

COMPOSING THE NORTH: A MUSICAL STUDY OF IDENTITY, TRANSFORMATION, AND REFLECTION

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Abstract

In 2015, *occursus* – a network of artists, researchers, and academics with an interest in space and spatialities in art – commissioned a series of musical compositions based on a small patch of land close to the centre of Sheffield, England. The land in question, which houses one of the world's oldest cementation furnaces, has witnessed a remarkable period of transformation; initially standing among some 2,500 furnaces in the heart of the industrialised city centre, the national decline of steel production resulted in dereliction and for much of the past sixty years the furnace towered over wasteland. *occursus* acquired the land in 2012, and turned it into a community arts space, now known as *Furnace Park*. This article explains how a series of composers responded to this park through the creation of new musical works. Although most attention is directed to the author's own work, *Foundry Flux* (2015), the primary focus of the article is on the collective approach to *occursus*' objectives which, to the surprise of all of the commission-holders, focused their attention way beyond the tiny patch of land in the heart of Sheffield; the project became a catalyst for: 1) studying the identity of the city; 2) observing and initiating transformations of that identity; and 3) reflecting upon one's own role within such identity transformations. In combining these three, those in the group found themselves engaged in a practical process of *composing the north*.


Keywords: *Plasticity; Composition; Music; Identity; Transformation; Sheffield*

Introduction

From the outset, I confess that I was more than a little bemused when I was asked to compose a piece of music about a park in Sheffield, in the north of England; not only was the name, *Furnace Park*, completely unknown to me, but I found it impossible to imagine how any kind of public space could act as inspiration for my own creative practice which has, on the whole, involved the composition of contemporary classical music, typically including electronics. Even so, I thought it worth attending an initial meeting on the grounds that my students, who have often shown a great deal of interest in the kind of Romantic music that took green pastures and rolling hills as divine inspiration, might want to involve themselves in such a project. Perhaps, I thought, I might act as mediator.

The initial meeting, hosted by *occursus* – a network of artists, researchers, and academics with an interest in space and spatialities in art – turned out to be quite inspiring. The discussion had less to do with the park and more to do with Sheffield's famous music scene; like many northern English cities, Sheffield boasts a gritty and distinctive musical legacy which, particularly in the 1980s and 90s, included vibrant

Nordlit 46, 2020 <https://doi.org/10.7557/13.5476>

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electronic music, whose luminaries drew on, and made use of, the industrial sounds that could be heard all over the city, emanating from the drop forges, works, and foundries. Among others, we discussed the well-known *Cabaret Voltaire* and *The Human League*, and the less well-known *Forgemasters* and *Sweet Exorcist*, who first signed to Sheffield-based record label *Warp Records*.

By the end of our meeting, I was persuaded that there were no underlying Romantic aspirations, and that *occursus* would be broadly accepting of my musical ideas, allowing anyone involved to explore a wide range of musical possibilities and ideas without insisting on any particular set of influences or imposing any particular aesthetic: in short, musical freedom. I subsequently agreed to complete one of the commissions and, more importantly, to invite five of my composition students from The University of Sheffield to join me. What I did not realize was that *occursus* had an extremely sophisticated agenda, that had not only led them to create the park in question, but was designed to challenge all of those involved to learn from and reflect on their unique approach to the city. As the project started to develop, this agenda became ever-more present in the minds of those commissioned to write pieces and, by the end of the project, it became abundantly clear that the exercise had little to do with representing a park through music, and much more to do with understanding the identity of spaces and cities, the ways in which such identities have been transformed through time, and reflecting upon one's own role within such identity transformations. This article describes how the group approached the commissions. However, since the project involved a highly personal approach to both composition and the subsequent reflection, attention is directed towards my own contribution, *Foundry Flux* (2015). I start by introducing the commissioning body and their central objectives.

***occursus* and the commission objectives**

occursus is an open framework for practice, a kind of agora in which shifting constellations of artists and researchers are invited to get together, hang out, and reflect on critical questions pertaining to cities and the urban built environment. Each member of the *occursus* group has, in some way, re-imagined what the city is, either through some form of individual or group creative practice, or through a series of thought experiments and theoretical exercises. In doing so, they have each responded to *occursus*' belief that voices from the arts have a critical role to play in the ways in which our cities are designed, produced, distributed, and lived.

occursus members do not treat the city as an object to be represented. Rather, they treat it as a plastic object that we all, as inhabitants or residents, have a democratic right to sculpt. This idea has its roots in the writings of French philosopher and sociologist Henri Lefebvre who, in his 1968 book *Le Droit à la ville* [*The Right to the City*], rather than making the case for the redistribution of urban property, instead, advocated for the democratic right of the people to participate in and to appropriate the city as *œuvre* (a 'work', or 'artwork'). By this Lefebvre meant that the ideal city, for him, would be one that is worked perpetually by its inhabitants and that this process of inhabiting (in other words making and re-making the city) would take priority over consuming ready-made cityscapes (or 'habitats'). The city he evokes is a working site, characterized by

disequilibrium, unpredictability, desire, and encounter; a place that survives ‘in the fissures of planned and programmed order’ (Lefebvre 1996, 129). It is a space of untold possibilities, in which the meaning of what is, and what can be, remains perpetually at stake.

occursus aims to open up such possibilities, encouraging us to take an active role in the shaping of our cities. Like Lefebvre, however, they see this as an inherently political, rather than social, gesture. Their aim is not to embellish cities with public art, nor is it to design blueprints for a better urban future. Instead, through the very processes of reflection, creation, and engagement, it is to open up the possibilities for rethinking the city. They argue that capitalist logic forecloses the possibility of making new meanings in and of the city. It transforms the use value of the city into exchange value, concealing the emancipatory plasticity with the hard signs and values of profit. In the capitalist city, the inhabitant, the user of the city, is conceived as a consumer of scapes and signs: a client to be satisfied. As Lefebvre points out, the city as a place of consumption goes hand in hand with this idea of the consumption of place (Lefebvre 1996, 182).

Following Lefebvre’s call for the city to be inhabited as *œuvre*, *occursus* argue that the relationship between art and the modern capitalist city is a difficult and ambivalent one. In the mid nineteenth century, Baron Haussmann – the self-proclaimed ‘demolition artist’ responsible for dramatically remaking the urban fabric of the French capital – commissioned photographers such as Charles Marville to make propagandistic ‘before and after’ images that would be used to persuade the people of Paris of the social usefulness of an initiative born largely, in fact, of military, political, and financial interests. Similarly today, art is frequently harnessed to the needs of the regenerating, branded city. Artists (when they are not asked to work for free) are offered financial incentives to package and sell their practice as product to the public and private corporations who manage our cityscapes. ‘Percentage for art’ schemes variously request or require of developers of residential, commercial, and public spaces a small percentage of their overall budget for the purposes of commissioning art that will be publicly sited. This is perceived as ‘adding value’ to regeneration and ‘enriching’ urban space. Artists are also employed to work with communities whose landscapes are being transformed or ‘regenerated’, with a view to encouraging the latter’s ‘buy-in’ to the project and reinforcing the illusion that they have some creative say in what is happening.

Beyond these funded opportunities, there are also, of course, invitations from councils and businesses to sell artworks in pop-up shops and galleries, or make street art, or window displays in vacant retail premises. And then, at another level again, there is the infamous ‘Bilbao effect’. Every city worth its salt wants a contemporary art space that draws in the tourists, drives inward investment, and renews the urban fabric, though since the crisis of 2008 art’s magical effects can of course no longer be guaranteed. Writing in the middle of the last century, Lefebvre was alert to the dangers of art’s problematic complicity in the top-down meaning making of the capitalist city, yet also keenly aware of its critical and creative potential. He writes: ‘To put art at the service of the urban does not mean to prettify urban space with works of art. This parody of the

possible is a caricature’. Rather, Lefebvre argues in favour of ‘time-spaces [that] become works of art’ and in which ‘that former art reconsiders itself as source and model of appropriation of space and time’ (Lefebvre, 1996, 173)

Through this prism, art is reconceived as ‘a capacity to transform reality, to appropriate at the highest level the facts of the “lived”, of time, space, the body and desire’ (Lefebvre 1996, 164). The space-time of the city, rather than being endured or accepted with passive resignation (Lefebvre 1996, 156–157), becomes the very material from which the properly urban might be sculpted. In other words, the city itself should be understood as a plastic object, the consistency, form, and texture of which we certainly inherit, but the stakes and future of which remain open to (re)appropriation by its inhabitants. It is in this sense, and in contrast to the ‘full egg’ model of the capitalist city, that Lefebvre perceives a gap between the *fact* of the city and its *practice*. It is in this space that we might interrogate and denaturalize all that we assume to be *given*. To inhabit the city, in other words, is to imagine that *all this* might be *otherwise*.

Putting these ideas into practice, rather than leaving them as mere thought experiments, is *occursus*’ primary mandate; they aim to establish contexts, within the city of Sheffield, in which notions of plasticity might be enacted, allowing inhabitants to involve themselves in the shaping of the city. A small patch of land right at the edge of the city centre became a testing ground for these ideas, and it is this particular space that inspired the musical commissions discussed in this article. The patch of land, now known as ‘Furnace Park’, takes its name from the cementation furnace, constructed in 1848 by Daniel Doncaster & Sons, that stands at the edge of the site’s northern perimeter; once home to an earlier eighteenth century foundry. It was located in the industrial heart of the city, nestling alongside some 2,500 cementation furnaces employed in the production of blister steel. At that time, the imposing cementation furnace (which still towers over the plot; shown below) was a characteristic feature of the industrial landscape, and an emblem of Sheffield’s manufacturing prowess.



Image 1: Photo of the Furnace (photo by Chris Allen, licenced under creative commons)

The national decline of the industry left the land derelict and, ultimately, forgotten from the 1950s onwards. *occursus* acquired the land in 2012, cleared the waste, and established the newly formed Furnace Park. It is upon this transformed patch of land that the commissions were based.



Image 2: Photo of Furnace Park (photo by Amanda Crawley-Jackson)



Image 3: Activities in Furnace Park (photo by Amanda Crawley-Jackson)



Image 4: Activities in Furnace Park (photo by Amanda Crawley-Jackson)

More than just another park within the city of Sheffield, Furnace Park is a working example of the *occursus* ideal; it is precisely their mandate in action, giving all those keen to become engaged an opportunity for the hands-on sculpting of the city. In that sense, therefore, the park is really a microcosm for thinking about the city as a space that we all have the democratic right to transform.

From what has been said thus far, we can therefore distil the *occursus* objectives down to three central points: 1) they aim to understand, reflect, explore, and reimagine the *identity* of spaces and places; 2) to observe and participate in the *transformation* of such spaces and places; and 3) to *reflect* upon one's own role in identity transformation and one's own capacity for becoming an active participant in the building of the city.

Action and creative practice underlie these three objectives, and the commissions were therefore a call to arms, requiring those involved to become actively engaged.

Clearly, the commissions on offer were not as straightforward as I had first thought. What follows is an account of how the group grappled with these three objectives - *identity, transformation, and reflection*. Since large swathes of the discussion are highly personalised, however, I have directed attention towards my own experience of the project and my resultant work, *Foundry Flux* (2015).

Identity

Initially, the project seemed to focus exclusively upon a particular point in time and space: Furnace Park in the present day. During the very first meeting, however, it became immediately clear that it was impossible to say anything meaningful about the park without widening the scope to include additional spaces throughout the course of history. This was largely due to the substantial furnace towering over the park: although this particular furnace was built in 1848, Sheffield's reputation for steel, along with tools and cutlery made from steel, dates from a much earlier time. For example, the 1379 census has 25% of the male population of Sheffield listed as metalworkers, and the reputation of Sheffield knives was clearly already established when Chaucer mentioned the Sheffield *Thwitel* (whittle, knife) in *The Reeve's Tale* in the late fourteenth century:

Ther was no man, for peril, dorste hym touche.

A Sheffield thwitel baar he in his hose. (Chaucer 1985, 75)

Thus, for at least 650 years, the identity of Sheffield has been intimately connected with the production and manufacturing of steel and associated products.

Furnace Park occupies an important place in history: the furnace was built shortly after Benjamin Huntsman invented the crucible method of making steel, in 1740, substantially decreasing the amount of time required to produce steel whilst increasing overall quality. Around the same time Boulsover's *Old Sheffield Plate*, involving the fusion of silver and copper, made cutlery and ornaments from the city of Sheffield a desirable commodity for the middle classes, and this surge in consumer demand led to a population explosion, from 10,000 inhabitants in 1750 to 45,000 by 1800. By 1900, the population of Sheffield had reached 400,000, largely due to the gravitational pull of jobs in the steel industry, alongside the relative wealth of the city; at this point in time, the slums started to be demolished, and the horse-drawn tramway company was replaced by electric trams taking workers from the city centre to the suburbs, which were subsequently drawn into the newly expanded city limits. Shortly after being officially listed as a city, Sheffield designed and built a beautiful town hall that was officially opened by Queen Victoria; a state visit that firmly spoke to the important part that Sheffield was playing in the building and maintenance of the British Empire. By most accounts, the city was characterized by extensive slums, and poor working conditions and pay for the working classes, who also endured limited social and educational opportunities, low life expectancy, and a complete lack of social mobility. One

redeeming fact, however, was that employment was plentiful; the Empire was demanding steel for the production of industry and railways and, even after independence, the USA continued to be a major market, with as much as one third of Sheffield's steel being exported across the Atlantic in the first half of the nineteenth century. Sheffield was becoming a truly industrial city, powering the expansion of the British Empire, and taking its rightful position as one of the great industrial cities of the industrialized north.

Although Sheffield is geographically located in the southern end of what the English commonly refer to as 'The North', this designation is not entirely geographic; unlike the south of England, which claimed the economic and political mantle of the British Empire, the north was synonymous with heavy industry. For example, Manchester was famous for its extensive textile industries, most notably cotton, Leeds was similar albeit for the production of wool and wool-related products, Barnsley for the extensive coal mining, Hull and Liverpool for shipping trade, Newcastle and Tyneside for shipbuilding, and Sheffield for steel. As early as the middle of the eighteenth century, references to 'The North' served to group the many towns and cities that historically relied upon heavy industry, splitting north and south in terms that only vaguely designate a geographic location but very specifically imply a socio-cultural and economic distinction. In this respect, it is fascinating to note how all of these cities have continued to hold on to their industrial identity, thus allowing their past to become a cornerstone of their post-industrial present; there is clearly a sense of civic pride involved in the knowledge of what, exactly, each city was founded upon. Perhaps this is because despite being in the relatively impoverished north, these cities played an essential role in the growth of the British Empire. Evocations of the Empire, of course, raise yet further conceptions of The North which again appear to bypass straightforward geographic designations; aside from certain parts of North America, for example, the vast majority of the British Empire was located south of London, and this certainly helped to create a sense that the whole of the United Kingdom was situated in the global north. Although the structures underpinning this substantial empire have partially disappeared, the lasting impression and influence is arguably evident in these kinds of non-geographic constructions of the north and, in a sense, play their part in pushing the industrialized cities, such as Sheffield, further into the north than it would seem by any geographic reading alone.

Unsurprisingly, given what has been said above, the Sheffield past is ever present. It is physically present in the crumbling relics of old foundries and forges scattered throughout the city, and is virtually present in the collective memories of those who have worked, or have elderly relatives who worked, in the steel industry. There are surely some who still recall the aerial bombing campaigns during the Second World War, targeting Sheffield's steel factories, during which the furnace (over Furnace Park) was fitted with a black-out lid, so that the flames could not be seen from above. Operations at the foundry continued beyond the end of war, ceasing in 1951 and presupposing a dramatic and sudden transition in the fortunes of the city; the second half of the twentieth century was marked by economic decline, widespread unemployment, along with a range of societal and educational challenges. Although the

blame cannot be put solely at the door of industry, it is clear that steel was in crisis, and the industry suffered a dramatic decline in which many of the famous firms disappeared. Reasons for the decline in the steel industry are many and varied, and one might find numerous political and economic explanations for the relatively sudden demise (Hay 1998; Binfield 1993; Tweedale 1995). It is the case, however, that in 1955, the British steel industry was working at 98% of capacity, but this had dropped to 79% by 1966. Local unemployment quickly rose from 4% in 1978 to 11% in 1981 – a figure that put unemployment in Sheffield above the national average for the first time in history (DiGaetano and Lawless 1999, 530). By 1984, this had risen to 16%. The steel industry, which had employed 50% of the city workforce just a decade earlier, was reduced to just 25% by that year (Sheffield City Council 1993, 5).

Sheffield became a post-industrial graveyard, whose loss of purpose was famously played out in films such as *The Full Monty* and *Brassed Off*; both films, based in the Sheffield area, brought to the national consciousness a graphic portrait of the social damage of economic restructuring (Lane, Grubb, and Power 2016, 12). On the national stage, however, the scene was set for the division between north and south to become toxic: mass-unemployment across the north of England was an inevitable consequence of industrial decline, plunging entire cities into economic and social turmoil. During this period, the area that housed the furnace deteriorated, abandoned and forgotten. To this day, the looming furnace is an ever-present reminder of the economic and social difficulties of the 1980s and 90s which, for many Sheffield residents, is within memory.

In recent years, Sheffield has started to transform once more, with a wide range of modern apartment and office blocks, alongside a revamped city centre. A *Heart of the City Project* created a splendid winter garden on the site of the much derided ‘egg-box’ town hall extension, the canal basin was restored for leisure and commercial use, the historic markets were redeveloped, trams have returned (in the form of Supertram), Dixon’s famous Cornish Place works and a number of other former industrial premises have been converted for residential use, and the Botanical Gardens and Norfolk Park have been restored (Olive 2006, 11). Perhaps most surprising of all, however, was the renovation of the famous brutalist Park Hill flats, which are now luxury city centre apartments, along with the substantial gentrification of Kelham Island – once the industrial heart of the city.

These changes are, perhaps, a consequence of recent government policy which, in 2014, saw the Conservative government call for the establishment of a ‘Northern Powerhouse’ (BBC 2015), with plans for substantial investment in the north of England, along with renewed transport links, European funding initiatives, and a devolved civil service which extends more substantially into the north. In this context, one might be forgiven for thinking of Furnace Park as part of the gentrification of Sheffield: when *occursus* took an interest in the space, a university project was underway to clear the mounds of rubbish and waste from the site as Amanda Crawley Jackson, founder of *occursus*, observed in an online diary entry of September 2012:

Furnace Park is being cleared by two men sent by the university’s environmental services team. I watch them scrape up scratchy foliage, broken

glass, iron rods, lumps of metal stuff that we can't identify, condom wrappers, syringes, plastic bags, CD boxes... The detritus of lives played out around the edges of the security fence, thrown over its gates. [...] The upper part of the site is becoming visible for the first time. Here and there, the dried-out, headless carcasses of birds, greasy feathers ligatured to hollow bones, their substance sucked out by the foxes I've heard live on the site. (*occursus* 2012, 1)

In this way, the land was gradually transformed into a community space, which invites artistic activities and projects, serving to reconnect the land with the city of Sheffield. In this context, the newly named Furnace Park seems appropriate: it connects the land of the past with that of the present and, hopefully, future. Further to this, it is an appropriate embodiment of the various ideas proposed and supported by *occursus*. On the one hand, Furnace Park is a physical space in which diverse communities have formed, sometimes fleetingly, sometimes more enduringly, in the very hands-on processes of making the place. On the other hand, the idea of Furnace Park has also served as a crucible of sorts to bring people together in discussion, not necessarily on the site itself, but in a variety of projects, symposia, and workshops.

During an initial visit to Furnace Park, the group of composers reflected on this sense of Sheffield's identity, noting the many twists and turns on which the small patch of land had transitioned, from the heat of industry, to wasteland, and now to a social space. Identity, as elsewhere, is rarely static but in constant flux. The conversation turned to ways in which we might express something of this identity in our music, and we quickly settled on the idea that we should make recordings in and around the park, and use those recordings as the musical material of our works. At this point, the composers involved in the project were Chris Bevan, Alex Gowan-Webster, Jonathan Higgins, Martin Hogg, Jordan Platt, Vanessa Sorce-Lévesque, and Adam Stanović (me). Most of these composers produce a wide range of different musical types and styles, including instrumental music, electronic music, and mixed-media works including film, animation, live electronics, and music for dance, theatre, and other such contexts, and therefore a series of pieces made from recorded sound seemed perfectly plausible.

The group paid a second visit to Furnace Park to discover which sounds might be collected. Armed with a range of sound recording devices, kindly provided by the University of Sheffield Sound Studios, we set about making a wide range of recordings relating to the area. Each person had a unique perspective on the recording process. For example, one composer decided to record the sounds of objects found within the park perimeter, another stayed within the perimeter but recorded sounds emanating from outside of the park, another embarked on a soundwalk from Sheffield University to the park. These variations in collection methods produced a diverse range of different sound materials that were collected together in the form of a sound-bank: a collection of all of the recordings that would be open for anyone to access and use within compositional practice. In this respect, the sound-bank idea ensured that composers had the option of using the same set of sounds within our works. Furthermore, it gave us the option of using sounds that we did not capture, similar to the three cities project, in which Suk

Jun Kim, Pete Stollery and Ross Whyte shared recordings from three different cities; the composers did not necessarily know the origins of the sounds that they ultimately employed, and this may have led to a range of compositional decisions that might otherwise have been navigated quite differently (Kim, Stollery, and Whyte 2013).

Being familiar with the writings of soundscape composer R. Murray Schafer, most members of the group tried to record a selection of the following categories of sound: *Keynote Sounds* (those which are always present in a given space, defining its ambience); *Signal Sounds* (those which call our attention away from the keynote, either through a sudden interruption or transition); and *Soundmarks* (the aural equivalent to the visual landmark; something which is strikingly and distinctively a characteristic of a particular place or environment) (Schafer 1993). It was felt that these kinds of materials, particularly soundmarks, would most coherently capture the identity of the city, and give something for listeners to recognize, reflect upon, and understand.

After several visits, a diverse palette of sounds had been recorded. These were edited and collected together for the group to share and subsequently use. At this point in time, however, something seemed remiss; *occursus*' objectives invite hands-on, physical engagement with the city, empowering activity through a sense of ownership over the spaces that we inhabit. The act of collecting sound materials, by contrast, seemed to be merely sonic harvesting; we were doing little more than documenting the sounds of the city, rather than engaging with the space in order to play a part in its sculpting or moulding. Although we had thought about the identity of Sheffield, particularly in terms of its historic position as one of the great northern English cities, we did not, collectively, feel as though we were achieving the aims and objectives of *occursus* at this stage in the project. In discussing these feelings, however, a clear sense of how we might navigate the next stage in the compositional processes started to develop: rather than simply using those sound materials to compose new works of art, we started thinking about how we could repurpose the sounds in order to establish a commentary upon the city itself. In short, just as the patch of land underwent a transformation, so might our musical materials.

Transformation

The particular method favoured by the group was that of the electroacoustic composer. This is an approach to music-making that includes the use of recorded sound materials. There are various different approaches to electroacoustic composition, including instruments, microphones, electronics, live performance, installations, and many more. These forms, which are all subsets of electroacoustic music, have received numerous different names throughout history, including acousmatic music, musique concrète, electronic music, and computer music, among others. The key determining factor in all of these, however, is the use of an electronic medium and loudspeakers. In the vast majority of cases, composers of such music start with recorded sound materials, which are manipulated or transformed during the act of composition. In this respect, electroacoustic music is very closely aligned with the plastic arts: throughout its sixty-year history, most forms of electroacoustic music have been compared with different art forms. For example, James Urmson (1976), Levi-Strauss (1969), and Nicholas

Wolterstorff (1980) have compared works of musique concrète with works of painting; Stan Godlovitch has associated works of electronic music with sculptures (Godlovitch 1998); Linda Ferguson has compared works of tape composition with works of sculpture, painting, and film (Ferguson 1984); and Stephen Davies has compared electronic music with film (Davies 2004). Such comparisons are certainly not lost on practitioners. For example, Pierre Schaeffer, founder of musique concrète, once suggested that the term musique plastique might be more appropriate (Schaeffer 1966, 115), and Rick Nance's *Compositional Explorations of Plastic Sound* considered how notions of plasticity may inform compositional practice (Nance 2007).

The methods employed by electroacoustic composers are, in many cases, similar to those employed by plastic artists: both work directly with the materials of their art which, in the case of electroacoustic music, is sound. The compositional process typically begins when a composer records a sound or a set of sounds, first selecting something (a sound source) to record before exploring the chosen source by exciting it in numerous different ways to produce a varied range of sounds. Once captured, recorded sounds will be auditioned and assessed by the composer, enabling them to make compositional decisions on the basis of audibly verifiable criteria (Harrison 1999, 118). The electroacoustic composer may, as a result of an aural assessment, choose to use recorded sounds without any further modification or transformation. However, it is likely that the composer will, at the very least, edit these sounds, or, as is often the case, transform or manipulate them during the compositional process. In many cases, electroacoustic composers employ digital sound processing tools and computer programs to facilitate the manipulation of sounds. At this stage, we find another commonality with the plastic arts: sound processing tools afford a degree of direct, hands-on control that has striking parallels with the direct manipulation of physical materials common to the various plastic arts, such as painting and sculpture.

Given this sense of plasticity and hands-on engagement with sound as a physical material, electroacoustic composition seemed perfect for the commissions in question, since it enabled those involved to take those recorded sounds of the city and then treat them as pliable, or malleable, plastic objects. At this point, however, it becomes difficult to generalize about the practices of the group, since each composer made different choices about which materials from the sound-bank they wished to use, and this resulted in radically different approaches to their sculpting and shaping. What follows is therefore my own approach to the recorded materials, foregrounding what I understood to be the central notion of plasticity and transformation.

When listening through the sound bank, I was immediately drawn to a single-take recording that composer Chris Bevan had captured, as both stereo and binaural recordings, of the sounds of traffic made using both in-ear microphones and a hand-held stereo microphone. Bevan had undertaken a short sound-walk along the main road leading from The University of Sheffield to Furnace Park. In the following two images we see him making the initial recordings, followed by a Google satellite image showing the area, and the route of the walk. This starts from the University of Sheffield Sound Studios (at the bottom of the map) and leads towards Furnace Park before returning back to the studios.



Image 5: Chris Bevan recording sounds of traffic (photo by Alex Gowan-Webster)



Image 6 Google satellite image of the area, with the soundwalk highlighted

In terms of their potential for compositional use, Bevan's recordings were immediately appealing; they offered something of akin to a cinematic 'establishing shot', in which the location of Furnace Park was instantly apparent, plunging the whole site into an

unambiguous cityscape. Moreover, there were two specific features of those recordings that were of particular interest to me. Firstly, the nature of the binaural and stereo recordings produced a very meaningful impression of the space around the park: not only had the recordings captured the sound of traffic on the main road, they had also captured and presented the emergence of traffic from a distant location, and tracked it to a point of arrival before it disappeared into the distance. In some of the recordings, this process of emergence, arrival, and disappearance traverses the stereo image, crossing from left to right, or vice versa. In other cases, the stereo image is relatively uniform across both left and right sides and, instead, the image merely serves to create the impression of traffic approaching the listener from a fixed point on the auditory horizon. In many cases, traffic is approaching from multiple directions, and this invariably creates the impression of enhanced activity across the stereo image, particularly in cases where traffic is entering from, and crossing, both sides simultaneously. Secondly, the recordings do not merely capture sounds of motor vehicles: pedestrians walking past, the sounds of Bevan walking and breathing, birdsong and, notably, the passing of the Sheffield Supertram all feature prominently in the recordings. In this way, the recordings have multiple levels of signification which, using R. Murray Schafer's terminology for markers of the soundscape (Schafer 1993), may be said to include *Keynote Sounds* (largely the undifferentiated sound of the traffic itself), *Signal Sounds* (in the form of people passing, birds emerging, and Bevan himself making noises), and a specific *Soundmark* (in the form of the passing Supertram with its characteristic tolling bell). Given the range of spatial information and these various markers of signification, Bevan's recordings were immediately appealing since they invited numerous avenues for exploration.

Despite using essentially soundscape recordings, the intention at the outset was to initiate a process of exploration and investigation, in which materials are transformed and explored to gain a greater understanding of their constitution and the possibilities that they may yield. In this instance, the time-stretching and -shrinking of the materials was accompanied only by the re-pitching (multiple octaves above and below the original) of the same. Two particular observations seemed pertinent. Firstly, despite ostensible differences in the traffic noise (largely due to proximity to the microphones, type of vehicle, and speed of movement through the stereo image), all of the materials were essentially noise-based; although the occasional prominent frequency might be detected in the sound of traffic passing, these rarely persisted for any substantial length of time, and they certainly did not receive the support of any overtones or harmonics. In most cases, frequencies were seemingly scattered and randomized within relatively narrow bands, approximating filtered noise. Secondly, the emergence, arrival, and disappearance of vehicles within the stereo image created a very specific spectromorphological shape. Denis Smalley invented the term spectromorphology to refer to the spectral content of a sound and the way that such content shapes, or morphs, over time (Smalley 1986) and, in this particular case, the overall content (which is essentially noise-based) shapes in a more-or-less uniform manner, albeit with some slight variations in speed and dynamics.

Two important discoveries in the recordings transformed my entire approach to the material and, consequently, the plan for the piece itself; following these discoveries, I decided to compose the entire piece using nothing more from the sound-bank. Thus, the finished piece is not exactly a single-source work, since it employs recordings of various different sources captured throughout the soundwalk, but it is certainly a product of a restricted sound palette in which all recordings relate to the same recorded walk. The first discovery relates to one of the signal sounds. At a given moment, a large lorry (or, at least, a vehicle with a particularly large engine) pulls up next to the microphone with the engine running. This particular moment is notable for two sonic details: the chugging engine at a very low frequency, accompanied by high frequency squeaks, possibly from the vehicle's brakes. Through listening alone, it was clear that the engine sound was pitched. Following tests, the drone turned out to be almost perfectly tuned to the C two octaves below middle C. More surprising still was the fact that a higher frequency drone appeared to be in some kind of harmonic relationship with the lower frequency, albeit fluctuating by a semitone interval. Following more tests, this turned out to be a drone that fluctuated between exactly nine and ten semitones above middle C; this created an almost melodic line that was, altogether, very surprising given that it was discovered within recordings of a lorry's engine. The second discovery occurred at the point of processing. The re-pitching and time-stretching/shrinking of the sounds of traffic produced a rather unexpected sonic result: although these relatively straightforward processes retained the spectromorphological directionality of the traffic materials, those recordings pitched up by an octave or more appeared to have a sense of motion or movement similar to strong gusts of wind.

Responding to these discoveries, an idea for the form of the piece started to emerge. Firstly, I decided that the piece would start and end with the recorded sounds of traffic, thus creating the impression that any intervening exploration of the sound materials takes the form of a departure and subsequent return. In this respect, the idea was directly influenced by the *occursus* notion of the city that is a '[...] representational plastic object, in the sculpting of which we all have a democratic right to intervene' (*occursus* 2015, 5). In responding to this idea, the proposed form would see the opening of the piece simply establish the sonic environment and familiarize the listener with the soundscape. The conclusion would return to very similar materials, but would also include the moment at which the lorry suddenly appeared. The intervention in the middle would be the sculpting of the plastic city, taking us from the clear moments of recognizability to flights of fancy and fantasy.

Secondly, between these two poles, a gradual accumulation of traffic sounds would act as a foil, allowing for transformed versions of the traffic to be introduced while the listening attention is diverted. In doing so, a gradual transformation from state to state appears, having two key functions: firstly, to create a large body of noise-based sounds (which would later create a clear contrast with the subsequent pitch-based section) and, secondly, to allow for the introduction of the wind-like materials described above.

Thirdly, once the large, noise-based section had been realized, pitch could be carved out using a filtering, or equalization (EQ), tool to replicate the engine drone and the fluctuations between nine and ten semitones above. Thus, an introduction to a

soundscape that gradually transitions into noise, from which pitch emerges, leading ultimately back to the original soundscape in which both pitch and noise, is clearly heard.

Following this plan, the finished piece chains together sequences leading from the source recordings through a series of transformations involving a transition from noise to pitch before returning to noise once more. In a sense, then, just like the park and its manifold state changes throughout history, the piece explores a series of contrasting transformations. The name *Foundry Flux* was chosen: rather than its meaning in the context of steel production, the term *flux*, which otherwise refers to a flowing or purifying agent used in the smelting process, is employed to capture the flowing, changing state of the land itself upon which there stood a *foundry*.

The finished project, including works from all of the composers, was presented as an installation in the 2015 exhibition 'The Art of Wandering', curated by Liz Dickinson and Becky Gee at the 35 Chapel Walk gallery in Sheffield. Visitors were able to listen to the complete set of composed works through cheap but technically innovative listening posts engineered by Thom Wilson, Sam Varcoe, and Ben Wadsworth using lilypad MP3s, reed switches, magnets, discarded paint tins, and donated headphones. Thus, the listening posts, like the sound pieces themselves, were site-specific and made from found, repurposed materials. Thus, in a sense they performed an act of *détournement*, extracting some locally sourced 'waste' materials from the cycle of consumption and obsolescence, reconfiguring them as conductors of sound.

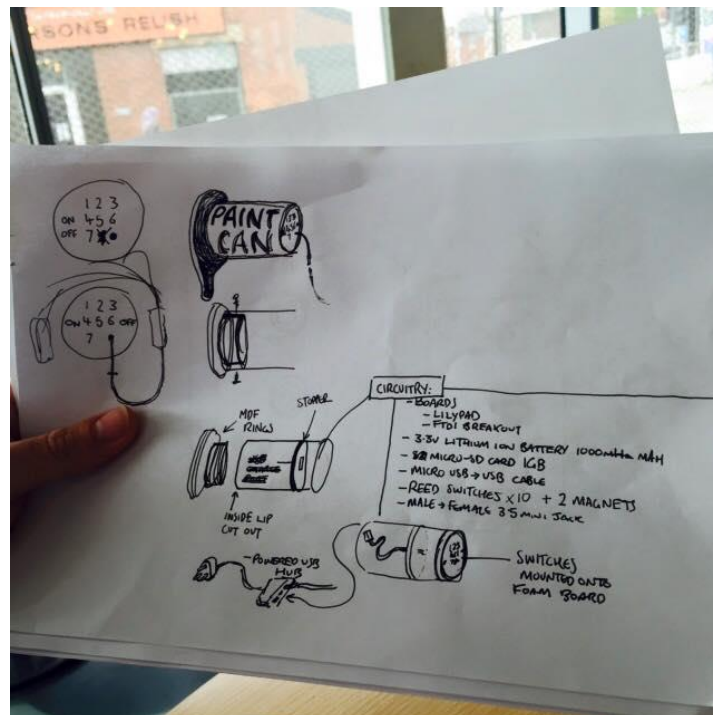


Image 7: Initial schematic for producing listening posts (photo by Thom Wilson)

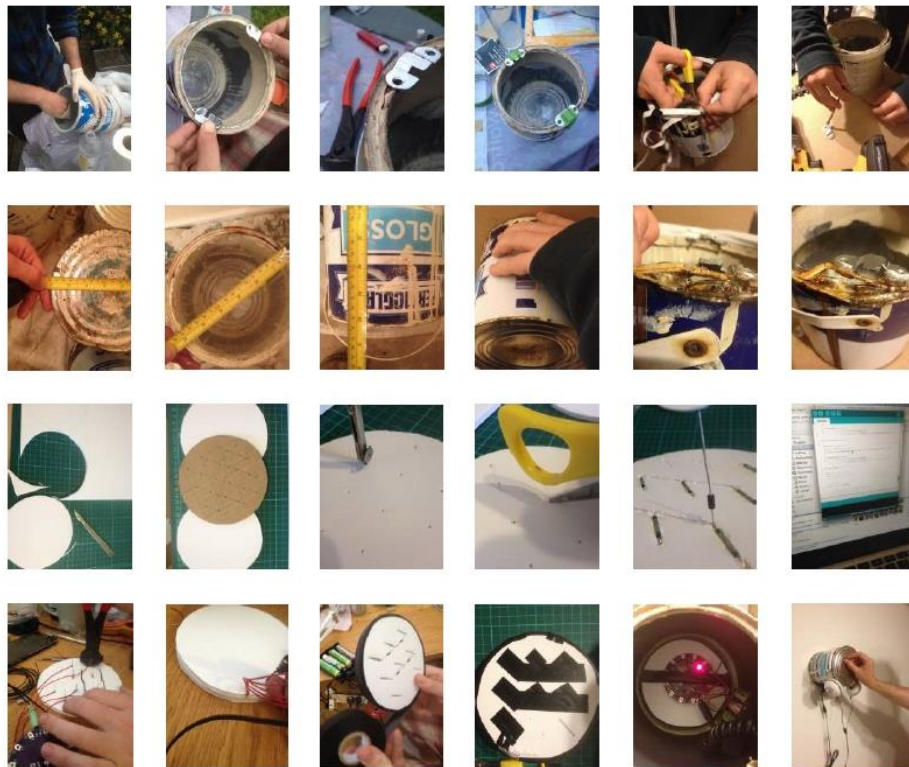


Image 8: The making of the listening posts (photo by Thom Wilson)



Image 9: A finished listening post (photo by Thom Wilson)

Image 10: Still from the exhibition (photo by Thom Wilson)

Foundry Flux has gone on to have an independent life beyond the project; it received performances in Austria, Belgium, Canada, Chile, Germany, Mexico, Portugal, and the USA, among others. It was awarded second prize at the Eleventh International Competition of Electroacoustic Composition and Visual Music at the Destellos Foundation, Argentina, in 2018, and an ‘Honourable Mention’ in the international composition competition *Musica Viva*, 2016, hosted by Miso Music, Portugal. *Foundry Flux* is published by the Canadian-based electroacoustic label, *empreintes DIGITALes* (Stanović 2018).

Reflections and conclusions

One of the most surprising things to come out of this project was the amount of self-reflection involved. Of course, composition always involves a degree of self-reflection, but something quite different happened in this particular case: as per the *occursus* objectives, we all started to reflect on our own sense of engagement with the city of Sheffield and, as a direct result, we started to think about our pieces as vehicles through which to reflect, critique, and rethink the city, rather than as autonomous works in their own right. In this context, it would be remiss not to end the article with a brief set of reflections on what the process of doing actually meant, and whether we achieved the *occursus* aims. Since these are invariably personal, however, I may only share my reflections, which were mixed.

On the whole, I feel like the group of composers did extremely well in terms of responding to the identity of the city: by using a series of recorded sounds as keynotes, signals and soundmarks, I genuinely believe that the series of compositions reflects something of Sheffield's identity. Further to this, the notion of transformation is clearly well served: the idea of processing and manipulating those recordings using electroacoustic techniques resulted in a surprisingly straightforward sense of the transformation of identities, particularly where those techniques were enacted upon recognisable soundmarks. In some cases, I felt as though the transformations were relatively arbitrary. In others, however, it certainly seemed as though the composer had thought carefully about a specific part of the city's identity and transformed it in order to sculpt that identity from one state to another.

Reflections on our own role in the future transformation of the city were, by contrast, the least successful part of the project. I do not realistically believe that anyone involved in the project has the sense that they upheld some kind of democratic right to the transform the identity of the city. Furthermore, there was no clear sense of how our actions (which, after all, involved recorded sound) would have any bearing on the actual sound of Sheffield. In this respect, I felt as though we missed a substantial opportunity to do something radical. Probably, the idea of composing a series of fixed-media pieces was misguided. Although the act of recording sounds did involve a large degree of collaboration and discussion among those involved, the subsequent retreat into the studio, and the inevitable solitary practice that fixed-media works tend to require, did not particularly help with meeting the project aims. Nor, for that matter, did the choice of media employed: the decision to produce spatiotemporally delimited artworks, which demand concentrated listening, resulted in headphone listening in a gallery; this is not exactly an ideal mode of presentation, one might argue, if the aim is to reflect on the sounds around us. If the project were to be repeated, something akin to site-specific sound sculptures might be more appropriate, allowing for the creation of spatiotemporally open works, which an audience may walk around, in conversation, whilst hearing both sounds of the sculpture and the city blending together. Something of that nature would surely better approximate the kind of ideas that *occursus* had in mind. I cannot help but feel that we would need to rethink the actual soundworld of Sheffield, rather than simply responding *to* it through manipulations of recorded sounds.

In other respects, however, I did find that my own personal engagement with the city was, genuinely, transformed. In *Foundry Flux*, the intention was to explore notions of plasticity: starting with concrete, recognizable sounds of the city, and through a process of gradual state-change, I planned to lead the listener into a series of distinct scenes hovering between the real and the unreal. These scenes culminate in a moment of high tension, in which a series of pitches felt almost cathartic (at least to me) both at the moment of composition and in subsequent listenings. Whether this is experienced by other listeners I do not know, and this personal observation is in no way intended to direct how others engage with the work. Since the aims of *occursus* required a highly personalized act of engagement, it is necessary to engage in a moment of personal reflection on what the creative process actually meant, and produced, for me. There are two significant discoveries worth sharing.

The first relates to the specific process of composing with the sounds of a city. Despite retreating indoors to compose the piece, the use of city sounds meant that it was impossible to forget, even momentarily, that the studio was located in Sheffield, and that many of the same sounds were occurring, at the same time, just beyond the studio door. For this reason, the act of leaving the studio became extremely significant; after working for hours with sounds of Sheffield, the same sound-world was lying in wait, and this created a very tangible sense that boundaries between the work and the city had dissolved. If this was the sense of engagement between city and action that *occursus* had in mind, then the foundry project was indeed successful – at least from my point of view. My actions had a transformative sense on both my engagement with the city and, for that matter, my own composition.

The second discovery relates to one specific soundmark: the Sheffield tram. It is entirely likely that people unfamiliar with Sheffield will not even notice the sound of a tram in *Foundry Flux*, since it is relatively hidden in the work. Even so, it makes several appearances, and occupied a very significant part in the compositional process, since it was used throughout the first half of the work to introduce and remove significant gestures and events. More importantly, this is one of the first sound materials that was transformed, during the act of composition, and also one of the first that is introduced (albeit under the layers of traffic noise) in a transformed state. What is of interest here, however, is the fact that four years after composing this piece, I cannot walk down a Sheffield street without expecting the arrival and departure of city trams to transform, spontaneously before my eyes and ears, into something that would produce similar gestures and events. The ‘real’ tram has merged, perhaps forever, with the ‘unreal’ trams that are heard in my piece. This was neither anticipated, nor expected, but is entirely a consequence of engaging with the plasticity of this material through an act of artistic engagement. In a very surprising way, then, sounds were not simply harvested and shaped to form a piece. Rather, the act of shaping has fundamentally impacted upon my subsequent interactions and experience with the city. Thus, the city gave the work, and the work the city. In this sense, and perhaps this sense only, Lefebvre might be satisfied; the city has become an *œuvre*.

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