10.1. INTRODUCTION

Living Symphonies\(^1\) is a landscape sound installation by James Bulley and Daniel Jones\(^2\), which toured across four different forests\(^3\) in the UK in the summer of 2014. The work portrays the thriving activity of the forest’s wildlife, plants and atmospheric conditions, creating an ever-changing sound symphony heard from a network of 24 speakers hidden throughout the forest itself. Working with ecologists and wildlife experts across the UK, Jones/Bulley developed highly detailed maps of the flora and fauna that inhabited each forest site where the installation was to take place.

Each species in the surveyed area was depicted by a unique set of musical motifs that portrayed their changing behaviour over day and night, coming to life as the species awakened; moving, developing and interacting just as the organism would. Dozens of these motifs were heard at any moment when the piece was live, spatialised across the space of the forest and heard back through a three-dimensional speaker system. In total there were some 15,000 fragments of sound within the sound score, making up musical movements for over a hundred different organisms.

10.2. FUNDER REQUIREMENTS

The piece was commissioned and funded as a collaborative work by Sound and Music, the Arts Council England and the Forestry Commission England. All copyright in the work, including that of the datasets, remained with the artists and there was no requirement to make any such data publicly available. A required outcome was a toolkit for touring public artworks, produced and published by the Forestry Commission England. This toolkit is openly accessible and available here\(^4\).

10.3. SURVEY DATA

In order to undertake the piece, the artists collected a large array of datasets over a year-long period of in-depth research and development. This data was used both to create and contextualize the artwork. A table of datasets captured during the project is shown in Figure 10.1.

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\(^1\) Living symphonies: http://www.livingsymphonies.com; last accessed 5 March 2017.
\(^2\) James Bulley (b. 1984) and Daniel Jones (b. 1983) are an artist duo whose collaborative practice explores the boundaries of sound art, music, and process-based composition: http://jones-bulley.com/biography/; last accessed 5 March 2017.
\(^3\) The forest sites for the 2014 tour were as follows; Thetford Forest (24—30 May 2014), Fineshade Woods (20—26 June 2014), Cannock Chase (26 July—1 August 2014), and Bedgebury Pinetum (26 August—7 September 2014).
10.4. BACKUP AND STORAGE

Working in remote forests across England was a challenge for capturing and storing data, as Internet/network access was extremely limited. As a result, the data was regularly backed up and duplicated onto hard drive storage, before then being synchronized to cloud storage at a later point. For immediate ‘transfer’ purposes all data gathered was placed into Dropbox (for sharing with partners including press organisations, Sound and Music and Forestry Commission England) and then transferred to external hard drive storage (copies were synced and held both at the Jones/Bulley studio and in personal artist studios offline). Dropbox was used for its ease of use, stability and simple sharing interface.

Figure 10.2 Thetford Forest Photographic Survey, 2014 (Photograph: James Bulley)
## 10.5. Ancillary Data

During the live period as the installation toured, there were a number of additional datasets that were captured by the artists and the production team as part of the project.

A table of datasets captured during the project is included in Figure 10.3.

### Figure 10.3 Table of ancillary datasets

<table>
<thead>
<tr>
<th>Type of dataset</th>
<th>Format</th>
<th>Size</th>
<th>Capture Tools/Software</th>
<th>Backup/Storage</th>
<th>Raw</th>
<th>Prepared</th>
<th>Shared with</th>
<th>Archived</th>
<th>Accessible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written testimonial videos</td>
<td>.doc</td>
<td>300Kb</td>
<td>Journal articles / written testimonies on paper</td>
<td>Dropbox &lt; &gt; Hard disk / physical backup in studio boxes</td>
<td>Yes</td>
<td>Yes</td>
<td>Some public, some internal only</td>
<td>Yes - onto hard drives</td>
<td>Not currently</td>
</tr>
<tr>
<td>Press articles and coverage</td>
<td>.pdf</td>
<td>35Gb</td>
<td>.pdf screen capture software / .pdf function on Google Chrome</td>
<td>Dropbox &lt; &gt; Hard disk</td>
<td>Yes</td>
<td>Yes</td>
<td>Internal only</td>
<td>Yes - onto hard drives</td>
<td>Not currently</td>
</tr>
<tr>
<td>Video documentation of the sites (with and without audience presence)</td>
<td>.mov</td>
<td>150Gb</td>
<td>Canon EOS 5D/4K camera</td>
<td>Dropbox &lt; &gt; Hard disk</td>
<td>Yes</td>
<td>No</td>
<td>Internal only (possible future use)</td>
<td>Yes - onto hard drives</td>
<td>Not currently</td>
</tr>
<tr>
<td>Audio documentation of the piece live at each site</td>
<td>.wav</td>
<td>50Gb</td>
<td>recorded on ZoomH6 with DPA4090 microphones and various others</td>
<td>Dropbox &lt; &gt; Hard disk</td>
<td>Yes</td>
<td>Yes (select highlights, edited and used on video documentation)</td>
<td>Internal only (possible future use)</td>
<td>Yes - onto hard drives</td>
<td>Not currently</td>
</tr>
<tr>
<td>Photographic documentation of the piece and the branded sites</td>
<td>.jpg</td>
<td>50Gb</td>
<td>Canon EOS 5D/4K camera</td>
<td>Dropbox &lt; &gt; Hard disk</td>
<td>Yes</td>
<td>Yes (select highlights, created for press use and website use)</td>
<td>Internal only (possible future use)</td>
<td>Yes - onto hard drives</td>
<td>Not currently</td>
</tr>
<tr>
<td>Captures of the weather data</td>
<td>.mov</td>
<td>250Mb</td>
<td>Weather station through custom software</td>
<td>Dropbox &lt; &gt; Hard disks</td>
<td>Yes</td>
<td>No</td>
<td>Internal only</td>
<td>Yes - onto hard drives</td>
<td>Not currently</td>
</tr>
</tbody>
</table>

### Figure 10.4 Excerpt from Living Symphonies full organism survey, 2014
10.6. SHARING OF DATA

The sharing of the data that underpins Living Symphonies has been a complex and near impossible task. Whilst the partner organisations did create a toolkit that explored the touring of the piece (which was a prerequisite of the Arts Council funding that the piece obtained), it has not been possible to make available the vast majority of the above data in any coherent way. It is clear that most of this data would be very useful to many other researchers and artists (as proven by the interest of numerous academics, musicians and ecologists). However, in order to achieve this there would need to be funding allocated to provide the time for the adequate preparation of the datasets with related material to explain and contextualise them. Some of the photography and video has been used to make short reference films and to provide visual context to document the occurrence of the work, but it has not been possible for the artists to make the following datasets available due to a lack of funding, time constraints surrounding its curation and contextualisation, i.e. ranges of data and editing of documentation material, and issues in hosting such large quantities of material. Bracketed after these datasets are the avenues that the artists would hope and plan to make the material available through if possible:

- forest survey data (Goldsmiths Data Repository – data.gold.ac.uk, livingsymphonies.com)
- field recordings (Goldsmiths Data Repository – data.gold.ac.uk, freesound.org)
- weather datasets (Goldsmiths Data Repository – data.gold.ac.uk, livingsymphonies.com)
- photography (Goldsmiths Data Repository – data.gold.ac.uk, flickr.com)
- film (Goldsmiths Data Repository – data.gold.ac.uk, livingsymphonies.com)
- custom unique software (Goldsmiths Data Repository – data.gold.ac.uk, github)
- sound score materials (Goldsmiths Data Repository – data.gold.ac.uk, freesound.org)

10.7. CONCLUSION

Whilst much discussion has occurred in recent years surrounding research data management in the context of science-centred and text-based research outputs, very little of this has involved confronting the problems facing artist-researchers working outside these areas. As a result of fundamental differences in the commissioning and funding structures for art projects, there is insufficient funding and understanding on the part of the artists and institutions involved as to how or even why it is worth making this data available. Living Symphonies provides a case study that highlights a large and wide-ranging array of datasets that would undoubtedly be useful for researchers across numerous disciplines. In this instance the artists/researchers are comfortable with the vast majority of the data being made available under one of the more openly accessible of Creative Commons licenses – in this instance this would not affect any further income for the artists as the pieces in themselves are unrepeatable due to their site-specific nature. The artists believe this would be the right thing to do, given the publicly funded nature of the project. This data will remain unavailable unless there is adequate funding and planning from the outset for projects such as these.