

# ARBOREAL LIGHTNING

*Arboreal Lightning* is a large-scale interactive installation that transforms sound and gesture into an immersive luminous environment.

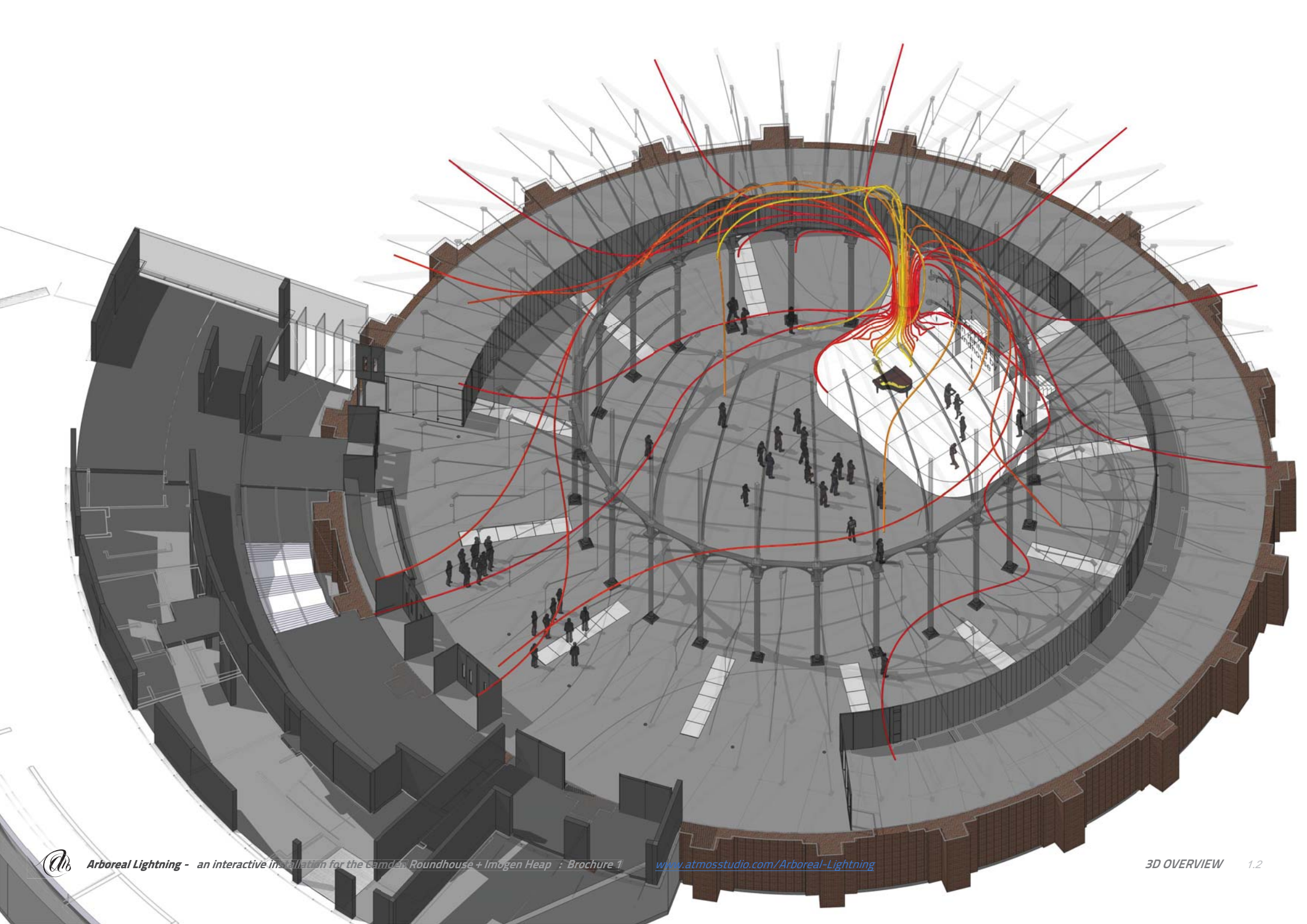
It was commissioned by Imogen Heap as the centrepiece for the Camden Roundhouse's Reverb 2014 Festival of Contemporary Classical Music, and has grown to be resident centrepiece for the Roundhouse's August Summer Sessions.

A lightweight central structure bundles together a series of LED-strip fibres that burst from the stage & soar above the performers, luminously reacting to sounds and gestures. The 'branches' arch along the Roundhouse structure, a few bowing down into the audience - rewarding participatory interaction.

<http://bit.ly/atmos213>

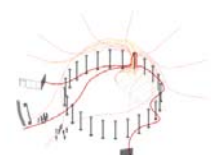




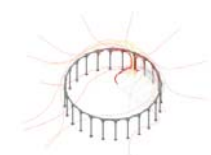




3 branches connect to entrances



3 roots connect to main passages



4 branches grow over colonnade



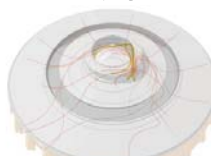
6 strands weave across dome above



5 branches connect to rear steelwork



2 branches droop to greet audience



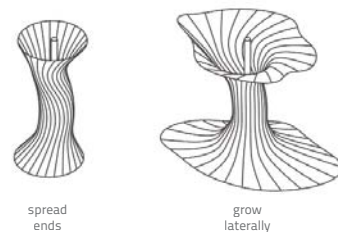
2 strands connect to roof oculus



Roundhouse  
column

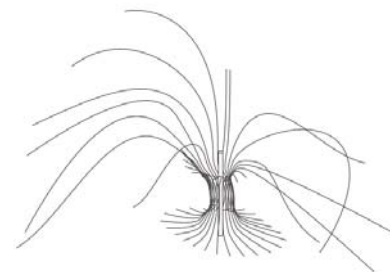
offset

curl



spread  
ends

grow  
laterally



24 strands (1 for each central Roundhouse column)  
weave into every public corner of the space

**Arboreal Lightning** is a large-scale interactive lighting installation that transforms sound and gesture into an immersive, fluctuating, luminous environment, its activity generated both by artist performers and a wider audience. It creates a performative stage beacon that activates and enlivens all performances, yet also serves as an interactive public installation during and outside concert times.

It emerges 1st August to inaugurate the Camden Roundhouse Summer Sessions, and interact with audiences for the whole month, including times the building is also opened to a wider non-concert public. It will then be the centrepiece and graphical icon for the 4-day Reverb Festival of Contemporary Classical Music, when the building will remain open 24 hours a day, enabling a wide variety of types of audience interaction. It has been commissioned by both the Roundhouse venue and the Reverb curator, acclaimed musician Imogen Heap, who will then modify and use it on her year-long world tour, which starts on the last night of Reverb.

The project uses relatively simple and affordable elements to generate a complex, spectacular experience. A lightweight central steel structure (initially clamped to a Roundhouse column, but free-standing on tour) bundles together a series of off-the-shelf LED-strips, which are sheathed in thick, protective translucent PVC tubing that enables them to be loosely bundled and structurally suspended in the air, while describing organic, slowly-curving geometries. The fibres bunch to form a wide, multi-stranded tree-like structure on stage, shimmering in direct digital response to the music, luminously reacting to the sounds - and the gestures of Imogen's gestural controllers, the 'Musical Gloves'.

The strands soar upwards and weave over columns and dome and arches to follow the building's dramatic structure, exploding outwards above both the performers and audience, creating a unifying branching system that embraces the people beneath it within a giant, pulsating, Gaian network; a lattice of visual music; umbilical cords connecting people, building, sound and light.

A few strands bow down to reach and mingle with the audience, who can then trigger their own luminous ripples and join in the spatial symphony. An occasional branch, when activated, deploys a small, hidden, directional speaker - rewarding the explorative audience that discovers it with a local sonic shower. The structure's 'roots' worm their way onto stage and become thin interactive electronic tape components that undulate between the feet of the performers and onto the main floor, where they offer the opportunity to be discovered and similarly activated (as light-changing sensors) by the audience.

The project's core innovation lies in its sculptural use of electronics, and its programming of a multi-input installation doubling as luminous display and interface. It explores the physical manifestations of music (mirroring the Gloves Project's convergence of digital and physical) - crossing disciplines, and triggering broad senses. It creates extraordinary visual journeys that rethink the traditions of experiencing and listening to music. In an age increasingly cognisant of the power of collaboration, it seeks to reinvent and re-imagine the relationship between performer and audience.



rafter

steel spokework

colonnade

root weave

interactive  
shower

lower  
entrance

oculus

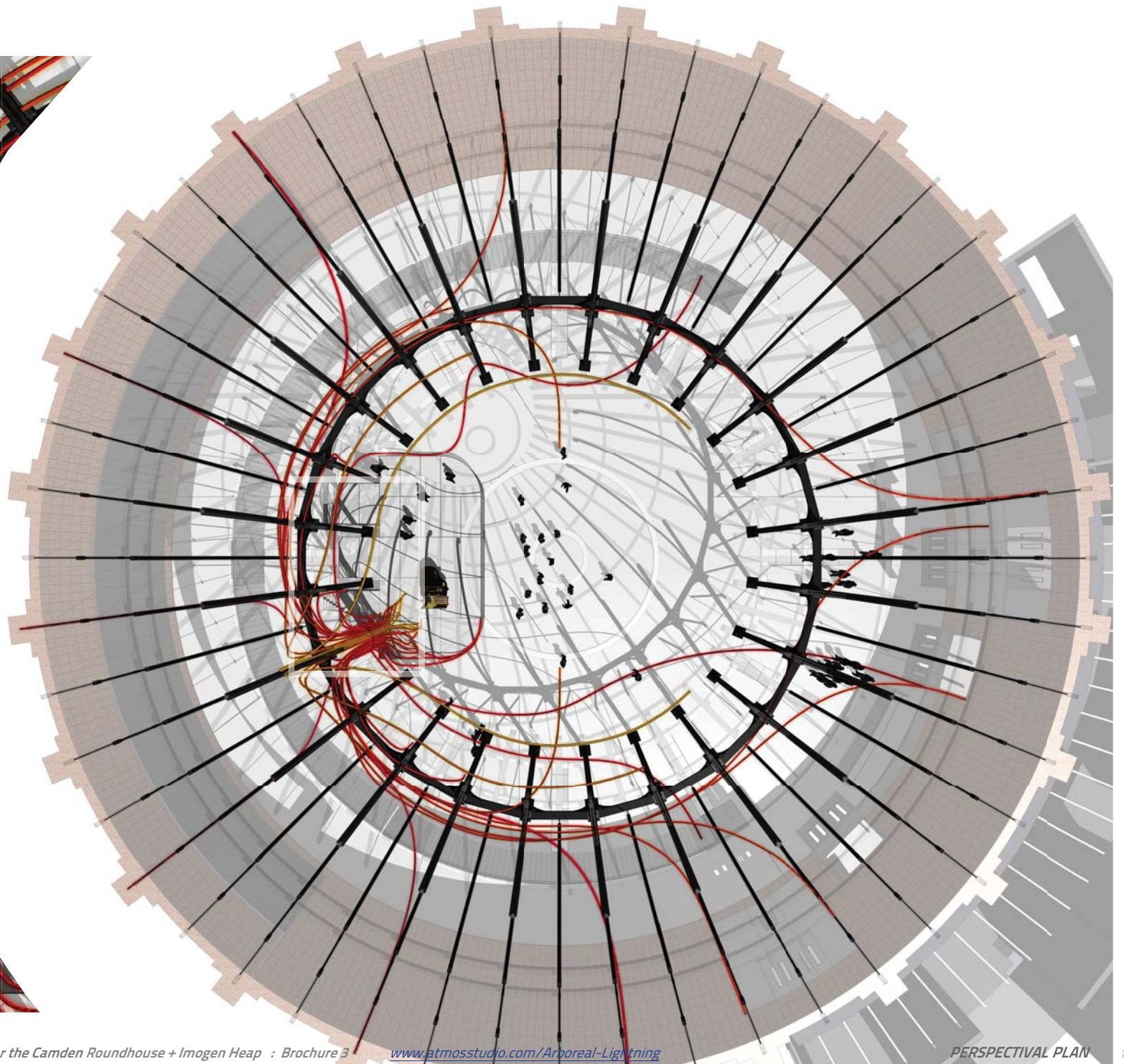
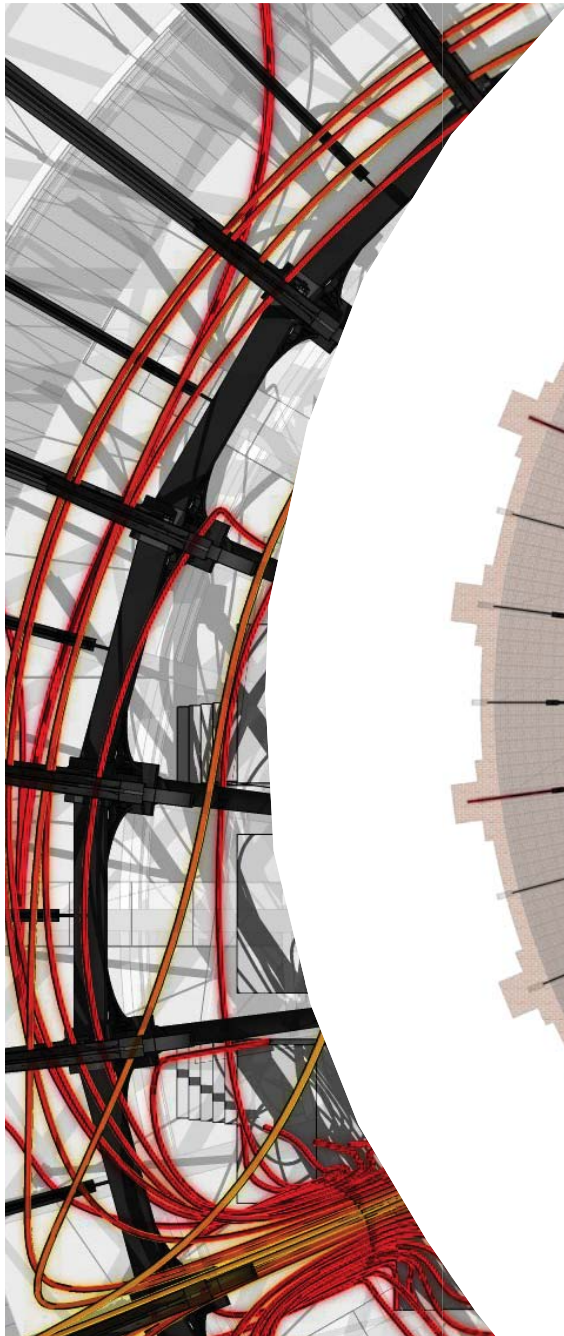
dome

upper  
entrance

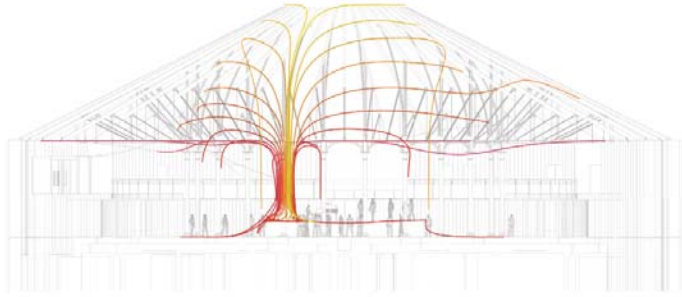
upper  
entrance



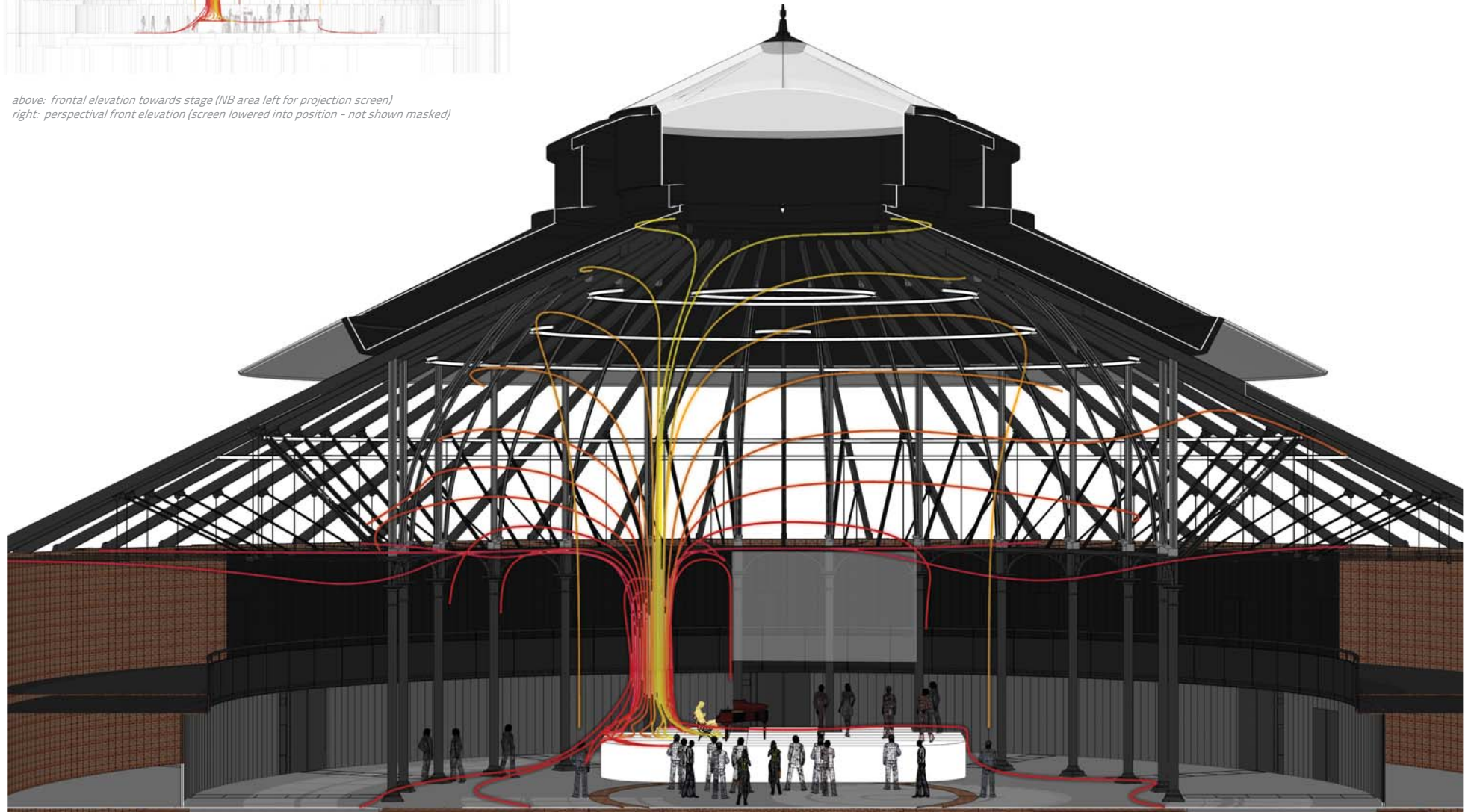




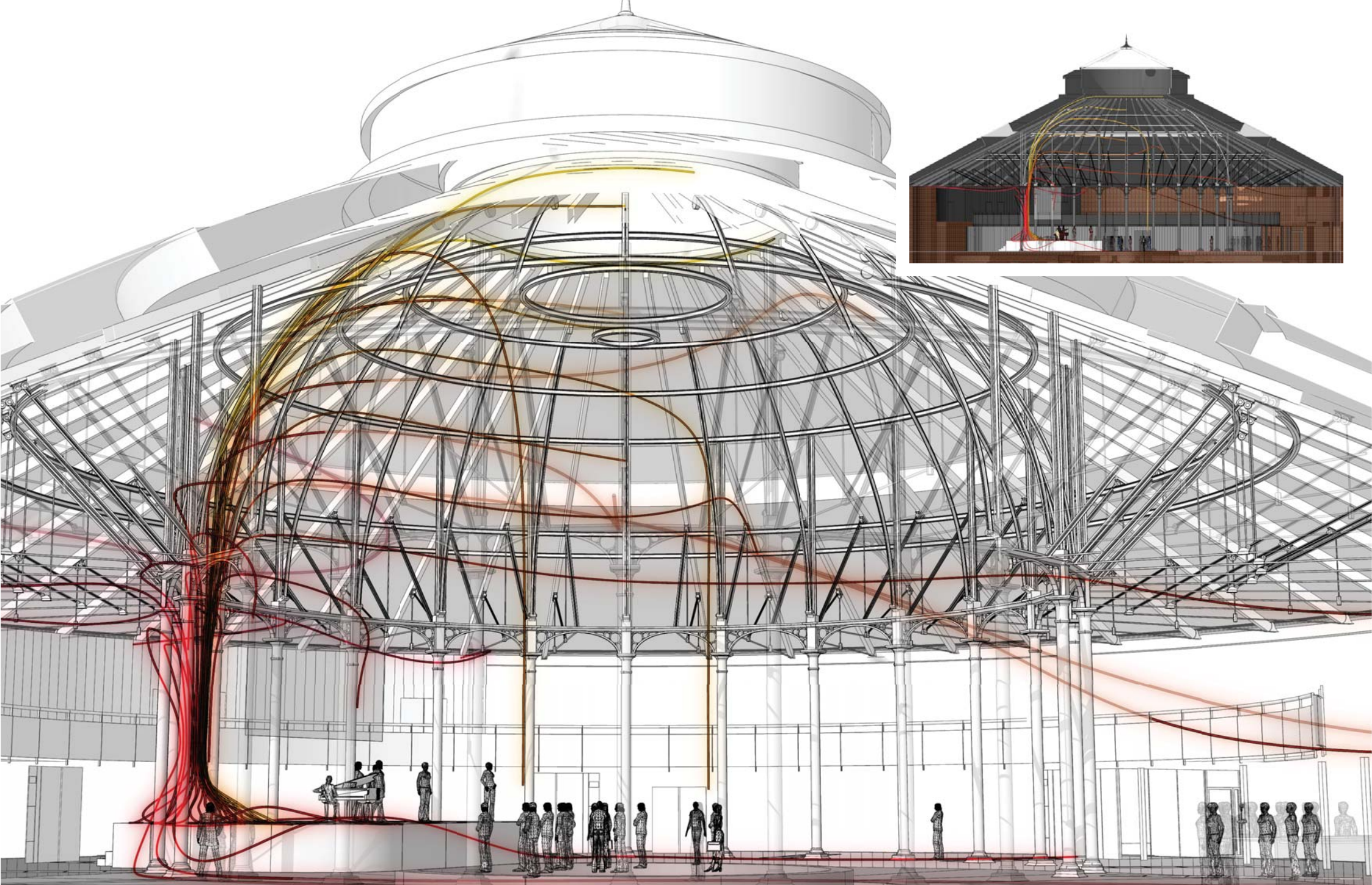




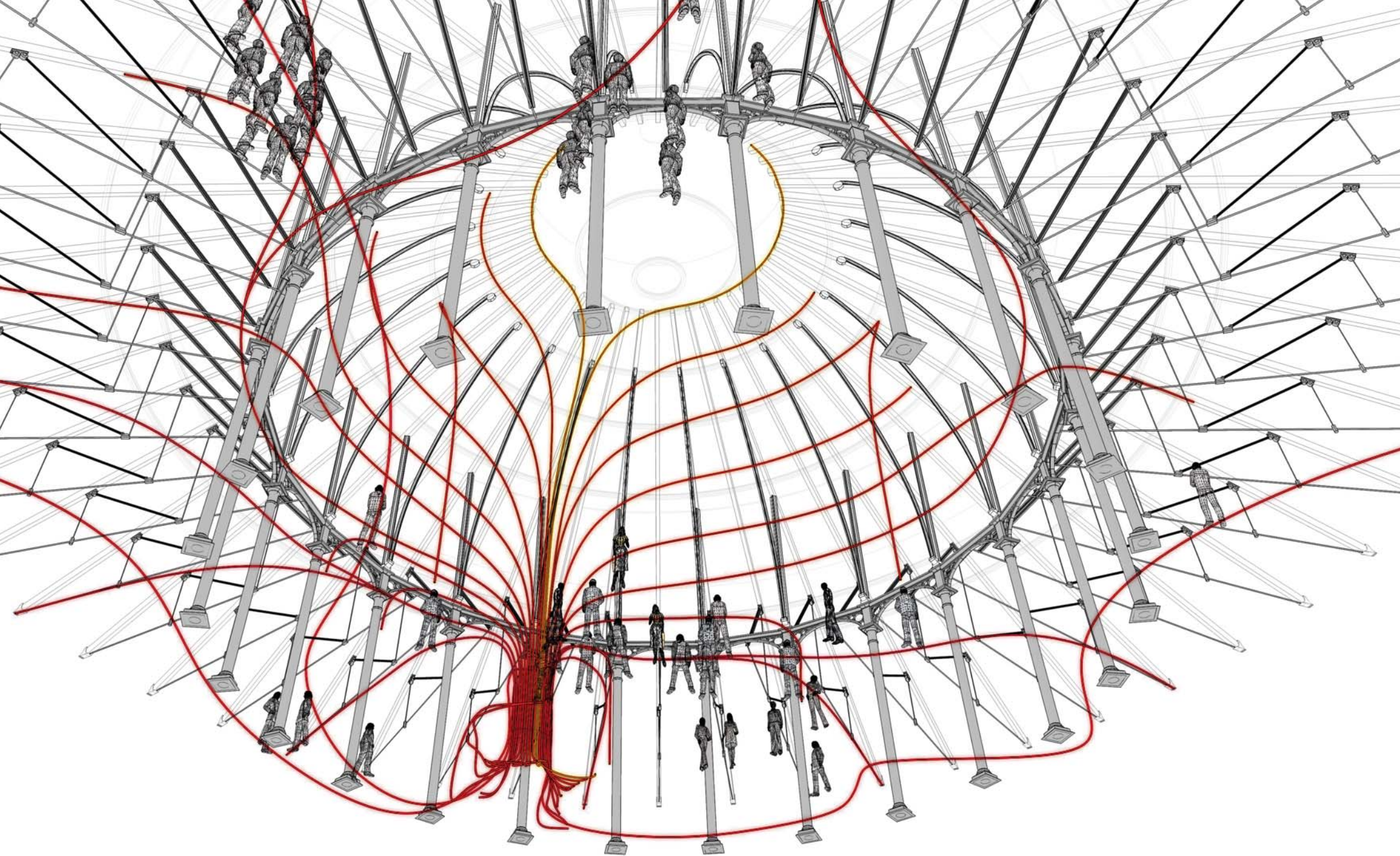
above: frontal elevation towards stage (NB area left for projection screen)  
 right: perspectival front elevation (screen lowered into position - not shown masked)



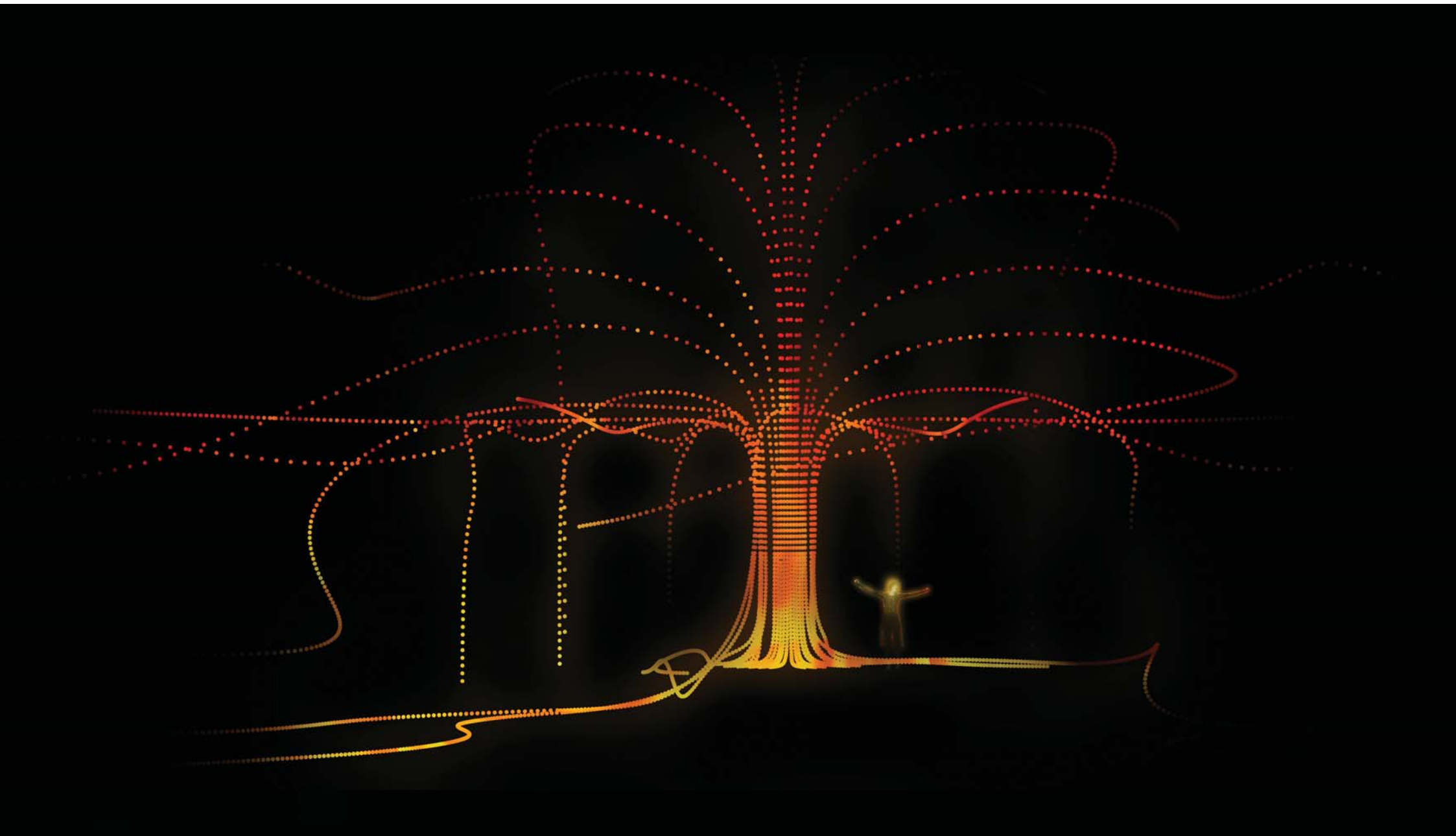




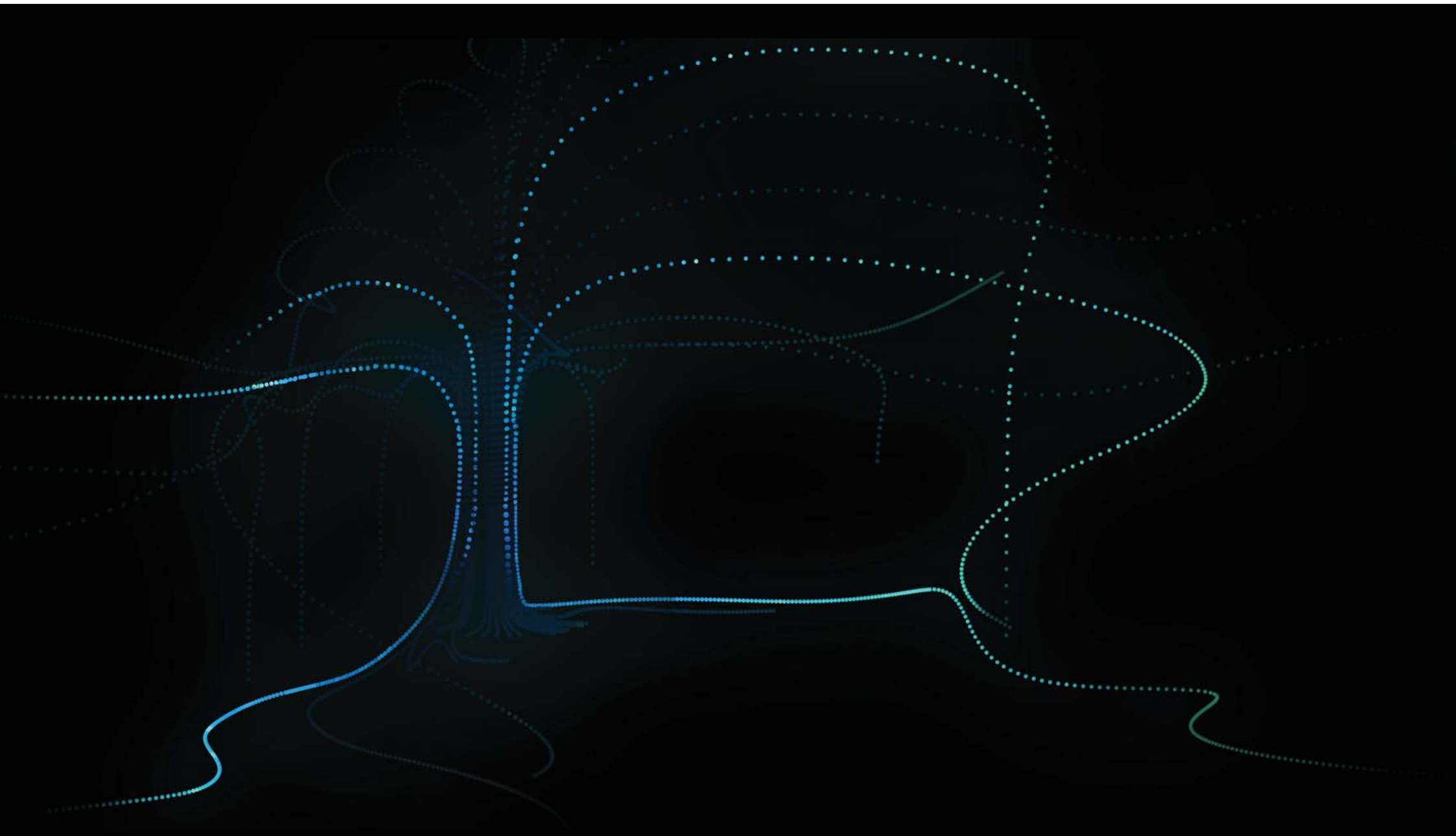








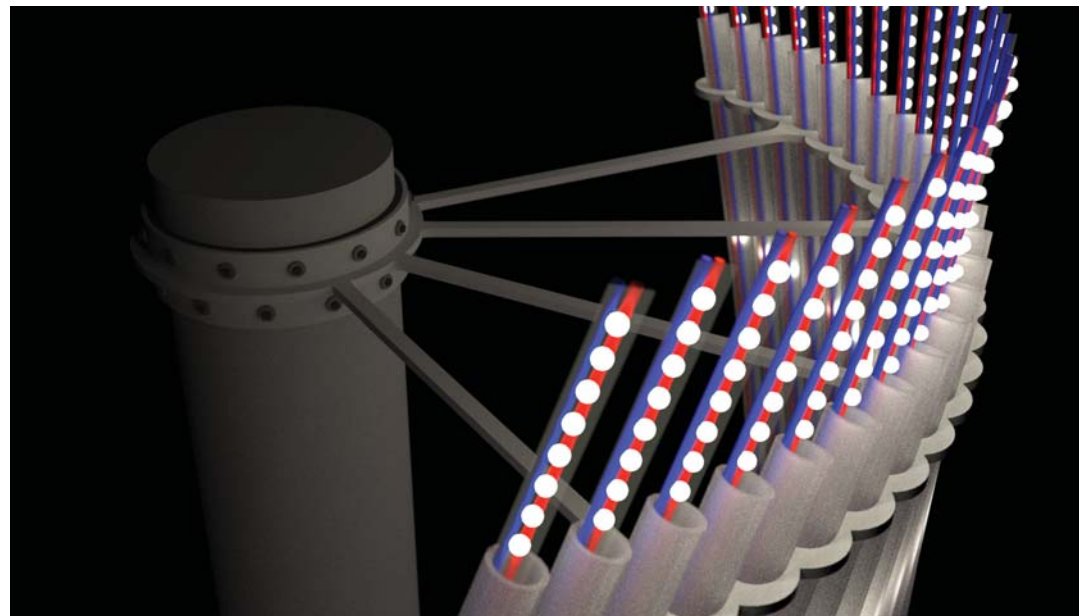
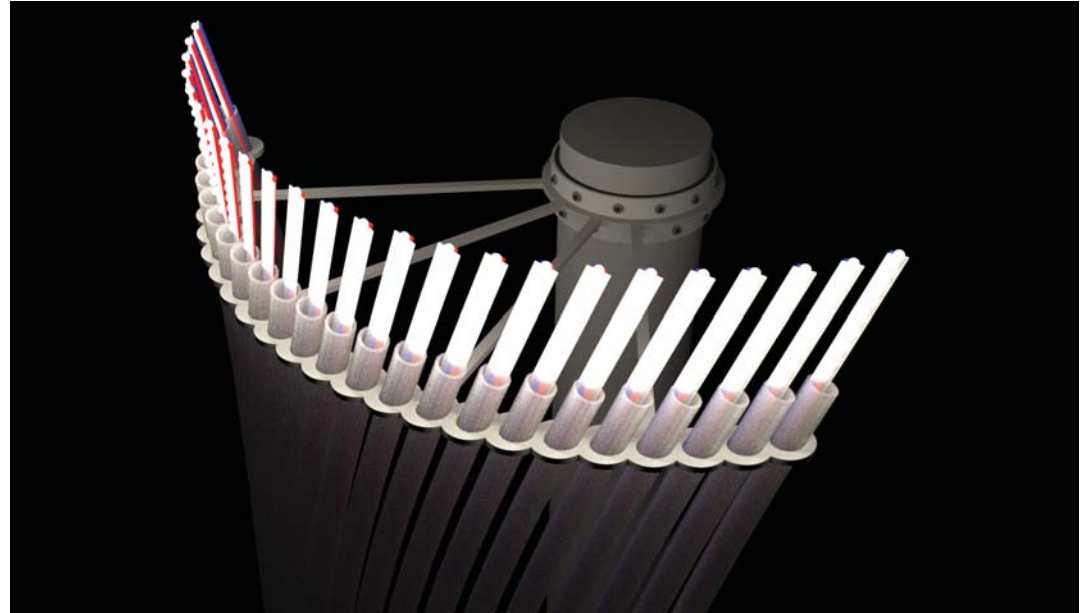
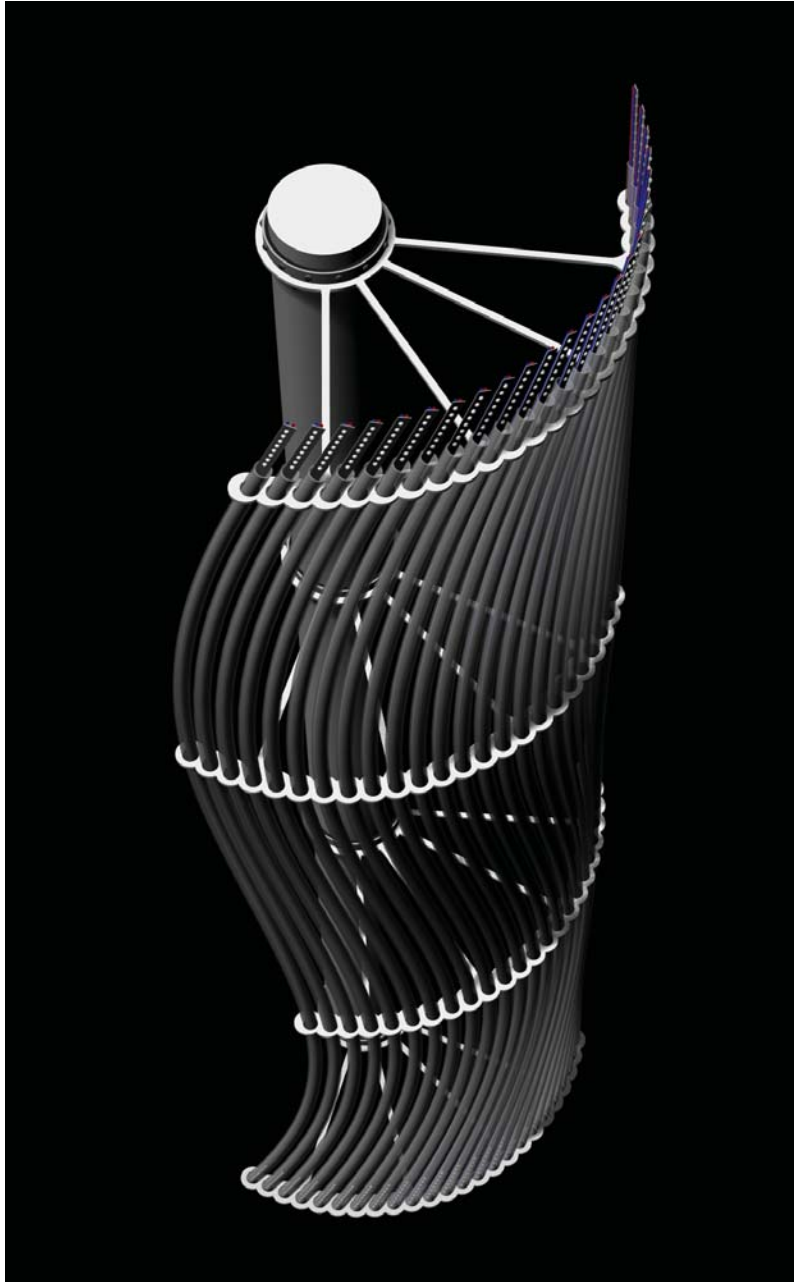




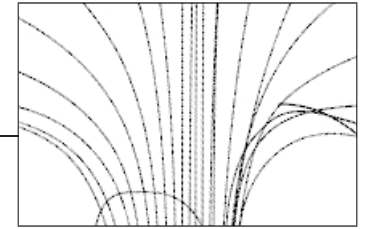
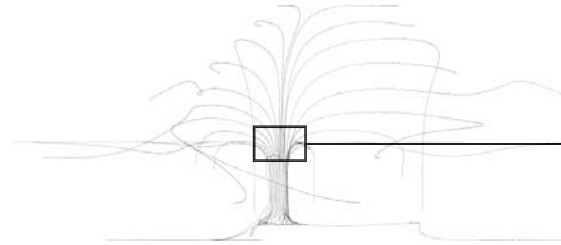
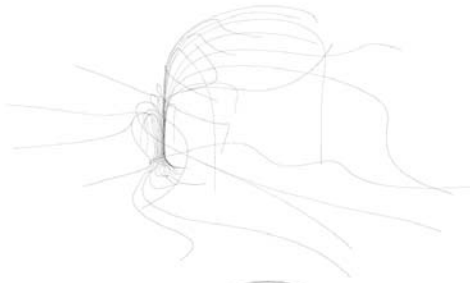




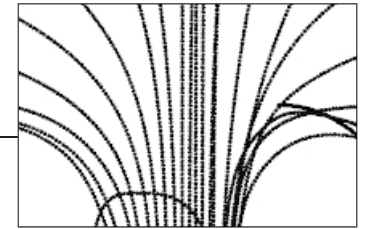
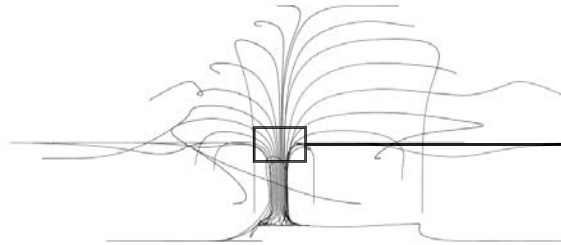
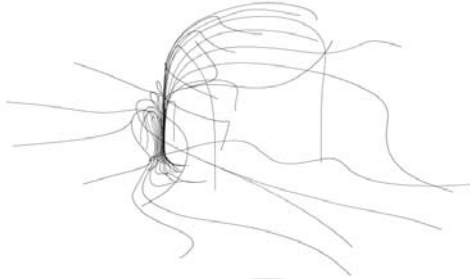




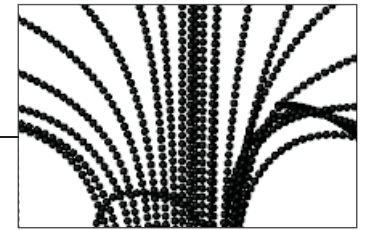
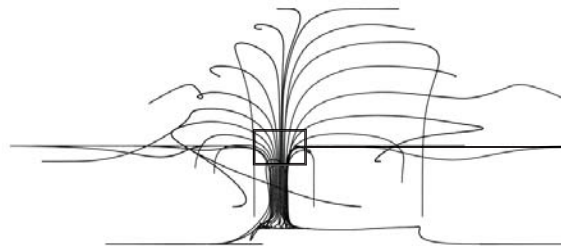
25mm spacing



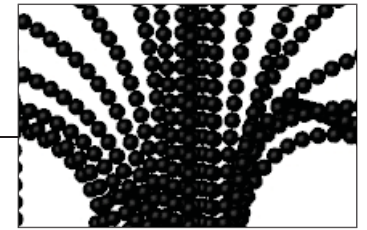
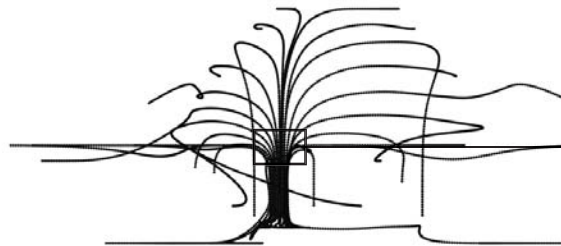
50mm spacing



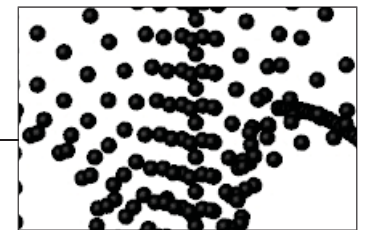
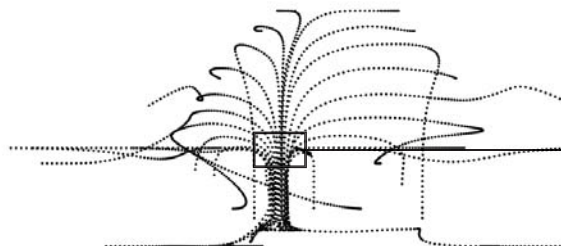
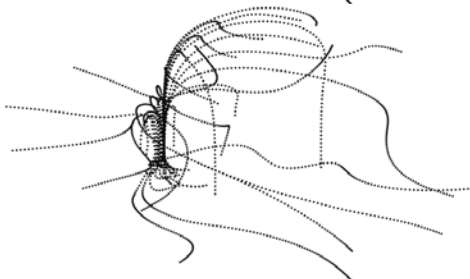
100mm spacing



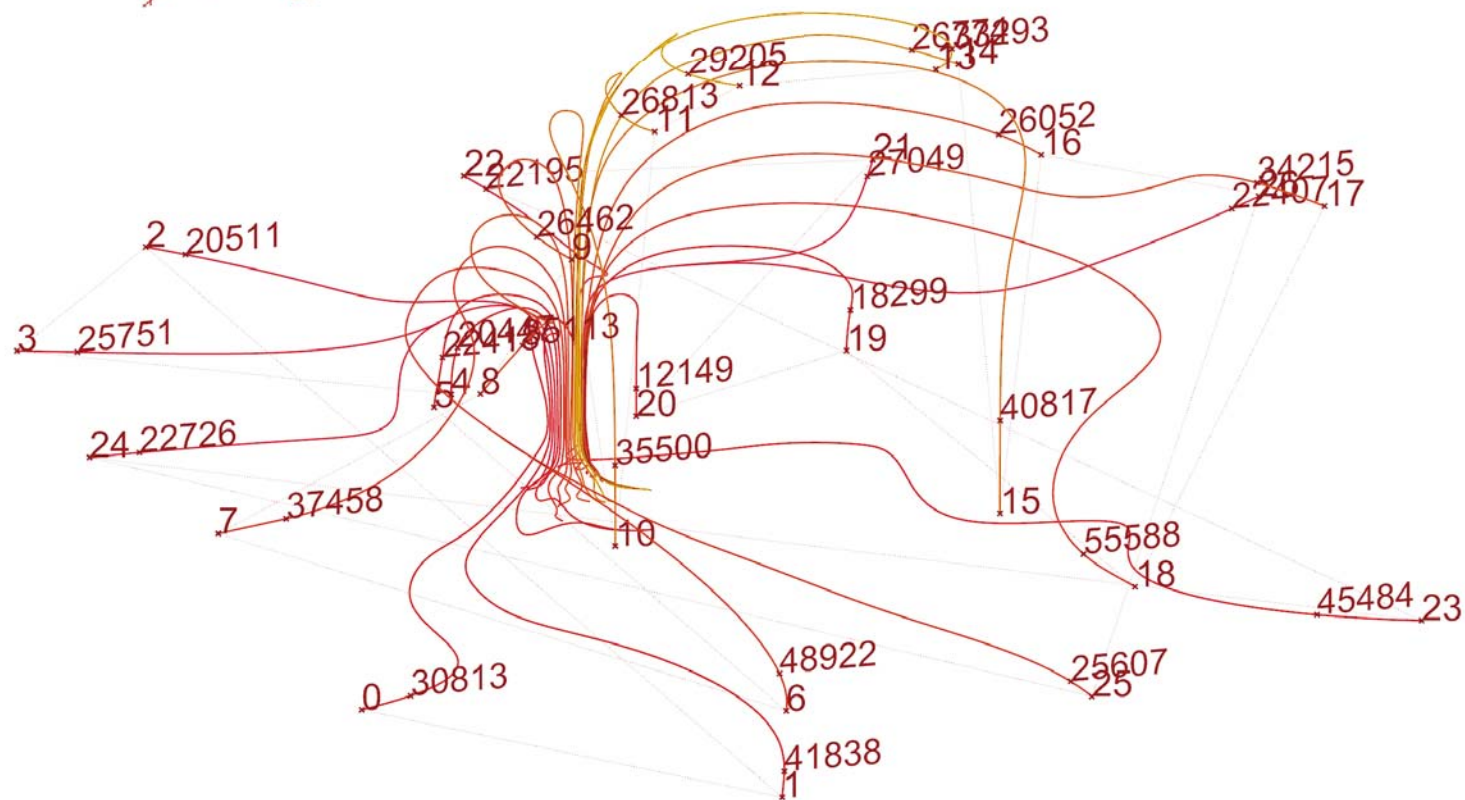
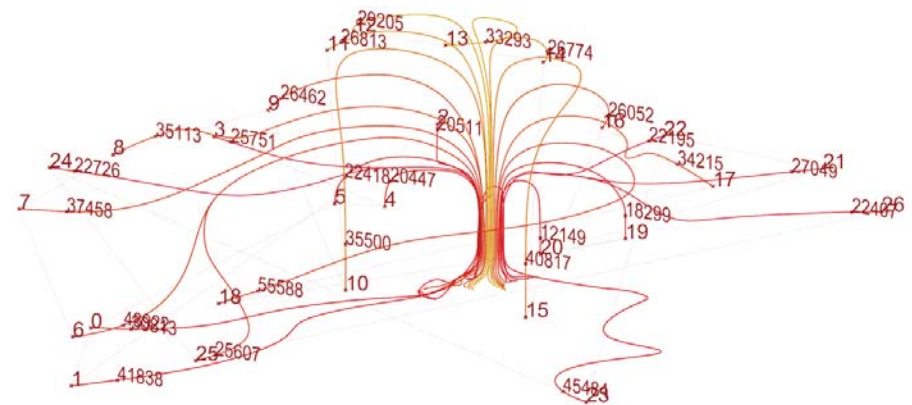
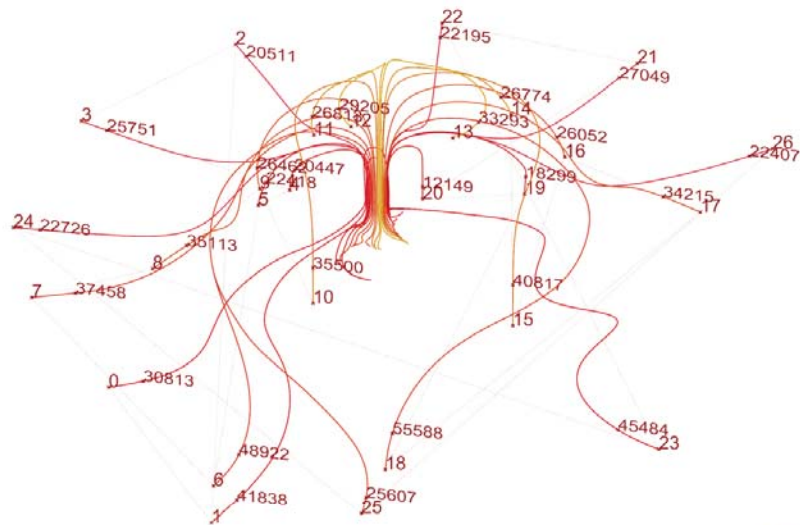
200mm spacing



400mm spacing







strand/length (mm)

- 0. 30,812
- 1. 41,837
- 2. 20,510
- 3. 25,750
- 4. 20,447
- 5. 22,418
- 6. 48,922
- 7. 37,457
- 8. 35,112
- 9. 26,461
- 10. 35,499
- 11. 26,813
- 12. 29,205
- 13. 33,292
- 14. 26,774
- 15. 40,817
- 16. 26,051
- 17. 34,215
- 18. 55,587
- 19. 18,298
- 20. 12,148
- 21. 27,048
- 22. 22,194
- 23. 45,484
- 24. 22,726
- 25. 25,607
- 26. 22,406

TOTAL ~790m



## PERFORMER

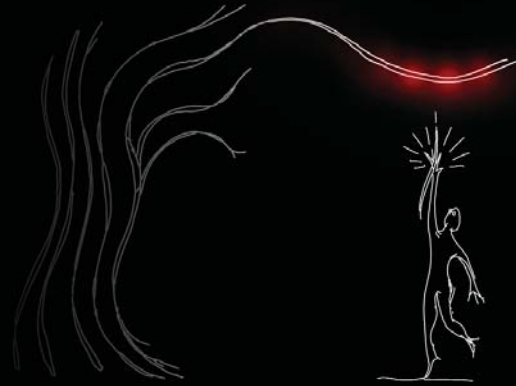


Glove Gesture



Sound (stage)

## AUDIENCE



Touch (Hand)



Sound (audience)

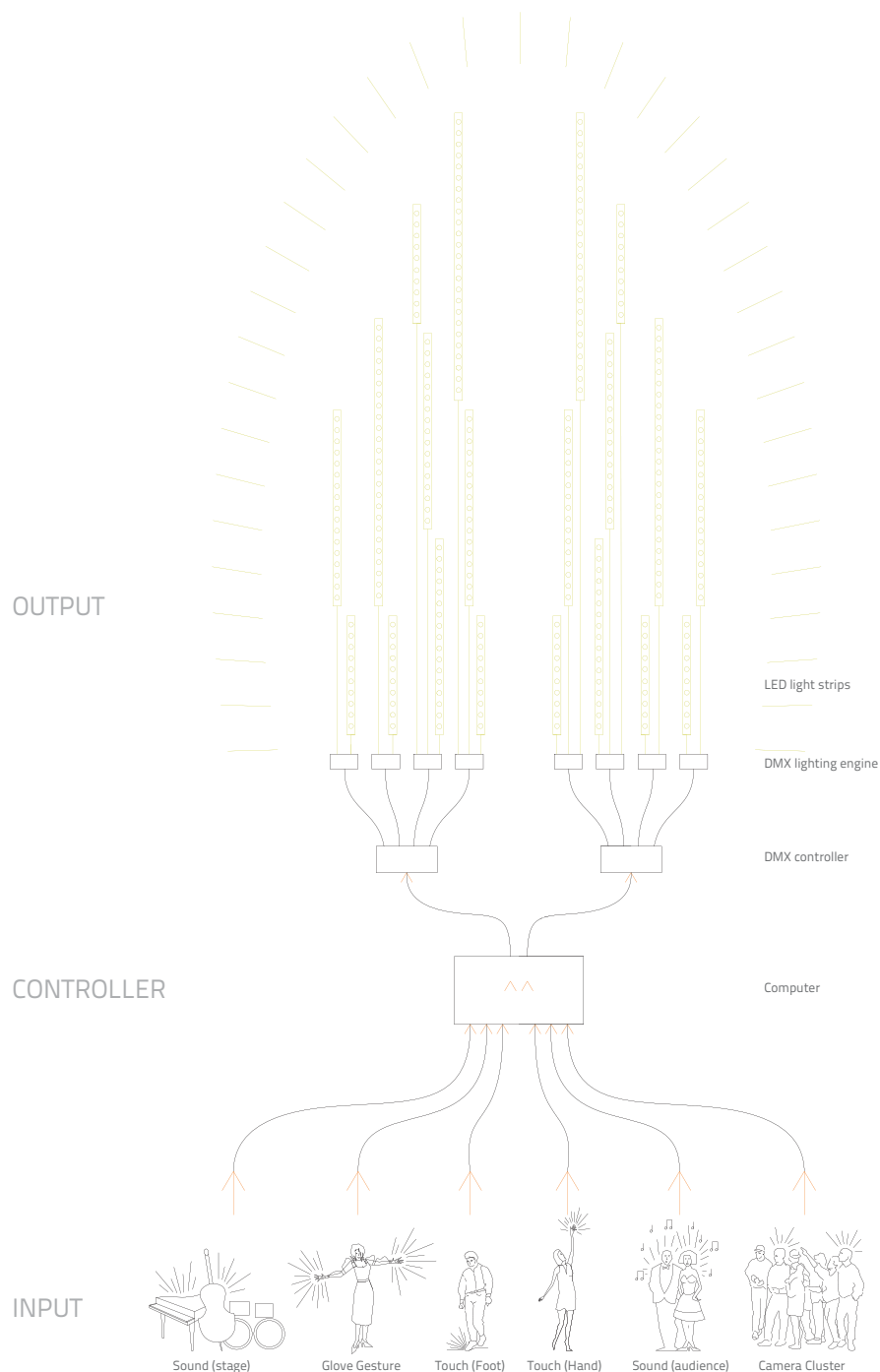


Touch (Foot)



Camera Cluster





Reverb performers will be able to activate the tree with their music, and Imogen will additionally be able to guide the light trails with her 'musical gloves'. Visitors will be able to sit/stand back and watch the tree as a spectacle, or engage and interact with it by congregating, gesturing, touching its branches, stepping on its flat floor-strapped roots - and even singing to it. Arboreal Lightning thus blurs the boundaries between performer and audience, recognising their interdependency in an intimate ecology.

Like Reverb for classical, Arboreal Lightning seeks to physicalise and demystify music, making it accessible to a wider audience. It seeks to stimulate a wide sector of arts and entertainment crowds - whether music or performance, visual or sonic arts, fans of time-based artworks or the digital arts, the curious nomad or the family next door.

It welcomes an everyday public, fresh from the street or outdoor sandpit, seeking stimulation and novelty. It responds to different personalities, communities, and nationalities, creating a hybrid between an interactive video, a collective instrument and a live, ecological, environmental artwork.