

SOUND AND THE ENVIRONMENT

Ab Rogers

Ab Rogers Design, London

1. Introduction

Design in 2013 is a complex and multi-sensory discipline, in which designers need to be aware of aesthetics, programme and practicality as well as the engagement of all 5 senses.

The visual impact of a space, the mechanics of a design and the performance of the environment are of equal importance. Within this broad spectrum of spatial awareness, the place of sound is paramount.

We should not only be working with acoustics but celebrating them. Acoustic design is not necessarily about creating spaces where sounds do not bounce - it could be an echo chamber - but about creating a dialogue between the sound and the space in which it will be heard.

In our work, we are concerned with introducing different mechanisms to function within different sensory scenarios. We think about sound early in the design process, instead of it becoming something to be retroactively tackled by technicians working to fix a set of problems the designer or the space itself has created. Rather than adding, and sometimes hiding, solutions to deal with sound and noise, we have at times integrated acoustic baffles into our schemes early on as an authentic and aesthetic part of the whole – a sound-absorbing sculpture, for example. We have also created site-specific soundscapes.

At the 2012 Architecture Biennale in Venice, Katarzyna Krakowiak mapped out the inherent acoustic performance of the Polish pavilion from which an installation emerged. She then designed an interior that would work around the sonic frequencies she wanted to use. The result was a domed ceiling, a sloping floating floor and air-conditioning vents that pumped sounds into a perfectly balanced space. This complete and fascinating reversal of the standard programme (where sound controlled the design) created a beautiful and immersive interior.

We need our spaces to go beyond “stereo”, to act as multi-channelled environments working at different speeds and tempos. When designing spaces we should be very conscious of how we incorporate complex, sonic platforms. As urbanists, artists, architects or designers, we all need systems that improve the acoustic performance of

everyday environments. But beyond that, we need to create environments that are acoustically surprising, poetic, exciting, unpredictable and life-enhancing.

Below is collection of case studies from our work.

2. Restaurants

There is no space with a greater need for a multi-sensory experience than a restaurant. For me a great restaurant should be full of tantalising smells that activate your palate and encourage you to taste the food, while your eyes are stimulated by the view and the space around you allows you to have intimate conversations with your companions.

The more harmonious it is, the more the work of the chef can be appreciated, and the easier it is for waiters to function well, and enhance and support the whole experience.

A restaurant is a hardworking space that needs a hardworking design that allows the best possible experience for each of the customer's senses. When it comes to sound, it means dealing with both unwanted sounds (the bounce of voices and noises around a space) and introduced sound (music or sonic landscapes) to influence positively the time spent in the restaurant.

2.1 Pizza Express Richmond

In Pizza Express Richmond one of key elements of the brief was about allowing their customers to have great conversations. The restaurant had been heavily criticized by its users, and by an undercover TV programme, for being one of the noisiest restaurants on the high street. Part of the problem was the palette of materials they were using— in a bid to be identified as “Italian” this included marble, slate and tile— materials that make sound bounce around. There was nowhere for sound to hide, be absorbed or lost. This meant that, no matter the aesthetic appeal of the spatial design, it was hard not to become stressed by the inability to have a conversation, and leaving feeling unhappy.

In our research for Pizza Express, we learnt they had many different users, from families with young children to pensioners and business people, and that the brand needed to improve its flexibility and how it transitioned from daytime to night-time restaurant use. We didn't want to divide the space up, or to lose its “Italianess” (not just the materials, but its impact as a big single space buzzing with energy), but we needed to find a solution that would absorb the noise pollution.

Our acoustic team, headed up by Sergio Luzzi, analysed the acoustic properties of the existing space by bursting balloons and shooting guns inside it, and used this data in order to see how performance could be improved in certain ways. We found a poetic way to control the acoustic of the space: a collection of acoustic art works suspended from the ceiling absorb noisy sound reflections while at a lower level a collection of hanging parabolic domes create intimate pockets of privacy where diners can play their own music and hold conversations without being overheard. All these elements worked together to create an open plan restaurant within which couples or small groups could have intimate parties or conversations without interruption from background noise.



Fig. 1 - Pizza Express, Richmond

2.2 Little Chef, Popham

When Heston Blumenthal and Channel 4 challenged us to re-design Little Chef – a well-known roadside restaurant chain – in 3 months for a budget of 100k, we realised we would need to do more to the space to bring it alive than simply paint it. There was a whole raft of existing problems but none more important than the restaurants reputation of selling poor quality food at a high price, along with bad hygiene, bad service and shocking acoustics.

As budget and timescale were tight we could only afford to work with standard products to do this. And we felt that we could use sound to create a welcoming, engaging environment, to encourage certain behavior, and not just to control the bouncing of waves. The first problem, though, was the need for sound absorbent materials to allow diners to hear each other. We used a standard acoustic suspended ceiling panel but brought it alive with a printed 1:1 artwork of a beautiful blue sky with floating clouds.

Another problem was that many potential customers stopped only to use the bathroom facilities – to spend a penny, as we say in Britain – but not to buy food or spend any real money. We created a soundscape for the corridor leading to the toilets of clanging dishes, pots and pans and chefs shouting instructions from a live kitchen and filled the corridor with the smell of fresh coffee. When then created an interactive soundtrack for the interior of the toilets that would start playing a song about food when customers approached the urinal or toilet, while cooking tips from chef Heston Blumenthal were printed on the walls to encourage toilet users to think about food. The results were extraordinary, reducing the “stop and pee” brigade to a minimum, and restaurant takings increased by 274% in the months following the refurbishment.



Fig. 2 – Little Chef, Popham

2.3 Ametsa restaurant, Halkin Hotel Mayfair, London

The Ametsa restaurant inherited a space with a history of acoustic problems. Part of our brief was to create an oasis within the existing hotel and our design response proposed to create a canopy of glass vessels filled with spices, to act visually as a kind of chandelier but also to improve the performance of the acoustics. Working with Sergio, we created a dialogue between the acoustically reflective glass tubes and the sound cushion of the ceiling panels that held them. We then added an absorbent floating timber floor, placed on top of a neoprene cushion to dampen the reflection of sound waves.



Fig. 3 – Ametsa restaurant

3. Museums

The role of acoustics within museum environments is a fascinating problem. The space must be equally pleasant for tour groups or visitors talking, as it is for those who want quiet contemplation. Even when empty these areas have to handle the noise from exhibits with audio content of their own – be it a film or spoken word bouncing around the traditional glass showcases, wooden or marble floors and crisp flat ceilings.

Increasingly audiences expect a greater level of audio visual interaction from museums and it is a tool often used to encourage greater excitement and drama. Visitors may range from professionals and school parties to tourists and retired visitors—all moving at different paces observation of objects, artifacts and art is very personal and the experience can be easily ruined by the intrusion of unwanted or inappropriate sounds.

In response to this problem we have designed many mechanisms to absorb, reflect, deflect and channel the sound in these environments – within both permanent and touring exhibitions - using tools such as projected speakers, local speakers, ambient sounds and soundscapes to create bespoke solutions to different problems.

3.1 Tate Modern Concourse and Under 5's Exhibition

In the Tate Modern, we wanted to have a cinema that people could pop into that explained the new curation of the 'Poetry and Dreams' gallery so we introduced a tapered fibreglass box, positioned on the stairs (with the stairs used as seating), lined the walls with carpet to baffle sound and used speakers, suspended at angles, to contain and absorb sound so passersby could hear enough to entice but not to annoy.

For the Tate kiosks we created simple cubes shaped speakers on recoils that would allow the user to hear the interviews quietly spoken which, if the listener wanted to hear more precisely, could be up close to their ears. On the same floor we created a sculpture park to explain Cubism to Under 5's. We realised that they wouldn't understand it conceptually but felt they could experience it on a physical level. We created a slide inspired by Picasso's painting of a violin, that when you slid down played the sound of a violin and a multi faceted bottle that plays the sound of bubbling water.

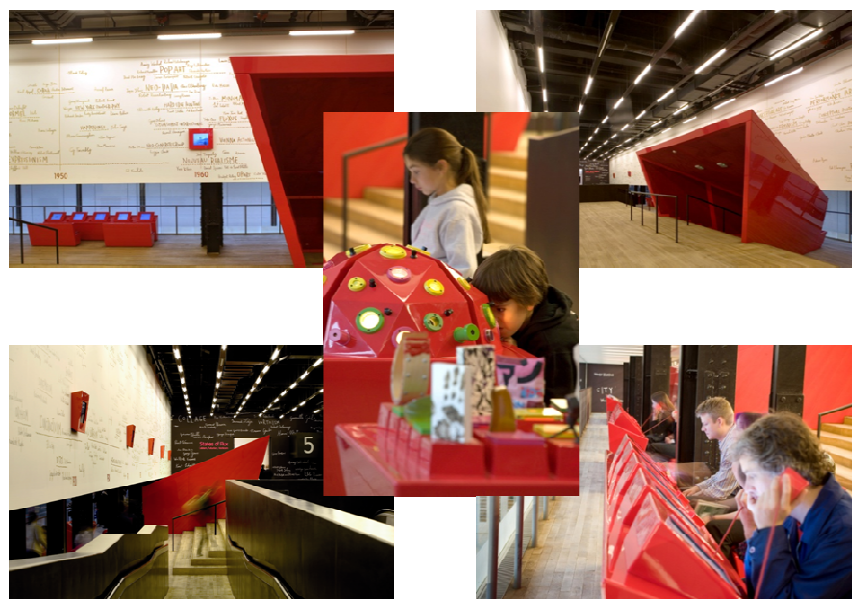


Fig. 4 – Tate Modern Concourse



Fig. 5 - Under 5's Exhibition

3.2 ACMI Screenworlds, Melbourne

In ACMI Screenworlds, there were 180 different sound sources used throughout the exhibition space and so we had to use a diverse vocabulary of different techniques and mechanisms to control the sound spill – insulated caves, micro cinemas, projected speakers and parabolic domes. Carpet running throughout the exhibition was an important element, as was the use of panels constructed from Ecofoam and multi-faceted ply to minimize noise pollution.



Fig. 6 - ACMI Screenworlds, Melbourne

3.3 RSHP 'From the House to the City' Pompidou Centre, Paris

In Richard Rogers exhibition 'From the House to the City' 8 films with different soundtracks were played in the same room. To allow each one to play with clarity we used projected speakers with carpets underneath to absorb the noise so they became showers of sound as you entered but went silent when you stepped away.



Fig. 7 - RSHP 'From the House to the City' Pompidou Centre, Paris

3.4 Fifty Years of James Bond Style, The Barbican Centre, London

Similarly in Q-branch zone of our James Bond exhibition (currently in Shanghai) we had 12 different soundtracks playing in parallel and here we used a mixed vocabulary of projected speakers, parabolic domes and local handsets that you lift to your ear to enable audiences to enjoy the drama of the famous soundscapes in immersive isolation.



Fig. 8 - Fifty Years of James Bond Style, The Barbican Centre, London

4. Commercial spaces

Within commercial spaces sound can play an extraordinary role, provoking and stimulating behavior patterns and creating surprise. We don't generally expect spaces to speak to us for example - I always remember going to PS1 gallery in the US and as I entered it would say 'hello, how are you, how did you get here' in a dry Bronx accent that made me smile everytime.

In 1998 when my partner Shona Kitchen and I were commissioned to design a trade show for FSB door handles, we wanted to find a mechanism to bring them to life. These were beautiful door handles designed by the likes of Norman Foster, Philip Starck, Nicholas Grimshaw and Jasper Morrison to name a few. To reflect their unique provenance we had the idea to give each one a sound to go with its personality. As it was turned each one would play a different sound - a whale singing, a rusty hinge squeaking or a dog barking. This simple intervention transformed the

exhibition – people went from walking past looking solemn to stopping to laugh and engage with project.

The reverse anecdote would be our design for Al Oustoura in Kuwait – where we were asked to design a 1000sqm department store. We wanted to challenge the shopper's senses so created a corridor lined, floor to ceiling in red carpet. Behind the panels were speakers designed to play sounds of the four elements. However when we started to create the soundscape for fire we got worried it was too apocalyptic for a country with Kuwait's unsettled history so instead we used sounds of ice and the Antarctic instead to contrast with the surrounding desert – icebergs cracking, freezing winds howling etc. However the effect of these sounds upon shoppers was to make them need to use the bathroom and the client, quite understandably, found this to be contrary to their desire and aspirations for the space and replaced it with pop music.

The key to using recorded sounds is to make sure it is not repetitive or irritating and that it is sufficiently bespoke to its environment that it works to create an unexpected moment of magic and generosity – such as - when doing a small project for Deutsche bank we designed a machine that collected business cards and stored the sound of 1000 'thank yous' in 200 languages.

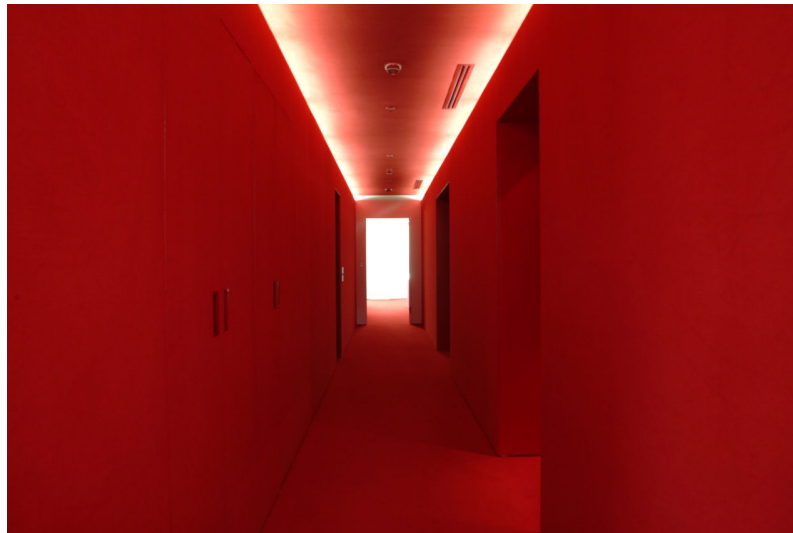


Fig. 9 - Al Oustoura, Kuwait



Fig. 10 – Deutsche Bank

5. Concept

For years we have had the idea to create some kind of sonic park containing mysterious sounds and sculptural forms that encourage passersby to interact with them. The sound becomes the interface, the means by which an audience is inspired to stop and prick up their ears in delight and wonderment. In this application sound has the ability to give an object a personality and its own language.

The objects themselves should have a sound emitting form, be vibrant in colour and be physically tactile. They could act as oscillators, solar powered or powered by the wind.

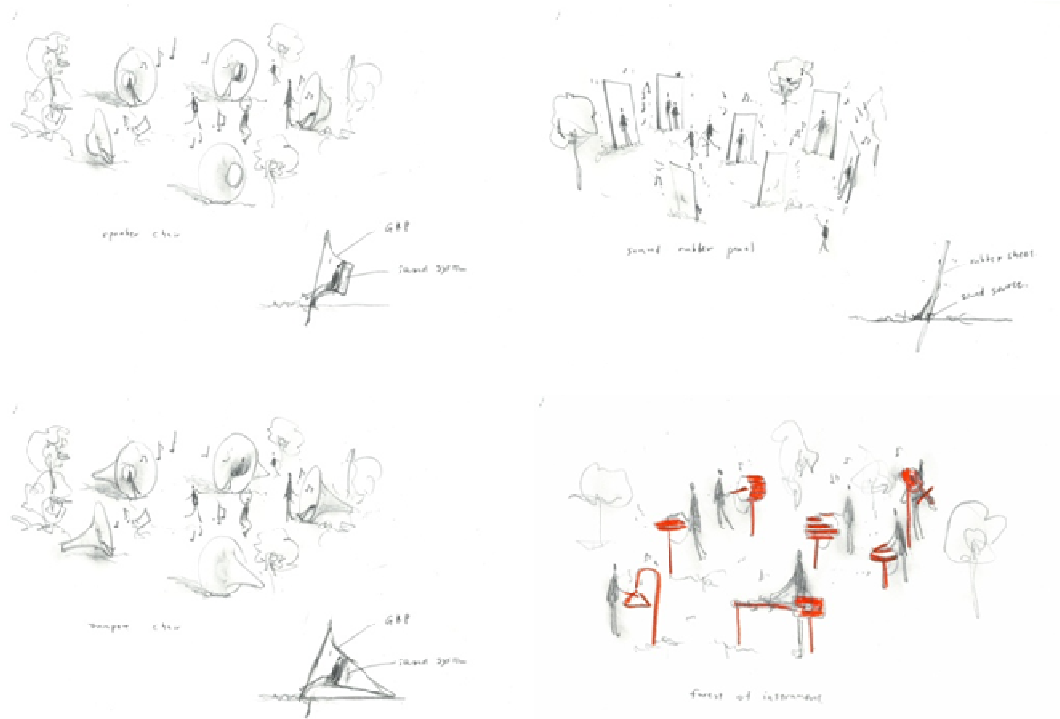


Fig. 11 – Sonic park