

illuminations

Exploring Community Engagement with Intangible Heritage Through Multiple Making

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Abstract— Interactive media and technology has the potential to make intangible, hidden, and ‘lost’ aspects of heritage sites engaging and present for visitors. The design of such media and technology should also consider communities as producers of their heritage sites, yet communities may be unfamiliar with the creative and technological possibilities. We describe ongoing creative work with a community group seeking to increase cultural and social use of the medieval Church of St Andrew, and the artworks that enabled us to collectively explore how interactive media and technology could bring the site’s heritage to life. We discuss the value of this multiple making as a productive means for exploring situated and embodied experiences of intangible cultural heritage.

Keywords—mixed reality, multi-sensory, heritage communities, medieval heritage, inquiring making

I. INTRODUCTION

Interactive media and technology has the potential to engage visitors with the less visible and intangible aspects of heritage sites where the site itself is a primary resource for visitors’ experiences. Champion and his colleagues [1], [2] observe that, beyond reconstructing lost places and artefacts, technology can support “empathy, interaction and collaboration to enhance awareness and understanding of past or foreign cultures,” and thereby enable visitors to feel in the presence of another culture. So-called immersive technologies such as virtual reality and augmented reality (VR and AR), and interactive and immersive virtual environments (IIVE) are often investigated as the means to achieve such presence. Writers such as Kenderdine [3], and Benford and Giannachi [4] problematize hard distinctions between what is virtual and real, and highlight the performative, embodied, and hybrid character of immersive and mixed reality experiences. Heath, vom Lehn and their colleagues’ [5], [6] studies of technology in museums also caution against technology supporting individual interactions at the expense of collective interactions and collaborative engagement. This thinking opens a broader space for design where multiple media and technologies, in addition to VR and AR, can be used to support engagement and presence in heritage sites.

Designing interactive media and technology for engagement with heritage sites should also embrace their dynamic and socially-constructed character as *places* [7], [8], and, in doing so, consider whose heritage it is [9]. Developing these points, Giaccardi and Palen [10] discuss the social production of heritage as *place-making*, reflecting broader shifts to seeing

communities and visitors as heritage *producers* rather than consumers [11], [12].

Communities might contribute to the production of cultural heritage: by offering their time and expertise as volunteers [13]; by contributing to a collection and/or assisting with its curation [14]; or – as the importance of intangible heritage is increasingly recognized – by sharing local memories, traditions, and cultures [15]. Beyond recognizing and rewarding these contributions, there are opportunities for greater personal and collective benefit, particularly at sites whose heritage interpretation is being developed. Giving individuals and groups a strong voice in determining and realizing their heritage and its interpretation can be a means for developing and maintaining their particular local identity, and for developing a community and empowering it [16]. Yet, ‘community’ and ‘heritage’ are mutable terms, and the concept of ‘community heritage’ raises political concerns of motivation, authority, and control [17]. Enabling communities to be the producers of *their* cultural heritage – as an always ongoing process rather than as a product of the past [16], [18] – is a means of addressing these concerns.



Fig. 1. St Andrew’s Church, Heckington

There are therefore opportunities to design interactive media and technologies to support situated, embodied, and collective experiences in heritage sites, which engage visitors in dialogues on the character and meaning of sites as *places* [19]. There are also associated challenges for involving local community partners in this work. Firstly, in enabling community partners to explore the evocative and interpretive potential of interactive media and technology that they may be unfamiliar with. And,

secondly, in enabling local community partners to use interactive media and technology to produce and share *their* cultural heritage as an ongoing process.

In this paper we discuss ongoing work with a community group where we encountered and investigated these opportunities and challenges, and where multiple exploratory making [20] has enabled constructive dialogue.

The 14th Century medieval Church of St Andrew (Fig.1) in the rural village of Heckington, UK has internationally significant architectural features and historical connections, yet the building and its amenities need conservation, restoration, and improvement. A small group of local people formed to preserve the church and increase its use as a cultural and community resource, yet needed creative and technical expertise to develop their interpretation plans to include interactive media and technology. We therefore began a creative investigation to develop interactive artworks that would explore novel ways of engaging visitors with the site. As well as furthering our design research, this work could then inform the group's interpretation planning, and demonstrate the church's cultural and social potential in their applications for funding.

The main focus of this paper are descriptions of several of the interactive artworks created in and for St Andrew's church, and how they made aspects of its intangible, hidden, and 'lost' heritage engaging and present for church visitors. The paper also describes how local people responded to this creative work and how it is informing the local group's improvement and interpretation plans. The paper ends with a discussion of how our creative work has enabled the local group to explore unfamiliar creative and technological territory with us, and to use our work in their ongoing heritage interpretation planning. We begin with a summary of 'the story so far', the features of St Andrew's church, and the local group's concerns.

II. ST ANDREW'S CHURCH

A. The Story So Far

Two circumstances first brought us into contact with St Andrew's Church in late 2016. Firstly, we were seeking somewhere to develop a research collaboration that we had begun in Liverpool, UK, where we had made interactive artworks that evoked the sonic and visual character of several intriguing locations. This work combined our research interests in: evoking lost and intangible heritage through interactive media and technology; making as means for investigating place [21]; and exploring new cultural and creative commercial opportunities through collaborations between academics, small to medium creative businesses, and public organisations. The latter interest related to the research programme (<http://thecreativeexchange.org/>) funding our work, which then supported the involvement of an interaction design agency (<http://www.drawandcode.com/>) and an architectural illustrator, Allan T Adams, in the ensuing collaboration. Secondly, a mutual contact with an historical interest in St Andrew's church introduced us to the small group of local people concerned with its preservation and promotion.

Through ensuing visits we started conversations with the church's 'Core Group' (as they called themselves), and began to

appreciate the potential of the site in relation to our research and creative practices, and the Core Group's openness to our creative investigation. We therefore proposed a period of creative work – '*illuminations*' – that would respond to the building and its history and place in village life, and the Core Group's concerns relating to its interpretation. This making and resulting artworks would, we hoped, be the means of a conversation with the Core Group about the role of interactive media and technology in engaging visitors and in developing the cultural and social potential of the church.

After several one-day site visits, we spent three days making on-site in December 2016. The resulting makes, presented in-situ, generated interest from the Core Group and a proposal for a public exhibition and performance (also titled *illuminations*) that would provide both an opportunity to further develop the creative work and encourage current and new church visitors to experience the site differently. Further activities, including four-days on-site making, led up to a public event in April 2017, and an agreement to leave four pieces on-site for several months.



Fig. 2. A St Andrew's Gargoyle, Fragments of the Medieval Stained Glass

B. Research Methodology

We followed a research through design [22]–[24] approach in our investigations – making several interactive artworks to explore the use of interactive media and technology to evoke, explore, and enhance the particular characteristics of St Andrew's Church. The Core Group were interviewed twice in 2017 by academic colleagues not involved in the creative work. Firstly, in March, before the public exhibition and performance, to elicit their thoughts on the church, their hopes for it, and our creative work. Secondly, in December, to elicit the Core Group's and others' responses and reflections on the April event and subsequent longer installation, and their observations on and aspirations for the ongoing collaboration with us.

In what follows, we draw upon our making, what was made, and the Core Group's responses and reflections. Here, we note that, as research through design, our findings are partially expressed through what was made [22], and that their illustration and description here is provided as a form of intermediate knowledge [25], [26] to inspire others' thinking and making. Excerpts from the Core Group interviews are suffixed with individuals' initials (L, M1, M2, M3, P, S) and, where relevant, we refer to ourselves via double initials.

C. St. Andrew's Church and the Core Group's Concerns

The church was founded by Richard de Potesgrave, chaplain to Edwards II and III of England, and has several medieval architectural features of notable historical interest. These include an untypically large number of gargoyles and grotesques, an Easter Sepulchre, and Piscinas and Triple Sedilias in both the chancel and, unusually, the south transept. The church also has 'lost' medieval features: evidence in the fabric of the building, and from contemporaneous churches in the same area suggests that it would have had a Rood Screen to separate the nave (lay people) from the sanctuary (clergy); faint remnants of the wall paintings that once covered the church are visible above the Sepulchre; and, fragments of the original medieval stained glass from the east window have been recently discovered.

There are also numerous intangible aspects of the building's heritage relating to its cultural and social function. The physical building, unusually large for a rural village, has peculiar spatial, sonic, and light qualities that enhance it as a space for musical performance and liturgical practice.

The function of the Church, as a community resource, has also changed significantly since medieval times, when its nave had a central practical role in village life, e.g. as a meeting and market place. In early conversations, the Core Group drew our attention to the Luttrell Psalter [27], an illuminated manuscript commissioned by a local Lord around the same time as the church's foundation in the mid 14th Century, as another link with medieval life. This illustrated collection of psalms is notable due to its varied and detailed depiction of everyday activities, alongside the biblical scenes and grotesques (mythical creatures and human-animal hybrids) more typical of such manuscripts.

The Core Group evidently saw the church as an under-appreciated cultural and social resource for the village. The church motto ("Built in the 14th Century, still alive in the 21st") expressed the Core Group's intention to realise it as a cultural and social resource that is open and relevant to all – religious and secular. The recent influx of commuters, and children and their parents, were a target audience for the Core Group who saw interactive media and technology as a means to engage them.

III. THE INTERACTIVE ARTWORKS AND THEIR MAKING

A. Gargoyles and Grotesques

The church's numerous gargoyles and grotesques were frequently highlighted by the Core Group as one of the church's unique aspects, and became one aspect for our creative explorations. During the December making, we experimented layering photographs of church gargoyles and grotesques taken by P, one of the Core Group. A software algorithm aligned photographs according to facial features, and visually animated the layering of photographs to create hybrid forms. Initial results were somewhat unsatisfying partly due to the low angle of view of gargoyles high-up on the building, photographed from below.

Our investigations with the Core Group of ways of involving local people in the creation of artworks enabled progress in the layering artwork and inspired other artworks. The Core Group wanted to involve local children and subsequent discussions with freelance children's heritage educators led to a gargoyle-

themed activity day with the village primary school children. This day included an educator telling the imagined stories of figures in the Easter Sepulchre and Sedilia, children using paper masks to share their own stories, and children making their own gargoyles from air-drying clay.



Fig. 3. The Children's Gargoyles, *Gargoyle Triptych*

The children's gargoyles became part of the April exhibition in three ways. Firstly, we invited the children to design their own part of the exhibition. We suggested that they characterise their gargoyles by imagining and writing about what their gargoyles may have seen and heard, or by creating collectable playing cards explaining their attributes ('noisiness', 'ugliness', 'eyesight', 'hearing', 'memory'). The children enthusiastically engaged in these activities – naming their gargoyles, and displaying stories and cards alongside them.

Secondly, we photographed the children's gargoyles, including several in multiple angles and rotations such that photogrammetry could be used to create digital 3D models. These models then became part of a Microsoft HoloLens augmented reality experience, where virtual gargoyles were hidden about the church interior.

Thirdly, the earlier algorithmic layering piece was developed into *Gargoyle Triptych* using photographs of the children's gargoyles. A recording of children reading their gargoyle stories aloud (<https://archive.org/details/gargoylestories>) accompanied this piece, which was displayed within a recess in the church. *Gargoyle Triptych* was left in place following the April event.

B. The Church and Everyday Life

The historical and present-day role of the church in everyday life became another facet of our creative explorations. Here, the Core Group cited the Luttrell Psalter [27], as a document of medieval life, as resonating with their concerns to represent the church as being relevant to present community life as well as being grounded in its history. We therefore began exploring

ways of recording contemporary village life and church activities, and new ways of presenting this social heritage. We began recording and collecting media representing village life including: photographic portraits of well-known local people; old photographs and drawings of the village and village people; paintings from the village art group; and, sound recordings in and around the church and village.

In our December making we created a *Lateral Psalter* – a contemporary and alternative version of the Luttrell Psalter using some of the media we had collected and recorded, plus ‘neo-grotesques’ combining contemporary images of fictional characters and celebrities. These elements were integrated into a two-minute video moving across a fantastical landscape composed of fragments of the rediscovered medieval stained glass, and foliage and figures from the Luttrell Psalter.

The *Lateral Psalter* was presented in three forms. At the culmination of our December making it was projection-mapped inside the alcoves of the church font. For the April event it was projection-mapped into the chancel Sedilia as data-projectors around the font would have created an obstacle for visitors. And, following the April event, we projected it onto the blank pages of an open book on a lectern in the South Transept – a location more amenable for its longer installation.

The chancel ceiling inspired another artwork – *Choir of Angels* – that revealed the church’s diverse social roles. During our visits the Core Group drew our attention to the poorly lit Victorian chancel ceiling and the carved wooden angels upon it that are barely visible from below. The Core Group suggested that we might draw attention to the angels as an often overlooked feature of the building. During the December making we flood-lit the chancel ceiling, made a high resolution hemispherical photograph of it, and then experimented with projecting this image, flipped, onto the chancel floor with the image’s direction and field of view controllable to create an interactive ‘digital mirror’ of the ceiling. We further developed the digital mirror concept for the April exhibition to include audio elements representing ‘what the angels heard.’

The April version of *Choir of Angels* included developments in its interactivity, means of display, and physical form. The digital mirror image was displayed using the Marzipano JavaScript API (<http://www.marzipano.net/>). We developed a web application to enable device-orientation control of viewing angle – such as on a smartphone or tablet computer with gyroscope and accelerometer sensors – and to enable partially hidden audio and visual content to display or playback if a certain direction of view is maintained – ‘gaze spots’ as we termed them. Gaze spots were placed around the digital mirror image consisting of audio excerpts plus illustrative images, e.g. the sound of an older people’s coffee morning plus the poster advertising it. This interactive media was accessed via an iPad and external loudspeaker mounted within a bespoke wooden enclosure, constructed as a focus for visitors’ attention and with an aesthetic complementing the church. The enclosure was also constructed such that the iPad’s rotation and orientation were restricted to follow possible digital ‘reflections’ of the ceiling above. Here, we were inspired by the physical mirrors often placed in heritage buildings to enable an easier view of ornate

ceilings. *Choir of Angels* was also left in place following the April event.

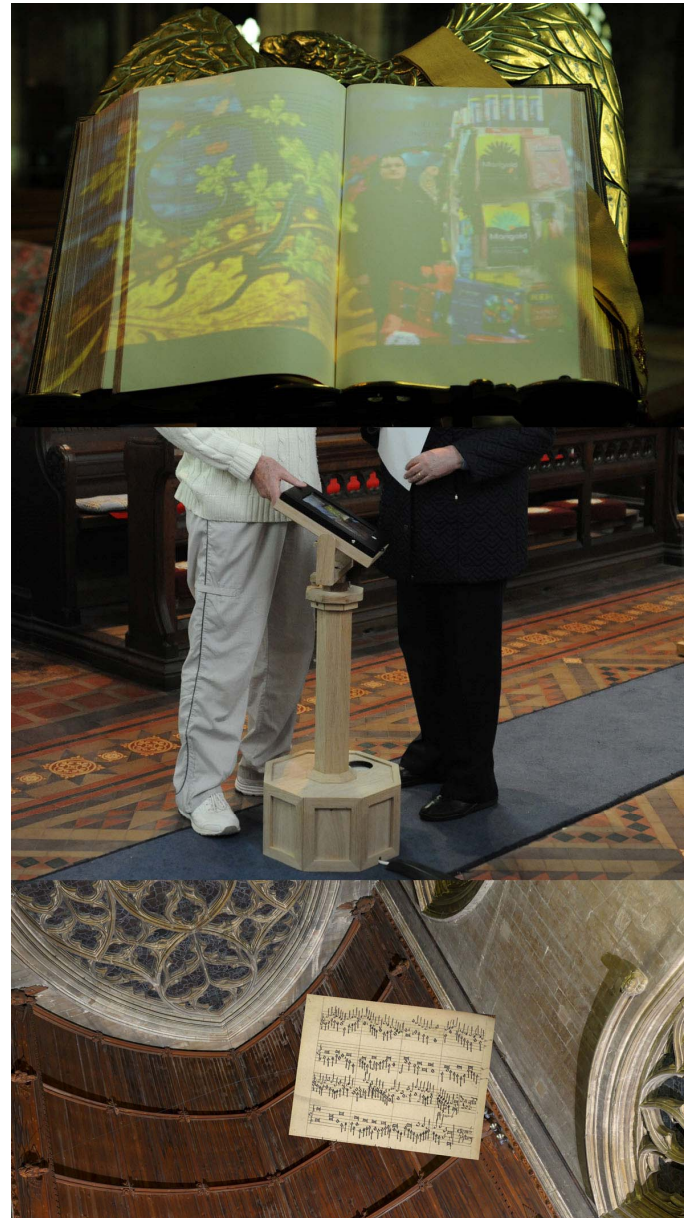


Fig. 4. The *Lateral Psalter* (lectern), *Choir of Angels* enclosure and screenshot

C. Bells and Bell-ringing

In exploring the church, we became interested in two aspects of its tower – the peal of 8 bells, and the numerous graffiti carved into the stone walls by bell ringers and clock-winders through the ages. Both represented church practices in some ways hidden from visitors, which we explored in two artworks.

During the December making, we experimented with the mechanical stimulation of bells using self-constructed software. Church bells are typically rung in ‘changes’ such that in each sequence of strikes a given bell appears just once and no bell moves forward or backwards by more than one sequential position from one of its strikes to the next. For 8 bells, there are $8! = 40320$ changes. This *Plain Changes* sequence, as it is called,

was produced algorithmically and played on eight hand bells via Arduino-controlled solenoids. Certain changes correspond to commonly practiced changes by bell ringers, others being mathematically possible but not typically used.

For the April exhibition, a bespoke enclosure was constructed to display the bells and electronics, and the software was developed to vary the rate of changes and introduce occasional pauses (<https://archive.org/details/PlainChanges>). *Plain Changes* was also left in place following the April exhibition.



Fig. 5. *Plain Changes*

The idea of hidden aspects of the church resonated with our creative urge to experiment with small-scale projections viewed through one of the church door's large keyholes. In December, we produced a piece viewed through a keyhole in the tower stair door, which combined a Microsoft PhotoSynth 'walk' up the tower stairs transitioning to a montage of church graffiti, accompanied by a recording of the tower clock and chimes played using an audio transducer mounted onto the door itself.

During the April making, we were able to observe and record a weekly bell ringing practice and add photos and audio recordings from the bell ringing room to this *Hidden Histories* artwork (<https://archive.org/details/bellRingingRoom>). During the April exhibition, the artwork was presented through the keyhole of the tower stair door, typically off-limits to church visitors. Visitors crouched to peer through the keyhole to see and hear another hitherto 'hidden' aspect of church life.

D. The 'Lost' Rood Screen and Plainsong Performance

The 'lost' heritage elements of the rood screen and how plainsong (medieval liturgical chant) was performed, and their interrelationship became another focus for our creative explorations. St Andrew's church must certainly have had a Rood Screen – a decorated structure separating the nave from the chancel, carrying images of Christ crucified, his mother Mary and St John the Evangelist. Whilst extant rood screens in other medieval churches offered clues as to the form of the St Andrew's rood, its precise form is not known and a pair of high doorways either side of the chancel arch – which would have provided access to the rood loft – suggested that the screen at St Andrew's was unusually tall by comparison. Plainsong would have been sung at particular locations or 'stations' within the

church (e.g. fonts, altars, lecterns, votive images) or in ritual processions between stations – unlike contemporary church services where choirs typically sing within the chancel. The Rood Screen was one such station and also acted as a physical and symbolic division between the activities of the clergy and the lay community.

Late-medieval sources suggest some degree of consistency in the performance of plainsong from one place to another. However, the spatial, acoustic, visual, and even olfactory characteristics of churches would have affected how plainsong was *experienced* in these spaces and how rituals were organized. Indeed, church builders included features to optimize churches' sonic properties, e.g. through the insertion of acoustic cavities within walls and acoustic pots or trenches below choir stalls. Different churches – built on different sites, at different times, in very different shapes and sizes, and with different priorities – will frequently impose distinctive constraints upon singers. The peculiarities of the fourteenth-century building's interior – including its lost rood screen – raises questions over the manner of plainsong performance at St Andrew's before the Reformation.



Fig. 6. *Speculative Rood*, Plainsong re-enactment at the Font

Our task, then, was to determine the physical form of the rood screen and the manner of plainsong performance through our creative work, and based on the standing archaeology and numerous analogical documentary sources. Exploratory drawing and choral performances were key aspects of our hypothetical reconstruction of the rood screen and its practical usage. During the December making, AA began exploring clues

about the rood screen's form through in-situ sketches. Subsequently, AA and MW discussed and agreed a likely form for the rood screen through a series of further sketches and increasingly detailed drawings. Also during the December making, MW and a group of singers experimented with how plainsong would be performed in the church by varying the arrangement, location, and orientation of singers.

Our practical explorations reinforced that our historical enquiry proceeded through *speculating* on several likely forms of the rood and plainsong performance, rather than precisely *reconstructing* 'definitive' versions of them, and we decided to emphasize this speculative character in the April artworks and performance.

In the April exhibition we presented a *Speculative Rood* by projecting AA's drawings – from initial studies to final color-washed pencil illustration – onto semi-transparent theatrical gauze suspended in the church nave. Through careful positioning of images, projector, and gauze this created an 'analogue augmented reality' effect where, from certain viewpoints, the drawing aligned with the church. An audio recording of one of AA and MW's discussions of the drawings' progression accompanied the visual elements, and a second version on the opposite side of the nave, with images horizontally flipped, enabled more visitors to see the piece. The human character of the pencil drawings would, we hoped, emphasize that our rood was an educated speculation rather than an absolute reconstruction.

Choral re-enactments of plainsong also formed part of the April performance (<https://archive.org/details/spatialPlainsong>), including the performative role of the rood screen, as we shall discuss later.

After the April event, we created a version of *Speculative Rood* to be accessed on church visitors' smart phones and tablet computers. A portable wi-fi router and open-source software (<https://github.com/sebpig/FreedomPortal>) was used to create a simple captive portal in the church, which visitors could access to view web content stored on a memory stick attached to the router (which had no other Internet connectivity). This web content included a 360 degree spherical photograph of the church interior taken from the viewpoint used for the physical artwork that, using the same technology as *Choir of Angels*, could be explored using a phone or tablet computer. AA's drawings were overlaid onto this photograph according to the direction of view, with the AA and MW's discussion as a sound component. A second similar piece, *Speculative Choir*, used the same principles to display AA's drawings of the medieval appearance and use of the chancel and Easter Sepulchre with an audio-recording of the relevant plainsong re-enactment.

E. *Performing the Space*

The several artworks described above variously responded to and explored aspects of St Andrew's building, history, and place in local life, but the April performance provided an opportunity to create a multisensory experience of the entire space that drew upon each of these aspects. The performance was in two parts.

The first part included choral re-enactments of plainsong that utilized the spatial characteristics and layout of St Andrew's during the Triduum – the climactic days of the church year leading up to and including Easter Sunday. A section of the St John Passion, which would have been sung from on top of the rood screen on Good Friday, was sung from 'on high' in the church's elevated west gallery. A ceremony was sung at the Easter Sepulchre. And psalms and an antiphon were sung in procession from the chancel to the font in the nave. Relevant images from the Luttrell Psalter and medieval songbooks, and photographs of ritual artefacts were projected onto the *Speculative Rood* gauze screens during the performance.

The second part explored the acoustic resonant features of the church alongside contemporary village sounds, and was accompanied by a visualization of the 'Lost Light' that may have been cast the original medieval windows. For the audio component, (<https://archive.org/details/performancePart2>) a live soundscape was performed that combined field recordings of the local windmill and soundscapes from around the church with sonic experiments previously conducted within the church (e.g. exploring its resonant character through recursive feedback recordings). During the December making, we experimented with projecting lightbox photographs of the lost stained glass fragments inside the church. A montage of these images, projected into the darkened chancel, was performed live in the April event.



Fig. 7. *Lost Light*

IV. RESPONSES TO THE ARTWORKS, REFLECTIONS

Having described the interactive artworks and their making, we shall now summarize the Core Group's responses and their reflections on the artworks and performances.

The April exhibition and performance attracted an untypically large (the church was full) and varied audience from the village, county, and further afield. The artworks left in place continue to attract interest (especially from younger visitors), and were featured at the village show.

"One person said to me, 'I just could have sat there forever.'" L

"It was too dramatic for some ... listening to sounds in the church ... wind, just little whistles. Very eerie, really, and it really disturbed some people, that bit." M2

When asked about visitors' responses to the artworks and performance, the Core Group described how visitors immersed themselves in the multisensory environment created within the church. L provides an example of the church's vicar (priest):

"He doesn't like any of this [form of art]. I just happened to be sitting next to him and he was just absolutely in another world. And he kept saying to me, 'All that red, it's blood. I can see blood and the resurrection.' And he was really touched." L

In their discussions with us and in their interviews, the Core Group highlighted that local people were often stereotyped as being obstinate and having limited cultural experience, and that cultural and technological progress would therefore meet resistance and need to proceed slowly. It is then perhaps unsurprising that the April exhibition and performance prompted mixed responses according to people's cultural expectations and preferences:

"...everything from, 'Wow, that was amazing,' to 'What the ___ was that?' P

"Some [visitors] loved it and some didn't like it at all. But, it made people think. [...] even if some people didn't like it, it gets their attention and makes them think." M2, Dec.

The Core Group made numerous positive remarks about our creative work – "stupendous" L, "lovely" M, "brilliant" M2 – but they also noted practical difficulties with the artworks left in place "you don't know these things aren't going to work, or they're too complicated" S. One interviewee – M3, a church visitor guide – was unable to attend the April event but was critical of the artworks left in place:

"It says, 'If you tilt this, you will hear angels singing.' That's it. It just doesn't work. The thing is fully illuminated, so people will see this... As a guide, as a person representing our Church to people coming in, it's a real off-putter." M3

M3 also mentions frustrations with other artworks but goes on to highlight two valuable aspects also discussed by the Core Group. Firstly, that the artworks intentionally explored the role of interactive media and technology rather than being end products – "But then, of course, they are experimental things" M3. And, secondly, that the artworks encouraged people to appreciate the church further and in new ways. M3 describes his frustration with *Choir of Angels* above but then goes on to say:

"As a guide, I have to tell people that the [East window] tracery really has to be seen from the outside of the Church. To see it from the inside you don't see this tracery. Suddenly, this device – when I'm trying to tilt to try to get angels to sing, I sat there looking at it and I'm seeing the windows from the inside – completely contradicting my view of how you should view them." M3

Others in the Core Group discuss the value of artworks broadening local people's horizons: "[the performance] made them realise that the church, yes, it can be used for other things, which is what we're trying to push for" M2; "it's opened up this amazing, almost demonstration of where we want to be, but we couldn't explain to people what we were trying to do" L. The Core Group also described how our collaboration is affecting their own thinking: "It opened up our minds and eyes to all sorts of different things we hadn't even thought about" P, "it's made

us think a lot about the way we are communicating [heritage], and the way we are going to communicate in the future" L.

Our creative explorations are continuing to have impact in Heckington: "I think this has had ripples" M3, "...people are still talking about it now" L. The church has developed a closer relationship with the local primary school, including hosting learning activities within the church, and the Core Group are considering a gargoyle-themed annual event for community engagement, and how interactive projected images and sound might form a key component of church interpretation. We continue to support the Core Group in their interpretation planning and are further developing some of the interactive artworks, and sharing the interactive media we have produced in support of this.

V. DISCUSSION AND CONCLUSION

We began this paper by outlining opportunities to support situated, embodied, and collective experiences in heritage sites via interactive media and technology, and the associated challenges of enabling community partners to explore the evocative and interpretive potential of interactive media and technology, and of enabling local community partners to use interactive media and technology to produce and share *their* cultural heritage as an ongoing process. Our work at St Andrew's Church investigated these opportunities and, with the Core Group, the associated challenges of *exploration* and *ownership*.

In terms of exploration, our creative work is enabling the Core Group to appreciate the potential of interactive media and technology to make the lost and intangible heritage of St Andrew's church engaging for visitors (albeit with audiences' mixed responses). Moreover, we were able to explore this territory mindful of how interactive artworks could use the site and its characteristics to situate and make sense-able such heritage. Artworks were specific to and utilized features of their location as part of their mixed/hybrid form (e.g. *Choir of Angels*, *Speculative Rood*, *Gargoyle Triptych*). Artworks also used the sensorial and spatial qualities of the site in the manner in which they were experienced (e.g. *Plain Changes*, *Lost Light*, *Performance part 2*).

The results of our work at St Andrew's are less obvious in terms of community ownership of ongoing cultural heritage production. Our interactive artworks responded to and integrated content created with or supplied by local people (e.g. the school children's gargoyles, images in the *Lateral Psalter*, and 'what the angels heard' audio recordings in *Choir of Angels*). However, whilst the Core Group supplied and facilitated these contributions, they did not participate in our creative work directly, appearing to consider the creative work our responsibility. Nevertheless, our making has expressed new possibilities for the church and the Core Group have repeatedly said that they value our work in making them think 'outside the box'. It has also encouraged them to develop new ideas. In a late 2017 visit, the Core Group explained an idea to use projection as their "interpretative device of choice." In a subsequent email, discussing *illuminations*, L expands "your development of this, [visitors] immersing themselves in the very heart of the building enhanced by a sonic as well as visual experience, begins to show

the way to make tangible our aspirations.” So, if we consider our creative work as supporting *ongoing conversations* with and within the Core Group and their conversations with local people, and what was made as *inspirations* not endpoints, our multiple exploratory making can support the Heckington community’s ownership of their cultural heritage. However, these ongoing conversations rely upon the interactive artworks remaining (physically or virtually) available for further inspiration and discussion, which our current work is exploring.

Reflecting upon our work at St Andrew’s Church, we offer some suggestions for others seeking to similarly use creative work to facilitate ongoing conversations at cultural heritage sites. Firstly, be relevant to the site by being sensitive to both the experiential potential of it as a *space* and the community concerns of it as a *place*. Secondly, creatively respond to a site in a manner that not only demonstrates how its various aspects might be highlighted, but also prompts reflection on what aspects constitute this heritage (e.g. little or under-appreciated aspects, alternative aspects). And, thirdly, present this creative work in a manner that invites further exploration, adaption, adoption, and invention.

The making in our creative work was intentionally multiple and overlapping. Our ‘makes’ were not examples of coincident and parallel making, rather they were in and of each other. Similarly makes were presented together, to keep multiple concerns and possibilities under consideration rather than converging to a single larger artwork and risk side-lining some concerns at the expense of others. Ingold [18] conceptualizes making as *correspondence* – a bringing together and drawing apart of the maker’s kinaesthetic awareness and their materials, and observing the inevitable and ongoing flux of both. Collective makings, such as ours, suggest an extension addressing correspondences of *concern* – the bringing together of the multiple and evolving concerns involved through making and encountering what is made. Our work at St Andrew’s suggests that such multiple making can be a means bringing the aspects of a heritage site, the evocative and interpretive potential of interactive media and technology, and community concerns together into a productive *correspondence*. And that such making can be part of an ongoing process of producing and sharing cultural heritage.

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