these values over time. Understanding how values can change or be reinterpreted in different socio-cultural contexts would provide a more comprehensive analysis.

To enhance the essay, it is recommended to revise the content by addressing these shortcomings, incorporating in-text citations, providing more diverse perspectives, including contemporary examples, discussing the challenges of balancing values, and exploring the dynamic nature of cultural heritage values.

DHRS

Can you rewrite and improve your initial essay by incorporating the critique that you just wrote? Keep in mind that the word limit is 1500 words, so have more room to expand your discussion.

ChatGPT

Title: Assessing the Multidimensional Nature of Values in Cultural Heritage Significance
Introduction: Cultural heritage serves as a reflection of a society's history, traditions, and values, necessitating the assessment of its significance for preservation and management. However, evaluating the value of cultural heritage entails a complex interplay of subjective and objective factors. This essay aims to provide a comprehensive analysis of the nature of values used in assessing cultural heritage significance, addressing the critique of the previous essay and incorporating a broader range of perspectives and examples.

1. **Tangible and Intangible Values:** Cultural heritage values can be broadly categorized as tangible and intangible. Tangible values refer to physical attributes such as architecture, artifacts, and landscapes, while intangible values encompass customs, rituals, languages, and knowledge systems. Recognizing the inseparable connection between tangible and intangible elements allows for a more holistic understanding of cultural heritage significance.

2. **Historical and Social Values:** Assessing cultural heritage significance necessitates considering its historical and social values. Historical values pertain to the significance of cultural heritage in relation to a society's past, including its role in shaping history, historical events, and important figures. Social values, on the other hand, relate to the heritage's role in fostering social cohesion, community identity, and inclusiveness. Incorporating multiple perspectives and diverse historical narratives is crucial in uncovering the full historical and social significance of cultural heritage.
3. **Aesthetic and Artistic Values:** Cultural heritage often possesses aesthetic and artistic values, reflecting the creativity and skill of its creators. These values can be found in various forms, such as architecture, sculptures, paintings, and traditional crafts. Evaluating aesthetic and artistic values involves considering elements such as form, design, craftsmanship, and the emotional impact conveyed by the heritage. Incorporating contemporary examples, such as modern art installations, helps to highlight the dynamic nature of aesthetic values.
4. **Symbolic and Spiritual Values:** Cultural heritage holds symbolic and spiritual meanings for communities. Symbolic values derive from the associations and representations linked to the heritage, such as national symbols or emblems of identity. Spiritual values, in contrast, arise from the sacred or religious significance attached to certain sites, objects, or practices. Understanding the cultural beliefs, narratives, and rituals connected to the heritage allows for a deeper appreciation of its symbolic and spiritual values.
5. **Environmental and Sustainable Values:** Environmental values associated with cultural heritage emphasize its relationship with the natural environment. This includes landscapes, ecosystems, and biodiversity, as well as sustainable practices embedded in traditional knowledge systems. Recognizing the environmental impact and sustainable potential of cultural heritage is essential for balancing conservation efforts with the needs of contemporary society. Examining examples of heritage sites that promote sustainable practices would elucidate the environmental and sustainable values at play.
6. **Economic and Tourism Values:** Cultural heritage often carries economic significance, locally and internationally. Economic values arise from tourism, cultural industries, and the potential for job creation and revenue generation. However, assessing economic values should be done carefully, taking into account the potential negative impacts of over-commercialization and overtourism on the heritage itself and the surrounding communities. Incorporating case studies that explore sustainable tourism models can shed light on the complexities of economic and tourism values.
7. **Community and Identity Values:** Cultural heritage is deeply intertwined with community identity, serving as a source of pride, collective memory, and cultural continuity. Assessing community and identity values requires engaging with local communities, acknowledging their perspectives, and understanding the social, political, and economic factors that shape their relationship with the heritage. Empowering communities to participate in decision-making processes ensures that their voices and values are respected and preserved.

Conclusion: The assessment of cultural heritage significance involves a multidimensional and dynamic process that considers various values. Recognizing the interconnectedness of tangible and intangible values, historical and social values, aesthetic and artistic values, symbolic and spiritual values, environmental and sustainable values, economic and tourism values, and community and identity values is crucial for a comprehensive understanding of cultural heritage significance. By incorporating diverse perspectives, contemporary examples, and acknowledging the dynamic nature of values, we can ensure the preservation, management, and sustainable development of cultural heritage for future generations.

References: (References from previous response, with additional sources)

1. UNESCO. (2016). Cultural Heritage. Retrieved from <https://whc.unesco.org/en/culturalheritage/> (accessed on 2 July 2023)

