Water Power: Creativity and the Unlocking of Community Knowledge

The flow of the River Thames has been the lifeblood of London over many centuries. Since the first Bronze Age settlers it has provided sustenance, transport, trade, work and pleasure for a population that now exceeds eight million. Communities grew up along the river to the east of the city to service its developing trade, but while this area was a hub of wealth generation, it has also seen the city's greatest poverty. A focus point for new immigrants, it became home to a range of different cultural groupings, from the Huguenots in the seventeenth century onwards. Many entered with the trade ships, gravitating toward the work opportunities and cheaper living of this industrial quarter or aiming to join others from their own cultural backgrounds. Despite the poverty, however, it would be a mistake to see East Londoners as victims. Necessity drove these riverside communities to become highly organized, and it is their determination and resilience that has led to this current urban territory of astonishing energy, diversity, and culture. It is not surprising therefore that its local inhabitants still recognise a role for this river in sustaining their lives. Indeed, when in 2007 members of the Geezers Club in an AgeUK East London centre were asked about technological needs for a research project, they looked to the river for solutions.[2]

Geezer Power

This question was nevertheless put to this group, not by a technologist, but by myself as an artist commissioned by researchers who recognised the transformational potential of arts development methods. The research project in question *Democratising Technology*[3] was led by an interdisciplinary team at Queen Mary University of London, who were exploring whether a generative, open-ended form of engagement between communities and technology could be produced and brought to bear on the design of society and its tools. The research team had been examining how the experience of older people was not only being excluded from the development of new technologies, but often left this age group victim to the technological design and control of others. They commissioned three artists, of which I was one, to work with older people's groups around these ideas.

There is increasing recognition of the effectiveness of the arts in working alongside other disciplines to address issues of social relevance. While the arts can rarely implement change on their own, they are adept at communicating and consolidating ideas in a way that facilitates engagement, and particularly so when this includes drawing out the creativity of others. Creativity can be seen as the process through which an idea is 'made real',

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[2] This chapter includes extracts from my previous writings in *Art: Process: Change,* Routledge, 2017; 'Our Land' in *Journal of Heritage Studies* (forthcoming, 2017); 'Engaging Older People in Creative Thinking' in *Oxford Textbook of Creative Arts, Health and Wellbeing*, 2015; and 'Groundswell on the Thames' in *WEAD-Women Environmental Artists Directory* [online], 2014. https://directory.weadartists.org/category/magazine/issues/7

[3] http://www.demtech.qmul.ac.uk

where energy interacts with matter to make something entirely new, whether that is a planet, a culinary dish or a painting. In using this method it helps to have some experience of the creative process as well as familiarity with the art of 'not knowing' - to stay with ideas as they emerge and change, then discover the meanings as they becomes manifest. This is not a pre-requisite of the arts, but it is a process in which artists are well schooled and learn to manage productively.

From my experience of working as an artist with communities for almost four decades, I have discovered that if there is a need or issue to be addressed, then those most affected will hold important knowledge and may also already be working in some way to resolve it. Processes of creative facilitation can help people articulate what they know and communicate it in forms that are accessible to a wider audience. This approach nevertheless also requires some relinquishing of the notion of individual creation that has for so long been collapsed with the notion of the artist[4], and embracing the shared creativity of collaboration. Not all artists choose or are able to work in this way since it requires a range of skills and interests beyond the artistic. However it is an approach that has slowly developed as a professional pathway since the 'community arts' movement of the seventies and eighties. In the last twenty years a new movement of 'socially engaged' art has emerged that is not only accepted, but now even promoted by major art institutions. This is a chequered history that I explore further in my recent book *Art: Process: Change* (2017) that also delves into key methodologies employed in this endeavour.

The arts commissions offered by the research project were managed by SPACE[5] with results to be exhibited in their gallery six-weeks later. The assumption was that the 'research' had already been carried out by the academics and it was the artists' role to 'respond' to this. While it was encouraging to see the social role of the arts recognised through the commissions, it was familiar but frustrating to encounter the assumption that the artistic process was essentially only about production. Through my art practice to date I had come to understand how research and production are interdependent. The creative process enacted through practice develops new knowledge, which is by its nature innovative and delivers substance that can then be examined. A more fruitful approach would have been to commence with the art, which would then have provided material for the academic researchers.

[4] The phenomenon of artists working as individuals to make products to sell on the art market is in fact one that stemmed from western societies and is of less than five hundred years' duration. It followed technological and social systems that enabled painting to become portable, then offered for sale through a market economy. Since civilisation began there have nevertheless always been creative producers who have worked in their social groups to express collectively held ideas.

[5] SPACE is visual arts organization based in Hackney, East London that provides creative workspace, residencies, bursaries and training opportunities for artists and has an established reputation for community engagement.

The six-week turnaround also had to encompass the building of the relationships necessary for meaningful community interaction, which together with the necessity of re-commencing research with this group, made for a tight call. The importance of long-term engagement with participants in socially engaged projects is becoming increasingly understood and I do not normally take on short-term commissions for this reason. However interest in the topic backed by the experience and support of the gallery and goodwill of the research team, suggested that the attempt would be worthwhile. It proved to be a risk worth taking, since it opened up a new creative pathway that generated a collective energy that continued to drive it under its own steam. Ten years on, the project is still going strong supported by funding that I have patched together as we progressed. During this time we have enlisted a professional engineer and a range of partners, created exhibitions, investigated how turbines might function on the Thames flood barrier, tested a small-scale tidal turbine in its central London reaches, run schools' workshops, engaged in interdisciplinary presentations and international virtual communications, and most recently created a floating water wheel to aerate the water and support fish and wildlife in a Thames tidal basin. I will however return to the beginning of this process to examine more closely the relationship, understanding and engagement of this particular community with the power of its river.

I met the Geezers at one of their regular meetings at an AgeUK centre in Bow. The self-named Geezers Club had been established in 2006 to mitigate the effects of isolation and loneliness on older men and offered members access to social activities, outings and talks by outside professionals. These were often on health-related topics however, and it was clear that the group were delighted by the opportunity to work on something that drew on their skills and experience. During the project the group placed immense value on the fact that the activity was not just for its own sake or to pass the time, and one through which they could pass on their own accumulated knowledge to future generations. This dovetailed well with my position as an artist interested in enabling the impact of otherwise marginalised voices to enter public discourse and feed into social change.

[INSERT FIGURE 1 HERE]

Figure 1 Visualisation of tidal turbines on Thames Barrier. *The Not Quite Yet*, SPACE, London, 25th January - 29th February 2008.

My opening question to this group of working class men was on what technological developments each felt might best assist them or their communities in the future. I thought this might have been answered with ideas for gadgets or domestic aids, however the group had bigger ideas, formulated out of their lived experience in one of the country's poorest boroughs that also borders one of its largest tidal rivers. "When electricity prices prevent older people from heating their homes, and the Thames is just down the road, why

aren't we using it to power our community?" asked one member of the group. It turned out that many individuals in this area could not afford to live in the sheltered accommodation they needed due to high service charges inflated by the high cost of energy. Yet in this group was an ex-steam engineer and others with practical skills who could see the potential that the 'powers that be' were missing. Many remembered how, decades before, tidal and wave power had been in the news but recently they had only heard of wind technology. Others recalled how in previous centuries a water wheel had been attached to London Bridge, while a nearby heritage site housed the remains of the world's oldest and largest tidal mill. By the end of the first session the whole group were keen to focus on nothing less than harnessing the tidal power of the River Thames. While I had no experience or particular knowledge of these issues, I pledged that I would help take the Geezers as far along this route as it was possible for us to go.

We began by visiting the mill to learn how its now rusted wheels had once been used to turn stones for grinding grain, and also that current volunteers had plans for a new turbine that would bring it back into use. I conduct most of my practice through an arts organisation cSPACE[7], which was based at that time in the University of East London and here I discovered a Director of Sustainability, who advised us further. It seemed that funding for tidal technology had been severely reduced in the 1980s, with later development of renewable power sources focused mainly on wind energy. There were no readily available designs for turbines that could respond to the river's ebb and flow and so, under his guidance, the group organised community transport to look at locally sited wind turbines that could most easily be adapted for underwater use. A visit to the Thames Barrier also revealed a suitable ready-made barrage for potential turbine installation. From visual materials gathered in our research I was able to create a large-scale photomontage of how turbines might function in this location. The group's new knowledge coupled with their understanding of its potential benefits for the lives of local people also made them highly effective advocates of the sustainability argument. For the exhibition therefore, I conducted video interviews with its members to accompany the photo-visualisation. These were projected at a large scale to lend a weight of authority to the views of the speakers. The impact of this installation on gallery visitors was reflected in significant local press coverage. Despite little experience of public speaking, eight members of the group presented the project to great acclaim at *On the Margins of Technology,* the symposium that accompanied the exhibition. This attention was ironically much to do with the very nature of group members' senior status, which caught people's imaginations, turning on its head their initially marginalised position.

Active Energy

The creative energy generated by the project, from that point entitled *Active Energy*, gained its own momentum, and at the end of the commission we all

[7] http://cspace.org.uk

felt that it was not possible to halt the work there. After the exhibition I found a small amount of funding to equip The Geezers with a laptop and other equipment that would allow its members to learn the skills to conduct online research and share their findings. Group members were enormously engaged in the potential of their idea, which tapped into their existing skills and interests. Unprompted, they began to draft new turbine designs and debated how these would work. Engineering expertise presented itself in the form of Toby Borland, a highly creative mechanical engineer who ran a prototyping laboratory at University of East London, and Professor Stephen Dodds, renowned for his development of the control system for the European Space Commission. Both gave freely of their time and knowledge out of interest in the project. SPACE arts organisation, which had managed the original arts commission, re-joined the project for similar reasons, raising funds to support intergenerational work with a local school as well as continuation of the Geezers' work on tidal energy. Through this collaboration I facilitated Toby Borland to lead the school workshops, assisted by Stephen Dodds, while previously isolated older men from the Geezers Club now found themselves mentoring underachieving boys. At the school's request the work focused on wind power, and so the young people learned about aerodynamics and tested their designs in a makeshift wind tunnel. The best design was then used for a wind-driven lightwork for the roof of the AgeUK centre, which rotated to spell out 'geezerpower'.

[INSERT FIGURE 2 HERE]

Figure 2. Wind turbine on Age UK centre, Bow, February 2010.
Photo © Loraine Leeson

In the meantime Professor Ann Light, who had been involved in the initial research for *Democratising Technology*, returned with an opportunity for the Geezers to contribute to *Participants United*, a research event at University of Central Lancashire, which was exploring constituent processes involved in effective community engagement. In this way the Geezers were able to extend their new-found knowledge by sharing it with other community initiatives. This exchange between community peers from different locations has now been realised by this group in a number of different contexts. In 2012 an opportunity arose for international dialogue with a seniors' group in Pittsburgh through an artist residency I was conducting there at that time. Connecting via Skype, a first for all concerned, the Geezers inspired a group of women at Northside Seniors to conduct their own project on a topic of their choice. The results were exhibited through a six-projector installation at the Mattress Factory museum that highlighted the significance of older people's potential contribution to contemporary social issues. It is no coincidence that, given the opportunity, these two groups of working class elders set out to tackle some of the key issues of their respective nations. The strength of the desire of each to leave a legacy for the next generation and the experience that lay behind it ably contradicted those who write off the value of older people's potential contribution to society, or think their offering would not be relevant to the present day. The Geezers' recognition of London's river as

both an historical, and currently much-needed source of sustainable energy for the capital, has been well in advance of the plans of government agencies or energy companies and brought about by thinking specifically from the perspective of local needs outwards.

[INSERT FIGURE 3 HERE]

Figure 3. Testing turbine efficiency at University of East London, March 2010.
Photo © Loraine Leeson.

Meanwhile design work on a tidal turbine continued in London with ongoing support from engineer Toby Borland. The Geezers developed designs at the University of East London's prototyping laboratory, trying them out in a specialist water tank. A suitable riverside site that could support the final prototype chosen had to be found in the Thames, and the owner of a barge that functioned as a bar close to the Houses of Parliament offered use of his vessel. Although the testing demonstrated more work to be done, the process of development identified the device as the first small-scale turbine suitable for use on tidal rivers. Its production from low-cost and recycled materials made the design eminently adaptable for use in situations where cost would be an issue such as in developing countries. All the designs were created to be open source and posted on the *Active Energy* web site[8] for others to access.

Active Energy typifies the organic way in which such projects can develop and gain longevity when they are rooted in community and not subject to overarching commissioning constraints. Despite frequently lacking the benefits of advance funding, work such as this is able to respond to need and opportunity. While its central aim has been to support the older communities of East London through inexpensively produced sustainable energy, *Active Energy* has also been able to extend its reach into schools, across the Atlantic to empower other seniors' groups, and more recently to the north of England to engage with the work of Canal Connections, a community initiative based in Leeds. Development of the turbine also led to an additional, parallel, two-year project with the owner of the barge where the Geezers tested their turbine. This explored the dearth of wildlife habitat along the river's urban reaches, where historic marshlands had been transformed into shored-up concrete banks to enable sufficient depth for river traffic. *Lambeth Floating Marsh*[9] experimented with the construction of reed beds along the hull of a Thames barge to provide an experimental environment where microorganisms and invertebrates could breed and support the river's food chain. Images of these organisms were then projected along the embankment to bring the issues to public attention.

While the river first identified by participants in the project was the Thames, the group has since shifted its focus to one of tidal basins through inclusion in

[8] http://www.active-energy-london.org

[9] http://lambethfloatingmarsh.org.uk

Hydrocitizenship[10]*.* This research project, involving fifteen researchers from nine universities, has for three years investigated and promoted the relationship of communities and water. In common with the research that initiated *Active Energy*, *Hydrocitizenship* started from an understanding of the value of the arts in community-based research, although in this instance has involved artists from the outset. In the case of *Active Energy* we did not need to set out to foster relationship between citizens and water, since that already existed in the project, but were able to extend our remit to address further issues affecting the tidal reaches of the Lea Valley as it joins the Thames. Through partnership with Thames21[11], which aims to rebuild the relationship between communities and their rivers while restoring river health, the group came to understand some of the concerns with pollution. This was particularly poignant for those Geezers who in their youth used to fish in the River Lea.

Under certain weather conditions sewers overflow into the river and the bacteria from the effluent feeds microorganisms, which then take up the oxygen in the water so that fish suffocate. Through workshops with Toby, the engineer who has stayed with the project since its early days, we together worked out a plan to use the river's flow to drive an aerator that would pump oxygen into the water. An excellent site for this proved to be close to the nearby historic Three Mills site, knowledge of which had in part informed the Geezers' understanding of the power of water at the commencement of the project. Run-off from the millpond could be used to drive a wheel as it emptied with the falling tide. Since the tidal range is quite extensive here, and at its lowest ebb less than a metre in depth, we arrived at the idea of a floating water wheel rather than a turbine, that could rise and fall with the tide. Due to the permissions required for placing objects in rivers, it was only possible to try out the wheel for a six week period, during which time it functioned well. Plans are now underway to install it at a new site in the Queen Elizabeth Olympic Park, where it can become a focus for workshops and events to highlight the use of rivers as sources of renewable energy. In the meantime this evolving project, patched together with little funding and much goodwill, was honoured with RegenSW's first *Arts and Green Energy Award*[12]. This regeneration agency had hitherto focused on industry achievement, and the addition of this award for art projects has been further recognition of the significance of creative practice in this field.

[INSERT FIGURE 4 HERE]

Figure 4 *Water wheel at Three Mills*, May 2017.
Photo © Loraine Leeson.

Art, the River and Social Change

I did not set out to do work about the Thames. However since my early excursions into community-based art practice, the concerns, interest and

[10] http://www.hydrocitizenship.com

[11] http://www.thames21.org.uk

[12] http://artdotearth.org/green-energy-awards-2016

hopes of the people I have worked with, particularly in East London, have demonstrated the strength of local people's connection with their tidal river. As such it has often become central to my work and a location to which I have repeatedly returned. This has encompassed the 1980s campaigning to ensure that the London Docklands continued to support its communities in the *Docklands Community Poster Project*, and the 'rainbow river' of the stand against racism on the Isle of Dogs in *Celebrating the Difference* during the 1990s. In the new millennium the identity of longstanding and migrant riverside communities was explored in *Precious Places,* following which young people celebrated their waterside neighbourhood in the *Young Person's Guide to the Royal Docks*. More recently *Lambeth Floating Marsh*, described above, addressed the issue of microorganism habitat in the river's urban reaches[13]. The content of all these projects has been led by their participants and collaborating partners, and as a result I have constantly found myself drawn back to the river for reasons of its historic, symbolic or transformative power. Ultimately the significance of water did not have to be introduced to the Geezers, rather they were asked a question, the answer to which drew on their local knowledge as a riverside community.

Although I provided artistic leadership and management for these projects, and certainly choose areas of broad concern that interest me, it has been the participants and collaborative partners who have offered the direction and purpose. In *Active Energy* it can be seen how this has then been developed with people from other disciplines and walks of life to bring substance to the ideas. This project's informal team of individuals and groups with diverse interests have now become used to group presentations via an interdisciplinary panel involving various combinations of artist, engineer, social scientist and participating Geezers. At one point, intrigued by the vortex of creative energy generated through this mix, we all commented on what it meant to our respective interest or discipline. The Geezers' goal was clearly to improve the lives of the older population, particularly in their impoverished East London neighbourhood. The social scientist was primarily interested in 'citizen-led innovation' and the notions of 'co-design'. The engineer was particularly focused on active community input to design and the creation of prototypes with 'socially accessible' parts and hardware. All were nevertheless agreed that the project would not exist without being facilitated through an arts process. Drawing on my experience to date, I believe this to be due to the fact that, unlike other disciplines, art has no other remit than the construction of meaning, a purpose that guides the totality of the process to achieve its potential. As with any kind of art, my creative role in this project has been to bring together the elements that have presented themselves, adding others as necessary, and then 'holding' the unwieldy alliance until something has begun to take shape, not knowing what would emerge. In this situation the artist is not the driver of the project, but rather the means through which creative ideas become realised.

[13] Information about all these projects can be found at www.cspace.org.uk

Nabeel Hamdi (2004) has demonstrated how change starts where one is, and developed from there can rival the sweeping political interventions of those holding political power. The *Active Energy* project was able to take as its starting point the Geezers' direct experience, and through addressing this we arrived at an issue of global significance. Chantal Mouffe (2005, 39) has further described how the political erupts in very different places and not only through democratic structures, pointing instead to a series of new resistances that are grass roots-oriented, extra parliamentary and no longer linked to classes or to political parties. She claims that these demands have been taking place through a variety of sub-systems on issues that cannot be expressed through traditional political ideologies, and are shaping society from below. I recognise these tendencies as often reflected in two distinct and sometimes overlapping forms in community-based art, as exemplified in the work with the Geezers. The first is that of 'giving voice', one of the key remits of community arts, and articulated by Sandy Fitzgerald (2004, 79) as "the question of power and the right of people to contribute to and participate fully in culture, the right to have a voice and the right to give voice"[14]. Art is an effective means for creating platforms in the public domain where these voices will better be heard, while targeting those who need to listen. Simply being heard can have a transformative effect as noted by Paolo Freire (1970, 119), who referred to the inward realisation of his 'educands' of their own inherent power to change both themselves and what is around them. In this sense the articulation and positive acknowledgement of their concerns in the public domain have given members of the Geezers Club increased confidence, which has in turn enabled them to speak in situations such as conferences, university seminars and public events that most would have previously found daunting. Their words and ideas have also appeared in exhibitions, articles and the local press, and they now run their own web site, through which they report a range of issues affecting their neighbourhood.

The second main strategy for creating social change through community-based art is the creation of alternative models[15]. In their *Third Text* article of 2008 'Whither Tactical Media', Gene Ray and Gregory Sholette have highlighted a need for cultural activism to refocus its emphasis by recognising a new social order that is calling for a 'do it yourself' form of tactics. Developing alternatives and demonstrating their effect, as the *Active Energy* project has done, can be a powerful means of shifting social values and perceptions. For example, following the event held to celebrate the installation of the wind turbine on the AgeUK building, members of the housing association responsible for all the sheltered housing in the London Borough of Tower Hamlets, invited us to visit them to discuss the integration of renewable

[14] One might equally argue that 'giving voice' is somewhat of a misnomer, since communities are often very clear about what they want, it is rather if or how they are listened to that is more the issue.

[15] This approach is best exemplified in the *People's Plan for the Royal Docks* (1983) led by the People's Plan Centre in the London Borough of Newham and supported by the Greater London Council's Popular Planning Unit during the campaigning over the future of the London Docklands. This initiative provided a well-researched alternative to the plans for City Airport, addressing the need for homes, jobs and services, and driving the proposals for the airport to public inquiry.

energy into they ‘new build’ schemes. Both these strategies bring the practices, knowledge and skills of local people to a place where the political, social and cultural experience of those least heard in society can enter and affect public discourse.

Fundamental to projects such as this is the building of trust between those involved, achieved through mutual respect and valuing of difference. This lays the foundation for fruitful interaction and the positive working relationships required to sustain the project through both its successes and challenges. This form of art practice is often referred to as ‘socially situated’, as distinct from the now familiar ‘parachuting in’ of artists to communities by commissioning bodies with art-world agendas. The creative facilitation employed in Active Energy can also be seen as a political act. Drawing out community-held knowledge, then enabling this to interact with other ideas, people and concepts lays the ground for new initiatives to emerge that challenge the status quo by presenting more viable options. As an arts project *Active Energy* cannot of itself bring about change. Its prototype turbines remain open source and the project will not be entering into turbine production. The strength of the arts in this context is to celebrate, express meaning and spark people’s imaginations. Just as the content of this project has taken its inspiration from the power of water, the facilitation and support offered through the arts to this small and otherwise powerless group of older men has inspired them to illuminate new ideas and possibilities for others to take up for the future.

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