Signature sound

Found spaces can offer excellent acoustics in the right hands, but care must be taken to preserve the venue’s character.

The performing arts world is currently debating and re-evaluating whether more standard auditoria should be built. Most cities now seem to have a ‘white cube’ art gallery, a prosenium or thrust type theater; and if they have an opera house, more often than not it will be an interpretation of the Italian horseshoe form. As for new concert halls, the question of form has been reduced down to a choice between shoebox and vineyard. For many artists, particularly in the younger generation, typical auditoria have become uninteresting, and they are looking for novel spaces to stage their performances: the possibilities and freedom of artistic expression offered by these ‘found spaces’ provide a much more enticing alternative.

Found spaces

Everything from a church to a warehouse, from a multi-story car parking structure to a street corner can be called a found space. Each will lend its unique character, both visual and acoustical, to the performance. Sometimes the raw acoustics of a space do not fit entirely with the envisaged use; nevertheless, the quality stowed by artists and musicians is typically just as high as in purpose-built venues.

Kahle Acoustics has been asked to help optimize the acoustics of several found spaces, for one-off events, festivals and for permanent use as a music venue.

The key to working with found spaces is first to understand the inherent acoustical nature of the space, teasing out what is good (there are always good aspects) for the envisaged performance, finding ways to inspire the performers to use the most beneficial aspects of the acoustics, and learning how to subtly adjust the acoustics to solve problematic features. This last point becomes particularly important in protected buildings where the building fabric cannot be disturbed. With careful placement of acoustical elements, it is possible to achieve quite astonishing changes with very subtle interventions.

Preserving the uniqueness

The Musikinsel (Island of Music) in Rheinau, Switzerland, is a former Benedictine monastery located in a meander of the river Rhine. Kahle Acoustics advised on the conversion of the monastery complex into a music school and rehearsal venue. Because the building is protected, it was critical to establish the optimum locations for acoustical interventions in each space, and to primarily work with acoustically active furniture.

Working with the artist Beat Zodderer and architects Sembe Drellinger, custom fabrics were developed for the acoustic panels, which drew inspiration from the building and its history. Some of the acoustic panels are mobile and on wheels, while in other areas, by ensuring sufficient distinction from the historic architecture, panels could be fixed directly to the walls.

Divine intervention

The Benediktin Basilica in Vezelay, France, which was completed in 1104 and added to the UNESCO World Heritage Sites list in 1979, provides a venue for music performance throughout the year, culminating in an annual summer chamber music and choral festival. While the cathedral-like sound of the basilica is beautiful for historical choral works, for more contemporary choral music and instrumental performances, it suffers from the typical problems of a large church. Poor projection of the sound to the audience and a lack of acoustical clarity result in unsatisfactory involvement and engagement for the audience. Kahle Acoustics’ challenge was to greatly improve the music acoustics for the summer festival without touching the fabric of the building.

Acoustic panels in the Musikinsel Rheinau, Switzerland. The embroidered fabric covering the acoustic panels was designed by the artist Beat Zodderer. Additional sound absorption is provided by translucent curtains developed by the textile designer Annette Douglas. Also visible are mobile acoustic panels, which can be placed where needed to optimize sound.
embled the sound to be steered from the musicians to the audience.

The improvements to the acoustics, demonstrated with mock-ups and listening
tests carried out over three days of rehearsals in August 2017, convinced the festival organizers
to invest in properly fabricated mobile reflectors and absorbers for future years.

**Baroque beauty**

The Chapelle Cornelle in Rouen, France, a 17th-
century Baroque chapel protected as a historic
monument under French law since 1910, has been
used occasionally for classical music and its
acoustics had developed a good reputation.

Based on this, the region of Normandy
decided to reinforce the chapel’s role in the
cultural life of the area by formally designating
the chapel as a concert venue. King Kong
architects and Kahle Acoustics were asked
to renovate and transform the chapel, with
the crucial limitation that no visible fixed
connections to the architecture were allowed.

Key to the success of the project was once
again to understand the inherent positive
acoustical traits of the space. Listening tests
indicated that a central stage, surrounded
on all sides by the audience, would provide
the best balance of acoustics and rapport
between musicians and audience.

The focal point of the transformation is the
chandelier: a rotating sphere suspended above
the stage and anchored to new roof structure
through an existing hole in the stone ceiling.

In one orientation, the chandelier provides stage
lighting and an optimized sound reflector to
spread sound to all musicians on stage, as well
as to the entire audience. In the other orientation,
a mirrored surface provides a unique perspective
on the historic chapel.

In addition to the chandelier, custom
reflectors integrated into the last rows of seats
hold the sound within the audience area, while
custom rolling absorption banners soak up
excess reverberation where it is not desired. The
acoustic intervention proved successful not only
is musical clarity and engagement excellent, but
by adjusting the settings of the acoustic furniture,
the acoustics can be tuned to different ensemble
sizes and musical repertoire.

**Sensitively done**

In all these projects, through careful listening
and observation, the positive aspects of the
acoustics have been retained, and regardless of
the setting of the acoustic furniture, the historic
nature and strong character of the spaces, both
from an architectural and an acoustical
perspective, are present and alive. These projects
demonstrate how found spaces can exceed
expectations: excellent acoustics can be achieved
while preserving the uniqueness of the space.

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**AUSTRIA ANNUAL 2018/19**

**ACOUSTICS**

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