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PROMOTING CULTURAL HERITAGE IN A POST-DIGITAL CONTEXT

A speculative future for the online archive

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Introduction

Many memory institutions, such as museums, retain much of their cultural authority as geographically specific destinations, with their prerogative to preserve cultural heritage in the collective memory of the public enshrined by physically exhibited artworks and artifacts. These institutions have come to increasingly rely on digital technology to make their collections available to online publics in attempts to boost preservation efforts and promote cultural agendas (Berry, 2016, p. 103; Petrelli, Marshall, O'Brien, McEntaggart, & Gwitt, 2017, p. 281). The popularization of the term 'memory institutions' in the early 1990s, as a collective noun for museums, archives, and libraries, was itself 'linked to the new possibilities opened up by the advent of the Internet […] that could facilitate seamless access to collection information' (Robinson, 2012, p. 415).

However, the evolution of internet technology and the accompanying digitization of culture inherently undermine the authority of these institutions to archive, store, and preserve cultural memory. The communicational infrastructure of the World Wide Web allows internet users to skirt institutional gatekeepers and access digitized cultural heritage more directly. As Blom (2016) writes in *Memory in Motion: Archives, Technology, and the Social*, digitization makes 'memory materials more or less instantaneously available to anyone, anywhere in the world', presenting a radical democratization of cultural memory (p. 13). Yet, former curator at the Solomon R. Guggenheim Museum, Jon Ippolito, argues that memory institutions, 'no matter how digitized, remain hamstrung by their own history as centralized repositories' (2014, p. 79). And while memory institutions such as Tate, MoMA, or the Smithsonian have come to respond in innovative ways to a Web 2.0 user-centred digital paradigm, now a new paradigm of ubiquitous computing promises even more fundamental changes to how we navigate digital culture, how digital heritage enters and remains in our collective cultural memory, and how memory institutions fit within wider mediatized cultural and economic contexts.

There has been an observed shift to what some call 'ubiquitous computing' – the 'sociocultural and technical thrust to integrate and/or embed computing pervasively, to have information processing thoroughly integrated with or embedded into everyday objects

and activities' (Ekman, 2016, p. 5). Browser-based experiences of the web are increasingly supplanted by that of hidden interfaces. Internet-of-Things objects that upend expectations of how and where personal computers are accessible, while augmented reality (AR) superimposes Web-based experiences onto physical spaces. Ambient computational environments change location-based experiences according to personal browsing habits while wearable technology reenvisages the standardized interface of the internet. And then there are increasingly smart assistants that allow users to ostensibly 'browse' the Web through a number of seamless and screenless experiences (Ekman, 2016; Manwaring & Clarke, 2015). It is a veritable post-digital condition. The user-experiences of the internet is shifting away from authoritative websites actively accessed, or searched for, by the user. Cultural content becomes increasingly digital while the digital inversely becomes more embedded and invisible as it is delivered directly to users – even as embodied experiences – through smart objects and digitally encoded environments.

The subject of this chapter is to discuss digital memory, cultural preservation, and souvenirs using post-digital critique and critical design theory as theoretical framework. As a particular case in point, we employ the *Sound Souvenirs,* a research-led and speculative design project presented as a post-digital archive experience and exhibited by the authors and their collaborators[1] at the 2017 *New Interfaces for Musical Expression* (NIME) conference in Copenhagen. The project is placed in the junction of ubiquitous computing and mediatized tourism where contemporary memory institutions find themselves.

We argue that a consequent analysis of the *Sound Souvenirs* project offers a unique interdisciplinary entry-point into the larger discussion of mediatized tourism presented throughout this book. Although the scenario addressed by this project might seem somewhat speculative, far-removed from the more immediate issues memory institutions face as part of the tourism industry, exploring and experimenting with the 'preferable futures' of cultural preservation might not only present potential solutions to future problems memory institutions might face – but might perhaps also offer interpolated insights into the present.

Critical design and preferable futures

Critical design presents a particularly powerful practice-based research approach to explore questions of digital preservation and post-digital archival mnemonics. This approach was first introduced by Dunne (2005) in his book *Hertzian Tales: Electronic Products, Aesthetic Experience and Critical Design* as a way to challenge narrow assumptions about the role everyday products perform in life by exploring new technologies in a way that can generate a critical narrative about the technological future. Dunne and Raby (2013) argue that critical design is indeed 'a critical medium for exploring the implications of new developments in science and technology' (p. vi). Therefore, this approach provides an optimal practice to reflect on the possibilities and affordances of mediatized tourism in relation to the preservation and promotion of cultural heritage in a ubiquitous computing context. It should be noted that the theoretical value of this exercise is not in finding concrete solutions to persisting problems but to pose 'difficult questions' that can allow the exploration of useful possibilities given that the method provides a space to imagine, as the authors propose, 'how things could be' (Dunne & Raby, 2013, p. 12). Importantly, critical design theory consists of a 'design spectrum' that includes practices such as 'design fiction', 'future design', 'anti-design', 'radical design', and for our purposes: 'speculative design', through which potential futures are investigated.

Dunne and Raby refer to a diagram used by Stuart Candy to illustrate different kinds of potential futures (Dunne & Raby, 2013, p. 3). They divide these 'futures' into three

'cones': probable, plausible, and possible. The first cone of the probable future is where non-speculative design solves problems within an existing system, whereas the cone of plausible futures offers space for 'planning and foresight, the space of what could happen' (Dunne & Raby, 2013, p. 3). Hereby, even though a 'design solution' can have a fictional nature and hence only experimental application in the real world, critical design opens up new perspectives for solving actual problems. Additionally, a final cone is intersected between the probable and the plausible: preferable futures. This intersection is the area in which the *Sound Souvenirs* project was designed.

Within a speculative future, the *Sound Souvenirs* project addresses the mediatization of cultural preservation in a post-digital context, deploying consumer objects from cultural tourism as critical design objects. Thus, instead of focusing our efforts on the digital channels of institutions, such as websites and social media, our speculative design project changed the focus to more experimental, and theoretically substantiated, mnemonic strategies for a 'post-digital archives' set within a larger cultural and economic context. This was done by leveraging the role of the public user as activator of digital archival memory. For in a prescient future of post-digital ubiquitous computing, users are increasingly being placed at the centre of the technological thrust towards a more intuitive, semantic, contextually-aware, and personally embedded Web.

Søndergaard (2009), who supervised the *Sound Souvenirs* project at Aalborg University, writes of his own early digital archive experiments: 'The important thing is to do something different, something unexpected' as a digital archive experience 'might define an entirely new level of cultural and social production' (p. 28). Thus, this chapter does not merely offer an investigation into a pressing problem for memory institutions and digital cultural preservation but also offers a method for thinking beyond the immediate problems and common solutions. This is something that is needed if institutions are not only to survive but also thrive in an increasingly mediatized context. The speculative design process was thus started by asking the question: What if we can design a cultural preservation strategy that is centred on the user's mnemonic role, instead of on the institution's archive, taking into account the effects a shifting post-digital technological context might have?

The *Sound Souvenirs*

The *Sound Souvenirs* project was exhibited at the 2017 NIME Conference in Copenhagen, a gathering of researchers, musicians, and media art practitioners focused on inventive and experimental musical interface design, technologies, and performances (NIME, 2017, n.p.). With the conference being a time-based event, we departed from the prerogatives of the conference itself and created a fictional institution called the *Memorial to Forgotten Sounds*, tasked with preserving cultural content important to the posterity of the conference. Consequently, we populated our experimental memory institution's online archive with sound art pieces extracted from digitally recorded performances from past NIME conferences. Sound art in this sense is understood as a media art practice that regards recorded sound as a form of representation inextricably linked to technological mediation, dating back from the early 20th-century inventions of futurist Luigi Russolo who built artistic machines to replicate the noises of the industrial age.

Integral to our speculate design was not the archive itself but rather its mnemonic strategy – how that which is stored in the archive is recalled or remembered, and thus preserved in cultural memory. We created *Sound Souvenirs* for this purpose: design objects that had the compact semblance of a souvenir, laser-cut from luminous translucent acrylic to

Figure 8.1 Visitors to the *Sound Souvenir* pop-up 'memory institution' at NIME (2017)
Source: Luis Bracamontes.

resemble five distinct soundwaves. These souvenirs could function as tangible mnemonic activators of their corresponding online archival sound file with visitors using an AR application to access and experience this digitally archived cultural heritage of the conference (Figure 8.1). Central to this archive was that visitors could receive their *Sound Souvenir* to take home, both as mnemonic device and touristic memento. Our installation consequently served as something of a tourist stop for 2017 NIME conference goers: a pop-up stand for a fictional memory institution vying for their attention in the exhibition space, offering souvenirs not only to attract visitors – but ultimately to fulfil our institution's goal of keeping the conference's cultural heritage in the public's collective memory through post-digital archival mnemonics.

Storage vs digital memory

The archive for our fictional memory institution was created as an online repository reminiscent, in aesthetics and user-interface design, of early internet databases. In this, it served as a discrete site with no social media presence, backlinks pointing towards it, user-interactivity or any other mechanism to promote access to it. It served merely as institutional 'online storage' to digitally preserve the conference's cultural heritage.

The possibility of such online archives' ability to recall that which it stored was already called into question early in the history of the internet. Pioneering internet scholar Howard Caygill (1999) wrote that the technological basis of the Web makes any archive appear 'as an effect of the links made possible by the technological work of memory rather than a given (and carefully policed) store of information' (1999, p. 2). This idea was expanded, Ernst (2013) who argues that the idea of the archive in internet communication moves the archive toward an economy of circulation (2013, p. 99). With this he contended that 'so-called cyberspace is not primarily about memory as cultural record but rather about a performative form of memory as communication' (Ernst, 2013, p. 99). For Ernst (2013), there is no such thing as 'storage' on the internet as any archive and its cultural content becomes a function of constantly circulating 'memory'. The media and other files comprising the *Memorial to Forgotten Sounds* online archive are thus merely dormant data, informational bits, stored on a localizable physical server. As an online archive, it only ever exists if and when these files are recalled by a user on a networked computer and compiled into a navigable website

containing now accessible media files. The online archive thus only exists when it is *remembered* at behest of a user. The internet, Ernst argues, doesn't have an organized memory. 'If there is memory'. writes Ernst, 'it operates as a radical constructivism: always just situationally built, with no enduring storage' (2013, p. 138).

Notwithstanding, an online archive creates the illusion of permanence as the communicational computation involved in recalling and reconstructing a website in a browser is largely obscured and happens almost instantaneous. As Chun (2016) emphatically argues in *Ubiquitous Computing: Computing, Complexity, and Culture*: memory is not something that remains, if memory appears to be static or stable it is simply because it is constantly regenerated (p. 168). The distinction between digital memory and storage underscores a fundamental misconception memory institutions have about the mediatization of cultural memory in a post-digital context. The conflation of memory and storage creates a misleading ethos that can easily lead to a neglect of the continuous compounding socio-cultural forces that makes our cultural memory seem stable and permanent (2016, pp. 168–169). In this online regime of memory, it is through the user's embodied action that an online archive is retrieved from server storage and continuously 'situationally built'. Therefore, a post-digital context fundamentally displaces the cultural authority for preservation from institutions unto the users. Berry (2016) contends that 'Computation therefore threatens to *de-archive* the archive, disintermediating the memory institutions and undermining the curatorial functions associated with archives' (2016, p. 107). As a result, Berry argues that a post-digital context demands a new social ontology circumscribing new ways of interacting and exploring digitized archives (Berry 2016, p. 106).

Framed by ideas of the post-digital condition, our critical design appropriation of souvenirs objects as archival mnemonic strategy aimed to leverage individual user memory as means of generating 'digital memory' and thus activating our otherwise obscured online archive and its forgotten cultural content. This premise is based on the idea that souvenirs are social 'touchstones of memory', able to bring 'the past into the present and [make] past experience live' (Morgan & Pritchard, 2005, p. 37). As Gordon (1986) significantly wrote in *The Souvenir: Messenger of the Extraordinary*, 'as an actual object', the souvenir 'concretizes or makes tangible what was otherwise only an intangible state' (1986, p. 1). The metaphorical transition from impermanent (memory) to tangible state (souvenir) that Gordon refers to is carried out by the 'physical presence [that] helps locate, define and freeze in time a fleeting, transitory experience' (Gordon, 1986, p. 1). This allows us to use the souvenir as an overcoded design object in a post-digital context where the experience of the web becomes embedded in the experience of everyday objects.

Post-digital archive experience

As material objects that can trigger memories, souvenirs move beyond the domain of touristic commodities and can facilitate memory institutions such as museums in preserving cultural heritage through creating acquirable, *memorable,* representative facsimiles of their collection. However, through the critical design of the *Sound Souvenirs*, we challenge the assumptions that such souvenirs correspond solely to material culture (paintings, statues, sculptures, architectural landmarks). We hold that the same role can be deployed for the immaterial bits of culture in a post-digital context.

McGugan and Petichakis (2009) write about souvenirs using Wenger's conception of reification: 'the process of giving form to our experience by producing objects that congeal this experience into *thingness*' (1998, p. 58). They argue that the process of reification itself

situates the souvenir as a 'mediating artefact', hinting at the potential role souvenirs can play in preservation strategies of online archives in an era of ubiquitous computing (McGugan & Petichakis, 2009, p. 235). As the online archive's digital composition is totally assembled out of code, by giving a tangible shape to the archive's content (reification), a souvenir can act as a medium to aid the user's memory and bridge the transition from intangible memory to tangible activator of that memory. By selecting a souvenir as mnemonic strategy for the NIME digital archive, we thus aimed to leverage the individual's role in recalling the archival content, while on the other hand responding to the digitality of the archive and its digitally immaterial artifacts to be 'remembered'.

To address the question of how to meaningfully compile the seemingly immaterial digital files as tangible souvenirs, we turn to the post-digital concept of 'neomateriality' (Paul, 2015). This phenomenological approach to the digital focuses on the materiality of an object conceived through digital technologies. Neomateriality 'describes an objecthood that incorporates networked digital technologies, and embeds, processes, and reflects back the data of humans and the environment, or reveals its own coded materiality and the way in which digital processes see our world' (Paul, 2015, p. 1). Paul further writes that this concept is contextual to a post-digital scenario, which implies objects being 'conceptually and practically shaped by the Internet and digital processes yet often manifest in material form' (Paul, 2015, p. 1). By designing the *Sound Souvenirs* as such objects of neomateriality, they could function as reified artifacts of the 'digitally immaterial' soundwaves preserved by the *Memorial to Forgotten Sound* online archive.

Paul (2015) comments that 'artistic practice engaging with conditions of neomateriality often highlight this condition by turning code and abstraction into the material framework of an object' (2015, p. 2). In the process of designing the *Sound Souvenirs*, we thus necessarily highlighted the digital condition of the selected sounds. The digital representation of the sound pieces comprised its mediation through audio editing software – its 'immateriality' as binary code compiled and graphically represented. Through converting the digital representation of the soundwave into vector graphics, and drawing on 8-bit aesthetics to visually highlight its compressed digitality, we wanted to emphasize the skemorphic digitality of this neomaterial object. The result of the mediation process was a *Sound Souvenir* in the form of a materialized soundwave, laser-cut from luminous acrylic, connected to a rounded base (Figure 8.2). These were then engraved with their respective online archival URLs and packaged for distribution as materialized 'sound files' (with our souvenir naming convention including the '.wav' extensions of the actual files), focusing attention on the post-digital condition of the *Sound Souvenirs*.

As part of our design premise the *Sound Souvenirs* could be regarded as Tangible User Interfaces (TUI). The term describes the coupling of '[p]hysical representations (e.g. spatially manipulable physical objects) with digital representations (e.g. vector graphics and audio files), yielding user interfaces that are computationally mediated but not generally identifiable as "computers" per se' (Ullmer & Ishii, 2000, p. 916)). Thus, the *Sound Souvenirs* become 'playback devices' for the digital files in our online archive. The name *Sound Souvenir* is itself taken from Bijsterveld and Van Dijk who use the term to describe memories of music as including 'the sensory experiences of having listened to particular recordings and interacted and tinkered materially with the devices that play them' (2009, p. 11). The materiality of the soundwaves represented by the souvenirs thus not only materially occupy physical space but also serves as cues to recall the digital content associated with the souvenir through activation by the AR app in the pop-up installation, as well as through the URL engraved in the souvenir.

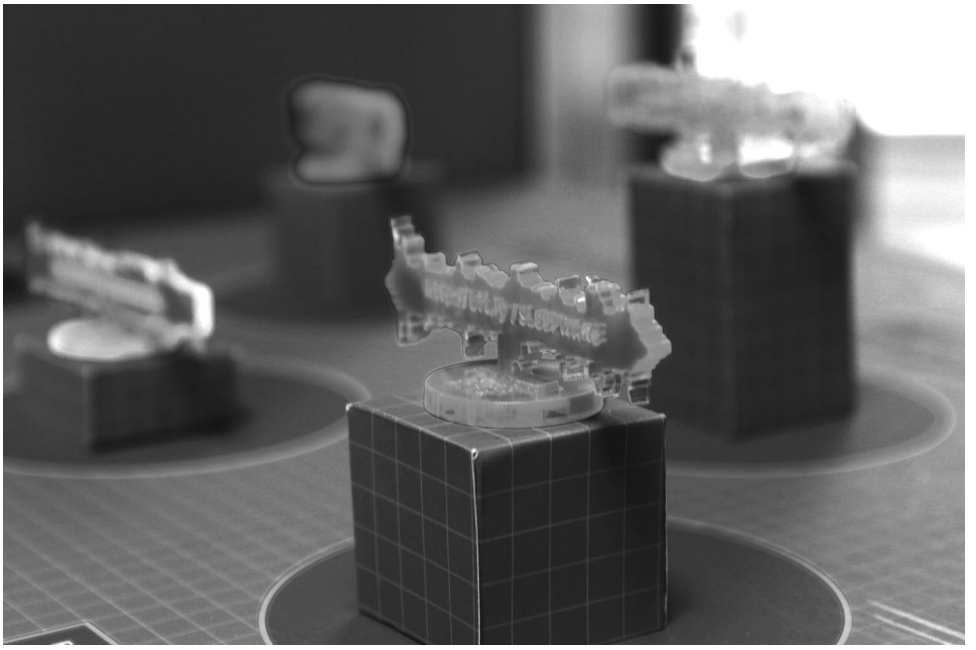

Figure 8.2 The material *Sound Souvenirs* on display at NIME (2017)
Source: Luis Bracamontes.

This experiment implies that the *Sound Souvenir* as TUI plays the role of mnemonic interface for a digital archive that leaves aside the web browser. This creates a post-digital experience of the memory institution's archive, with our 'memory object' taking advantage of ubiquitous computing technology and becoming a post-digital material cue to recall cultural memory. Petrelli et al. (2017) challenge museum practices in an age of increasing ubiquitous computing in a similar experiment of his own, writing that '[b]y combining principles from ubiquitous computing and tangible interaction, it is possible to close the gap currently existing between the exhibition floor and the online services and design visitor experiences that take both aspects into account' (p. 281–282). This convergence underscored our speculative experiment – as our archival content is only available to the public online, even if the institutional context is location-based. It is this convergence that also allows us to leverage memory institution's place within a context of mediatized tourism.

Mediatized cultural tourism and the post-digital archive

To deploy souvenirs as central mnemonic strategy for our archive, it was necessary to not only look at the material, socio-cultural, and psychological functions of souvenirs, but to also consider their dimension as distinctly economical artefacts integral to memory institutions' situation in the tourism industry. Souvenirs are often conceived of as commercial object produced for, and procured as part of, the experience of visiting a museum. As such, museum gift shops have become 'increasingly marketed as attractions in their own right', an expected part of any museum experience (Larkin 2016, p. 109). Yet, even within this commodifying context, souvenirs retain their function as memory objects. Procuring a souvenir becomes an important way to concretize 'memorable tourism experience', those 'tourism

experiences that are positively remembered and recalled after the events have occurred' (Sthapit, Coudounaris, & Björk, 2018, p. 631).

It is this facet of souvenirs as embodiments of 'memorable tourism experiences' that enabled us to conceive of the *Sound Souvenirs* as more than just objects for archival mnemonics. We aimed to use the souvenir as a 'memory object' that conflates post-digital archival mnemonics and the location-based situatedness of memory institutions within the tourism industry. And inversely, we could appropriate commodifiable souvenirs as more than just a facet of a memory institution's commercial operations.

Given the affordance of critical and speculative design, we were in the privileged position of working outside of the financial and logistical concerns of museums. Yet, this also allowed us to critically exploit underlying cultural dimensions of mediatized tourism. During its installation at the NIME conference, the *Sound Souvenirs* were consequently distributed free off cost to visitors of our pop-up institution. However, visitors were required to make a metaphorical transaction before being able to procure one. The transaction entailed what we called 'paying with memory', which effectively meant that visitors had to go through the process of recalling the online archive before being able to take a souvenir of the specific archival sound file home. The action of activating the archive was facilitated by a tablet made available to visitors through which they could visit the online archive through an AR app that responded to the QR encoded exhibition environment the souvenirs were set in (Figure 8.1).

The use of AR or other digital interactivity has been increasingly implemented in museums since the early 1990s. These digital interactions are often designed in order to enhance the experience of visitors through animating otherwise static objects or allowing additional information or media content to be accessed (Petrelli et al., 2017, p. 282). Yet, the AR mediation of the souvenir acquisition served to enhance the 'memorable experience' of the post-digital archive within the context of our memory institution, while also coupling it with the functions of our archival mnemonics. As Petrelli et al. (2017) write of his own experiments in mediatized souvenirs:

> While the most common experience is to buy a souvenir after the [museum] visit, there is evidence to suggest that the souvenir should instead be an integral part of the visit itself, it should be constructed during the visit in such a way that it becomes the embodiment of the personal experience.
>
> *(p. 283)*

Through this process, the *Sound Souvenirs* subverts its own role as mere object for consumption, as in its consumption it enacts our post-digital mnemonic strategy for cultural preservation. It serves both as procurable object to reify a 'memorable tourism experience', as well as a 'memory object' for the cultural memory kept in 'situationally built' circulation by the post-digital archive itself.

Conclusions

The interplay between the digitality and objecthood of the *Sound Souvenir* at the centre of our fictional memory institution's archive prompted significant discussions among visitors about our installation at NIME. Of particular interest was the potential a project such as this could have when implemented in earnest at existing memory institution gift shops – especially given the novelty digitally over-coded souvenirs present. Throughout the process, however, we never explicitly addressed the question of feasibility. Our chosen design methodology

was, after all, primarily meant to prompt discussion about digital heritage preservation in a post-digital context. Our consequent critical and speculative design approach allowed us to create a 'what if' scenario responding to institutional reluctance to forego traditional cultural authority and adapt to new technocultural paradigms. Through this, we explored the impending liquidity of digital content in a post-digital world which renders the cultural archive as we know it invisible, yet somehow contextually omnipresent. In that sense, we argued, the materiality of the interfaces mediating cultural archives have the potential to be contextual cues to access archives of the future as well, mediated through new interfaces that are yet to come. Yet, this also gives interpolatable insights into the present. For already, what gets preserved online is not that which gets digitally stored at the behest of memory institutions but, in an ostensive extension of Jenkins' conversion culture, that which is remembered and interacted with by digital media users in the public. In an era where digital technology permeates all aspects of culture, the traditional archive tasked with preserving culture becomes subject to a new regime of public memory and with that, a new regime of diffused control.

The particular use of the souvenir as a critical design object allowed us to leverage institutional situation within an increasingly mediatized tourism industry. It is in the theoretical gap between post-digital critique and mediatized tourism that we could thus explore ways memory institutions can improve their digital archival practices, critically deploying touristic consumer objects as a way to concretize the roles experience and memory can play in a post-digital context. Implicit in this kind of approaches, however, is also a critical distance. Part of a speculative design approach is to use the medium of technology self-reflexively, taking into critical consideration that with the solutions technological development present, there are always residual problems. Technological development never presents a catch-all solution. This framed the overarching discussion of the project, aimed not at predicting the future, or offering practical responses to it, but instead trying to provoke radical futures that can lead the reader to imagine and reflect on current and emerging technocultural contexts. In this, critical design also offers a disciplinarily experimental entry-point for rethinking other facets of mediatized tourism and their larger cultural implications, and possible applications.

Note

1 *Sound Souvenirs* was a project developed during the EMJMD Media Arts Cultures program at Aalborg University along with Luis Bracamontes and Sultana Ismet Jerin. Among their contributions, Bracamontes was largely responsible for designing the augmented reality experience, while Jerin made an invaluable contribution with research regarding tangible user interfaces.

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