Archeologies of Future Heritage:
Cultural Heritage, Research Creations, and Youth

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Introduction

In this article, we describe our study that explores youth and their relation to cultural heritage. Information and communication technologies are brought into the mix because interest is growing in using technologies like mobile-based apps and virtual reality (VR), combining them with game techniques and gamification in museums and cultural heritage sites. The push to "wire up" traditional museums and cultural heritage is hardly surprising. It echoes dominant debates and digitization and digital-inclusion strategies in Europe, long underpinned by the notions that engagement with technologies can engage, educate, and motivate people (Burke 2012; Davies and Eynon 2018).

Our article addresses cultural heritage with one principal motivation. This motivation is to explore how youth make sense of new technologies and how they engage in digital materiality that, in turn, shapes embodied cognition. We bring together the literature of sociomateriality, co-design, and the method of "research-creations" to better understand how youth imagine, think, and enact technology in their everyday life but also how they come to sense, feel, and live with sociotechnical imaginaries (Jasanoff and Kim 2015). Our approach is a creative investigation and falls under the banner of "new empiricisms" (Lupton and Watson 2022; Roussell 2021).

The research interest started from a survey, aimed at understanding the digital behavior of visitors of museums and cultural heritage sites, distributed in a Horizon 2020 project that one of the researchers was involved in. The method adopted here is a hybrid form of artistic practice between the arts and social science that resonates with demands for researchers to do work that impacts the world (Pink, Ardèvol, and Lanzeni, 2016). Research creations reveal how technology provides meaning to youth through their everyday lives, an aspect that some scholars (Smith and Iversen 2014) have highlighted as a fruitful and necessary focus for museums and heritage institutions. Our findings reveal how research creations engage youth in

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speculative futures as they disclose accounts of youths' affective relationship with emerging digital technologies.

Highlighting the potential impact of our findings, our study augments other studies (Lupton and Watson 2022) that assert that such research can empower youth to shape better futures. Consequently, our work also complements the efforts in cultural-heritage research (Holtorf and Högberg 2021), emphasizing innovative methodologies for envisioning the future and designing interactions between current and forthcoming societies. Drawing inspiration from Fredric Jameson (2005), our insights gesture toward "Archeologies of Future Heritage."

Literature Review

According to scholars from different fields, the modern world is at an unprecedented juncture where technology is not merely an external tool but a sociocultural artifact that deeply intertwines with our identities, values, and daily practices (Cecez-Kecmanovic et al. 2014; Hornborg 2001). As technology continuously evolves, so does its impact on society, especially among the youth who stand at the forefront of this transformation (Davies and Eynon 2018; Selwyn et al. 2017).

The intersection between youth, museums, and digital infrastructures demands attention, especially as cultural institutions grapple with remaining relevant and engaging to younger audiences in an increasingly digital age (Smith and Soderland 2017). There's an ongoing debate in academic circles about how museums can utilize digital technologies to attract youth and curate experiences that resonate with their unique sensibilities (Lombana-Bermudez et al. 2020).

Prescriptive studies have illuminated digital platforms' potential in reimagining the youth's museum experience. Several authors (Marini et al. 2022; Shaw and Krug 2013) emphasize how different platforms can be used as models to design heritage museums that resonate with the digital lives of youth.

While the push toward digital integration is laudable, scholars emphasize that it is crucial not to homogenize the experiences and competencies of youth (Bulger and Davison, 2018; Third et al., 2019). Critical studies have offered a counternarrative to the often-cited notion of young people as "digital natives" (Davies and Eynon, 2018). Selvyn (2012) and Szpakowicz (2022) problematize the assumption that youths inherently possess sophisticated digital skills simply due to their exposure to technology from a

young age. Their interactions with technology can be diverse and not always empowering or sophisticated (Lombana-Bermudez et al. 2020).

The introduction of sociomateriality into the discourse around technology recognizes the inextricable entwinement of the social and the material. For example, youth's interactions with technology are not solely about the technologies but also about the social relations, practices, and discourses that these technologies engender (Carabelli and Lyon 2016). For this study, we are interested in findings from studies that have used arts- or design-based methods to understand better interactions between the social and the material and our relationship with emerging technologies (e.g., Coleman 2017; Lupton and Watson 2022; Manning and Massumi 2014).

The method of "research-creations" is novel and combines artistic practice and scholarly inquiry. It aids researchers in creating different worlds that help research participants to image novel futures through the use of multisensory approaches, objects, and storytelling. For youth, this approach can be particularly evocative, allowing them to express, challenge, and reimagine their relationship with technology in creative ways (Lupton and Watson 2021). Through research-creations, one can delve into the affective, embodied, and often intangible aspects of youth's engagements with technology. The method embraces a participatory approach in which co-design elements accentuate the collaborative creation of technological solutions, wherein end-users, particularly the youth, become co-designers (Sanders and Stappers 2008). This democratizes the design process, allowing a more inclusive representation of youth voices.

Methodology

This study employed a mixed-method approach, leveraging both a survey and research creations as the principal methodologies to gain nuanced insights into young adults' engagement with emerging technology.

The survey, distributed in nine European countries, was conducted as part of a Horizon 2020-funded project called ReInHerit (www.reinherit.eu). It aimed to gauge museum visitors' interest in using novel digital tools while visiting museums or cultural heritage sites and to collect general information on their digital behavior. Results indicated that younger museum visitors (18 to 29 years of age) were more likely to use digital tools in a museum than older respondents.

By utilizing creative research methods, we wanted to obtain richer, more nuanced empirical material that could augment the data obtained from our survey, which, in turn, we hoped could lead to more in-depth analyses and

interpretations of young adults' interactions with technology. The research questions we were interested in getting an answer to were whether the use of digital technologies would motivate young adults to visit museums of the future and what types of digital technologies young adults imagine to be in use in museums of the future. We organized two workshops to engage participants in thinking imaginatively about everyday objects as heritage objects of the future. These activities were inspired by previous work on the value of creative writing responses (Leavy 2015) and cultural probes (Gaver et al. 2004). As our endeavor was experimental and exploratory, the tools and methods used were adapted during the research process.

Two workshops were organized with second-year bachelor-level students of media and culture at Arcada University of Applied Sciences in Helsinki, Finland. In the first workshop, which was three hours in duration, twenty-three students participated. The process was started by giving the students a set of prompts:

1. Imagine a future where something from your personal life at present is cultural heritage
2. How can this heritage be preserved?
3. How will future generations experience it?
4. Think of novel ways of using digital tools to display this cultural heritage.

The class was then divided into four groups. The results from this first workshop generated a list of objects, for example, physical keys, cash, older models of mobile phones, C-cassettes, board games, paper newspapers, YouTube culture and YouTubers, photographic albums and photographs, physical books, linguistic slang, coastal cottage landscapes. During this first workshop, students did not suggest novel ways of using digital tools to display cultural heritage, although this was part of the instructions.

The process was repeated with a smaller group of students, now adding new methodological elements to aid the students in their work of imagining the museum of the future and the application of digital innovation therein. For this second workshop, with eleven participants, four objects identified in workshop one were selected and brought as physical objects to the class to serve as material prompts. These were physical keys, paper photos, board games, and C-cassettes. See Figure 1.

Figure 1

Material prompts used in workshop 2.

The students were divided into two groups and were asked to choose one object for each group. Keys and photographs were selected. The aim was to conduct object interviews (Woodward 2016) in a group setting to explore how workshop participants "speak" the material. We used this method to facilitate an understanding of the material and material culture, applying a socio-archeological approach to material imaginings.

Before the discussion generated by the objects, the students were asked to test two prototypes of mobile applications, Facefit and Multimedia Chatbot (https://reinherit-hub.eu/tools/apps), developed by the ReInHerit project, to make the question of digital innovation more concrete and to make the students investigate human-technology interaction in a hands-on manner. The researchers acted as facilitators and interviewers.

Results

During the second workshop, the student group that worked with physical photographs discussed various memories connected to photographs they had seen in family albums, particularly the continuity and importance of the social relationships these photographs bring to mind and represent. They focused on the uniqueness of the paper photographs taken with an analog camera. The analog character requires the photographer to be mindful of the moment when the photograph is taken. The fact that the

outcome is always uncertain, despite how much pre-planning is carried out, also contributed to the unique character and value of these photographs. They also pointed out that physical photographs can be spread out over a surface and be viewed by several people simultaneously, which has a social value –an act that strengthens social relatedness.

The way they suggested photographs should be displayed in the Museum of the Future was in a manner that allowed an element of interactivity and social sharing through the use of a photo wall. This also underlined the importance of making the museum visit a unique experience. A further suggestion was to combine physical objects related to the practice of photographing -- cameras and photographs -- with videos describing the social context in which the photograph was taken. The possibility to test using an analog camera was also considered an essential component in a memorable experience. To the students, the mere tangibleness of a physical object is valuable.

Figure 2

Results of the workshop with students (left).
Students engaged in the workshop (right).

In the group with physical keys as a theme, the discussions circled around the memories that keys and related objects evoked. They had memories of small colored badges that could be added to the keys to facilitate identification of which door it went to, key chains purchased as travel souvenirs, and

the great variety of keys we use. They discussed specific behaviors tied to using keys, such as losing keys, hiding keys near your house, sharing keys with others, using key lockers, or how the feeling associated with starting a car was more authentic if the car key is a metal key. Broader themes related to key use were security, privacy, and isolation.

In a future museum, displays involving keys could include adventure trails or treasure hunts involving keys in which the task for visitors would be to match keys to keyholes in various doors. Just as in the group discussing photographs, the suggestions provided by the key group involved museum visitors doing something: testing, experimentation, and social sharing. The physicality of the objects played a central role in the suggestions.

Discussion and Conclusion

In the final chapter of the book *Archelogies of the Future,* Fredric Jameson (2005) urges us to develop anxiety about losing the future. The future has to enlist the present in its struggle to exist. Something that he argues is "a good deal more intense than the usual rhetoric about ´our children` " (p. 233). While Jameson focuses on the future as disruption from the present and a potential loss of futuricity, our project required young adults to identify objects and phenomena from our current world that may be excavated and treated as heritage objects in the future. Through the use of objects and object interviews we invited the students to go beyond taken-for-granted assumptions about heritage objects and to aid them to include speculative dimensions in their thinking process about the future.

Introducing objects was an effective method because it facilitated the articulation of knowledge and feelings about future anticipations. Things have power and vitality, as Bennett (2004) has pointed out -- they produced effects and entangled themselves with the feelings and memories of the students. In line with findings from earlier studies (Carabelli and Lyon 2016; Manning and Massumi 2014; Selvyn 2012), the students expressed their engagement with digital materiality. The tangible helped them imagine the intangible of the digital and value and enlist their present as future heritage, thus expanding on studies of cultural heritage as a futuristic field (Holtorf and Högberg 2021; Smith and Soderland 2017).

The workshops build on similar experiments of co-design where co-creation has been a central element in engaging students in the collaborative creation (Jasanoff and Kim 2015; Lupton and Watson 2021). This study adds to these studies by introducing lively meaning-making capacities for imagining a distant future and the role of cultural heritage in the future.

Our findings confirm studies that recommend involving young adults in experimental work to co-create history (e.g. Marini et al. 2022). Such findings are both inspirational and crucial. "Crucial" because our findings also problematize certain assumptions about a generation that is "born digital" (Palfrey and Gasser, 2008).

The themes the students focused on and the suggestions for display in museums of the future reflected how their proposed engagements with technology were affective, sensory, embodied, and tangible. We argue that this affect also involves what recent studies have conceptualized as technostress (Upadhyaya and Vrinda 2021) and technofatigue (Klein 2022). In contrast with prescriptive studies mentioned in the literature review, technology does not energize and engage, especially after the pandemic.

Our findings involved memories, exploring social relations around analog objects, and how these objects are intertwined with and foregrounding the importance of social ties and specific behaviors. The role of objects as vehicles of connection was at the forefront. In their suggestions, technological solutions were featured as tools that facilitated social interaction with others in a museum setting. These results indicate "little futures" (Michael, 2017) in which young people want to be able to see the human in the technology and heritage objects. They want to engage in experiences that are shared with others and that have social outcomes. This perspective has been present in earlier research studies, which indicate that youths' engagement with technology is seldom only about the technologies they use (Carabelli and Lyon 2016).

A limitation of this mixed-methods approach was the difficulty of imagining something as abstract as enacting a "big future" (Michael 2017). In contrast to the survey results, there was little discussion on using technology to make the display of cultural heritage attractive to youth. We cannot, however, deny that technology provides meaning to youth, although this feature was not strongly represented in our data. The use of digital technologies was secondary to the interest in and energy put into discussing the physical heritage objects and the effects that they brought about. The lack of interest in digital technology is part of a broader trend seen in young adults regarding digital and social-media fatigue (Karapanos, Teixeira, and Gouveia 2016; Yao and Cao 2017), exasperated by the widespread use of digital tools during the Covid-19 lockdown period (Pew Research Centre 2023). On the contrary, research indicates that in the near future people's relationship with technology will deepen (Pew Research Centre 2023). Which way the pendulum will swing in a more distant future society is difficult to predict and requires more study.

The varied contexts and biographies of research participants affect the creative outcomes of work conducted in a workshop context. This means that workshop results will most likely vary to some extent depending on the composition of the participant group. Because this mini-study was experimental, it was tested on a small and specific group of students to whom the researchers had easy access. Further testing of this method to collect more data has to be carried out on more student groups using an expanded methodological toolkit and extended use of digital prototypes.

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