



THE SPEED OF LIGHT PROJECT PLAN

Introduction

"It's like you are on a swing and you swing up to the top and for a split second you can see over the wall, you can see all that light, but you're already on your way back down to the world" **Robert Irwin**

"A pre-requisite for an art that manifests counter-consciousness is that the separation between the artist and audience is closed, that they become mutually engaged, to the point where the audience become the rationale both in the making and reception of the work." **Stephen Willats**

The Speed of Light is a mass landwork to be staged on Arthur's Seat, Edinburgh in 2012 using light sources powered by the movements of both walking audience members and thousands of athletes drawn from every part of Scotland. The varied live flow of both the viewers and physical participants on different routes across, up and around the hill will create a beautifully layered visual narrative that is constructed out of the direct involvement of each person, a great collective act, whatever their previous level of fitness age or background.

The three week presentation acts as a huge lens raising consciousness, effecting political change, celebrating individuals' lives through their stories and promoting groundbreaking energy conservation technologies. Permanence is explored both within the lightwork, text and international dissemination of the methodology through a complex integration of sport and contemporary art practice.

Inspiration

Arthur's Seat is the first hill I ever climbed; I was five years old, it was pretty windy and a very happy experience. It's probably the first time that I went through the transition of something being physically demanding and uncomfortable leading to a positive feeling on completion. Through my twenties, when living in London, every time I got the train back north, the gradual rising of the landscape, the accumulation of height as you travelled up the spine of England, would bring out an indefinable emotional expansion. When I then moved back to Scotland in 1989, I already had in mind to produce a piece of work for Arthur's Seat. It has been with me for that long.

I love the singular nature of a mountain in the heart of a city, the radical juxtaposition of built and unbuilt environments. When the *Artists Taking the Lead* brief first appeared my thoughts kept returning to Arthur's seat as a pivotal place, a raw intrusion of the forces of nature into the man made. It is a place associated with endurance, exertion and achievement, of ancient history and contemporary culture, a symbolic place on so many levels for so many people.

Sorting through the challenges and developing fledgling solutions to the many questions that such an iconic site evokes and how a relationship to sport, which currently thrives through the hill's everyday usage for walking, running and cycling, has led to one of the most creative periods of my life.

The Speed of Light's placement as part of the Edinburgh International Festival and within our capital city may appear unusual given NVA's history of working in relatively remote landscapes and communities, but the situation of a mountain in an urban context is relatively unique in the UK and it offers a remarkable platform through which to integrate input from every part of Scotland. In my thinking there is also an important opportunity to link the 2012 Olympic theme of 'the UK welcoming the world' to the founding principles on which the Edinburgh International Festival was established at the end of the Second World War.

In a beautifully phrased aspiration the Festival stated that it;

“should provide a platform for the flowering of the human spirit”

In its inaugural year of 1947, Edinburgh's Lord Provost said he hoped visitors would “find in all the performances a sense of peace and inspiration with which to refresh their souls and reaffirm their belief in things other than material”. It is just such an expression of mutuality, the respect for difference that underpins the modern Olympic movement.

The Values of the Cultural Olympiad

Beyond the Olympic ideals of excellence, respect and friendship, is a secondary belief in generosity of spirit. The Pierre de Coubertin medal is a special award given by the International Olympic Committee to those athletes who demonstrate the spirit of sportsmanship in Olympic events, either through a profound lack of selfishness or an act of generosity at cost to the giver.

It has been given out extremely rarely, with examples being Lutz Long for defying Hitler in his very visible support for Jesse Owens in 1936, and Vanderlei de Lima overcoming being attacked during the 2004 marathon while leading the race and going on to gracefully accept a bronze when he finally danced across the finishing line.

There is something universal about the very private decisions that individuals make that symbolise something of value to humanity as a whole; the place where the personal becomes public. The medal can be seen to represent something counter-competitive, subtly critiquing the dominant ethos of 'Champion' that prevails at Olympics. This has led NVA to weigh the tensions in our proposal between the nature of the spectacle and the individual's experience and the cultural centralisation of the project with an ambition for extensive dispersed impact.

The principle behind the Pierre de Coubertin medal can be seen as a guiding influence in how these apparent opposites can compliment, challenge and ultimately serve each other.

The Speed of Light will create a platform that articulates and frames similar intent but within the realm of ordinary lived experience. Many people who participate in endurance events or actions, from walking a long route to climbing a mountain, running a marathon or riding a long distance on a bike, often do so to signify overcoming illness, memorialise someone that they have lost or to dignify the suffering of another.

The act of stepping out of day to day life and pushing the body through perceived and real physical barriers seems to concretize the emotional pain that is being felt and often through the act of raising money gives a wider group of people the opportunity to do something positive in the face of personal tragedy. There are more superficial reasons to exercise as well, but it is the more profound motivations that can lead to stories that are of meaning to a much wider audience than the individual alone.

I recently ran the Glasgow Half Marathon and found myself next to a man called Jim Burns, who at fifty-five years old had never run in a race in his life. His two year old niece was in the Schiehallion Ward in the Queen's Mum hospital with Leukaemia. About half a mile into the race he was at my shoulder and asked if he could run with me for as long as he could. I normally run on my own, but it seemed right and we kept an occasional conversation going for the first ten miles, enjoying the rain and the parks and working out the timings for each mile as I am a bit dyslexic with numbers. He finished in 1hour 35minutes which for a first time at that age is pretty miraculous as I told him after. In some way, focussing on him and helping him through released something in me and I ran my best time in seven years. A letter to me afterwards showed that even though his inspiration to take part had been due to a heart-wrenching personal situation, the end result had somehow brought hope to his close family and their friends.

The Idea

I began a log this year charting my progress from January 1st towards a marathon in April at Lochaber under the impervious gaze of Ben Nevis. The act of writing brought about a gradual understanding of why I run as I began to intercut memories from my teenage years growing up in Edinburgh in the late 70's. A combination of losing my father and enthusiastic consumption of strong hallucinogenic drugs left me serially detached from a serviceable reality. In many ways the intense physicality of my creative direction has been about the slow process of coming back from those shores ever since. The act of running, of grounding your daily reality and having the world endlessly imprinted into your body has been a form of salvation.

It has led to the desire to create strongly grounded work with an immediacy that has allowed many people to feel similarly transformed. It allows this through focussing on the sensual and affective specificity of the terrain beneath your feet. While large-scale environmental animations such as **The Path** in Glen Lyon or **The Storr** on the Isle of Skye played with an intentionally spectacularized form, the walked narrative is often distilled into an intensely personal involvement for the viewer.

Over the last decade NVA has received a volume of communication from people for whom the ownership and memory of the work has been intense and long lasting. The very act of taking part has released strong emotional ties either to the landscape itself or to an aspect of their individual histories, and it is the articulation of this powerful combination of the private and public that would make the Speed of Light such a potent artwork.

All those who move up, across and around the hill complete the final work. Different light qualities denote viewer and amateur athletes. Each night while a viewing public follows a set route to the summit, 500 different cyclists, wheelchair athletes and runners will be activating the mixed terrains of the landmass. These vary from circular park roads, to well established paths to rougher tracks following the line of Salisbury crags and ridges leading to the summit. The different speeds from marathon pace to sprints are defined by the differing light sources they carry. The public are equally part of the visual impact as the line of self-illuminating walkers snakes upwards in a seemingly endless line of ascent.

Just as Paul Auster's American Trilogy gave voice to a thousand stories of ordinary lives made extraordinary, the individual echoing the greater flow of humanity, so the Speed of Light aims to release thousands of individual stories as one of the foundations of the work. Linking to BBC Radio Scotland and encouraging international connections through the Edinburgh International Festival and the British Council, people will be invited to offer stories and snapshots of their involvement in previous and current sports related activities. These may be integrated as audio works into the start and finish of the walked experience as well as being available through other chosen portals.

So many people choose to take part in endurance events as a way of externalising grief or emotionally-charged changes in life. These are often undertaken 'selflessly' as way of dignifying the suffering of others or to memorialise personal loss. Eddie Izzard's recent ultra-marathon round the UK, (of which Arthur's seat was his favourite run of 43 sessions) is typical. It was both about the person, their capacity to overcome pain and about a wider aspiration.

The important creative step in linking such personalised actions to the concerns of society is in the ability to merge complex ideas of memory, performance and mediated image in a challenging but accessible way. The collecting of stories can be re-contextualised, in a hybrid collage that might be part-broadcast, part social-network, part-event, part-publication.

Partnership Working

UVA (United Visual Artists)
Trevor Baylis
Edinburgh International Festival
Sport Scotland
Jog Scotland
Scottish Cycling
Scotland Disability Sport (SDS)
Paths for All
British Heart Foundation

Scotland has the highest number of heart related deaths in the world, an unbelievable statistic considering the level of health care that is available. NVA's work will be positioned as a catalyst, forming a bridge between governmental strategy (a healthier Scotland) and the lack of inspiration to change on the ground. The ability of art to directly implement and challenge the gap between political rhetoric and action is a key component of NVA's methodology. **The British Heart Foundation** is keen to partner NVA to help expand on and deliver this unique opportunity.

Paths for All is a national charity promoting walking for health and the development of multi-use path networks across urban and rural Scotland. It helps some of the least active most socially isolated people in the country. Collaborating with Paths for All, will extend the theme of direct participation as a key to social change. We hope to invite hundreds of new and established walking groups to come together to help implement the final intervention. In doing so, we hope to help the charity to train more group leaders who can take the inspiration of working alongside athletes on the hill back into their own communities.

The Speed of Light will positively demonstrate key strategic outputs from the groundbreaking Climate Change Scotland Act and the recent Physical Activity Strategy for Scotland. The ability to make the necessary personal changes recommended in both papers indicates the extent to which we must all come to terms with health and environmental issues which are quickly moving beyond personal choice towards legislated change.

NVA are also proud to be establishing a longterm relationship with **Sport Scotland**. They have expressed a strong desire to collaborate on an art based programme in the build up to 2012. Under the umbrella of the national organisation, NVA are making links with **Jog Scotland, Scottish Disability Sport, Scottish Cycling** and the **Active Schools Programme**. There has been an extremely positive reaction to the Speed of Light, with the remarkable possibility to establish direct contact with every primary and secondary school in Scotland and to work together with artist Janie Nicoll and Sport Scotland to bring representation from each one to Edinburgh to take part in the Speed of Light.

A localised schools programme will also aim to build up interest and related projects over time in each Local Authority area and to use the high profile and historic nature of the artwork to activate a strong and meaningful linkage for all those involved. To have the chance to work with so many young people is an incredible honour and will require real dedication and clarity of purpose within the given project timescales.

Working in partnership with the **British Council**, NVA wish to extend the impact of the work into the international arena, assisting chosen organisations to exploit the technologies locally in four countries and to create new hybrid versions of the Speed of Light together.

This wide range of strategic partners clearly demonstrates that while the work is staged in Edinburgh its impact and reach will be genuinely national.

The Speed of Light will:

- seamlessly bring together culture and sport in a complex artwork that is capable of touching thousands of people across Scotland;
- give audiences the opportunity to participate directly in making a major artwork happen through creative and physical interaction;
- activate a major natural landscape as an integral aesthetic inspiration and locus;
- use the work to raise issues of environmental sustainability, health and well-being;
- demonstrate integral and imaginative links with the values of the Olympic and Paralympic Games;
- bring about major cross-sectoral collaboration and new ways of working between communities on a national scale;
- provide opportunities for young people across the country to increase their personal and creative skills.

Specific Outcomes

- The creation of a significant new artwork for Scotland and the Cultural Olympiad
- The four sports governing bodies work more closely together
- Implementation of the Scottish government Physical Action Strategy
- Heightened awareness of pulmonary disease prevention
- Increased uptake in amateur walking, running and cycling
- Support for sustained funding for social sports activity in Scotland
- Recognition and understanding of the Olympic ideals among young people
- Training of 50 new walking leaders (Paths for All)
- Training of 50 new cycle leaders (Scotland Cycling)

- Training of 50 new running leaders (Jog Scotland)
- Increased profile for disability sport participation programmes
- Increased profile of emerging energy harvesting technologies
- International partner co-operation utilising new technologies
- 6,000 young people introduced to a new cultural and environmentally responsive practice
- Raised self esteem and confidence in community participants
- Increased resilience, physical health and energy in community participants
- Innovative and forward looking profile for contemporary public art practice both in a UK and global context.
- Attracting younger audiences to public art

Methodology

The Speed of Light visual presentation will run for three weeks in August 2012, six days each week, starting at 9.30pm and lasting until approximately 1.30am. The aim is to create a continuous flow one-way route system from Holyrood Park up the main access route of the glen floor before turning south-east to the stepped path to the eastern spur of the hill (the Guttled Haddie) before a short ascent to the summit of Arthur's Seat. Descent takes place down a dominant path line following the main north ridge to St Anthony's Chapel back to the starting point. Exact audience figures will be calculable after an environmental risk assessment and planning mitigation report undertaken with the co-operation of Historic Scotland, but will aim for a public audience capacity of 18,000 over the duration. We are currently considering ticketing a public attendance of up to 10,000 people, with free participation for 6,000 school children and 2,000 specific clients invited through Paths for All and the British Heart Foundation. Separate to this will be 5-8,000 amateur athletics participants (500 per night) brought in through the Sport Scotland partnership.

The walk, on average, will take 90 minutes to complete with a slow lane and fast lane allowing each individual to walk at their preferred pace and stop at will to view an unfolding series of vast images from a number of elevating perspectives. They are witnessing their own collective visual presence integrated with the lit lines of athletic participants stretching into the distance. Every person present is literally generating a part of the final presentation.

While the path network is generally in good condition, the current descent design is non responsive to the cadence of natural footfall, as a result a secondary non-statutory campaign will be undertaken with Historic Scotland to re-lay a 200 metre section of path and improve other key node points.

Each viewer will be provided with a head torch and a UVA designed light baton with a unique wireless responsive module capable of altering colour and density depending on altitude and position on the site. This will enable a subtle shift of emphasis and visual signature to occur at different points on the route giving a narrative quality to time and spatial awareness (i.e. visually processing where you have been, where you are and where you are going as you physically orientate yourself in the landscape). The modular unit will also create a unique programmable interface between kinetically generated energy sources and a range of potential outputs (LED's, light sensitive fabrics, UV and retro-reflective technologies). The key innovation and the most breathtaking visual element will be the potential to control and shift visual signal information along lines of participating athletes.

This means that the viewer will not just see the lines of individual runners, but will perceive movements of light as energy rippling along whole sections of the route. As far as we know this poetic interplay of light and movement has not been created before and could position *The Speed of Light* as seminal work in the history of public art practice in the UK.

The viewer follows a separate movement pattern to the participating runners, cyclists and wheelchair athletes who will be activating the full network of paths that run from Salisbury Crags to the summit of the hill. Energy harvesting systems to self generate electrical output will include new work from Nicholas Reddall, RCA who has designed a responsive light suit that extracts energy from normal human movements. There will also be prototypes from research students under the tutelage of inventor Trevor Baylis who is supporting a UK-wide development programme. With links to 11 colleges and universities across the UK, he will initiate a virtual "sanctuary" in participating institutions to support and protect the idea progression and IP protection for each young inventor.

A range of systems are likely to be employed from piezo-electric impact technology to intelligent textiles, photo-voltaic dyes, wind-up generators, friction dynamos and kinetic mimetic systems (replicating joint movement). Specialist renewable energy experts from Mott MacDonald engineering have offered in-kind support through consultancy to ensure that we can achieve multiple system integration and guarantee deliverability by August 2012.

NVA and UVA will further explore the potential to produce a three dimensional work using all of the light sources which could lead to a significant extension to the impact of the durational work. This will be one of the key questions that *The Speed of Light* asks, whether to manifest a permanent volume-based work extending from the temporary intervention? How the audience activates each baton could also respond to this more permanent form.

Community Engagement

One of the principal aims of the Speed of Light is to work together with core partners to facilitate the mass participation people from every corner of Scotland. We will do this through the activation of the landscape, the collection, curation and integration of stories into the narrative and a two year programme of associated educational activity implemented through the Sport Scotland Active Schools strand.

We will collect thousands of accounts of individual's experiences and relationship to sport and document how personal testimony can deliver universal resonance. It is hoped that we can deliver a mixed format that will enable the many viewers walking to the summit in August 2012 to offer their stories via radio, social networks and in print. The collective enterprise becomes composed of a myriad of individual points of reference.

The breadth of partner agencies provides a powerful conduit for accessing an immense range of groups and individuals - from disadvantaged young people, to those recovering from illness, from dedicated amateur athletes to the first-time walker. Each organisation has the administrative depth to bring hundreds of existing local networks to the table and have indicated that given the excitement the concept is generating that the only risk may be in dealing with the sheer level of numbers wanting to take part. Utilising existing specialist sports and health contacts in a new way allows a level of national penetration that would be untenable for NVA as a single artist/organisation to deliver and increases the relevance of the work to Scotland as a whole.

The connection to the Active Schools strand is an amazing opportunity to link directly with every secondary and primary school in the country. The aim is to provide a two year focus of exciting and engaging activity in the run up to 2012 which will culminate in two children from each school representing directly at the Speed of Light.

Janie Nicoll is a highly talented artist with many years experience of developing innovative and engaging creative programmes and activities for young people. Working with the project team, Janie will develop a programme that will involve classroom based activities, making artworks about light, about sporting or team activities, about achieving their dreams.

These may be made into large scale light pictures using torches and documented photographically, or made into video works that document their activities. There is potential to include video diaries, and live documentation, on how they feel as well as what they are experiencing. They could log their activities with relationship to distance, compare their collective achievements to the distance of other well known goals, like climbing Everest, swimming the length of the English Channel, walking the length of Britain.

The two children selected from each school could be the focus point for the stories and aspirations of all the participating children in the school, carrying them in a back pack as they climb Arthur's seat - like a mini time capsule that each child carries on behalf of all their classmates, while also documenting their visits and taking it back to their schools and sharing visuals and stories with others taking part through a dedicated web portal. The process should be fun, creative for each child and link to some of the key themes underpinning the Speed of Light, the use of new environmentally responsive technologies, the relation between the individual and the communal and the mediation of the space between the monumental and the intimate.

Technical Specification

Light is woven through the landscape of Arthur's Seat, as people move carefully over and through the environment. As they move and the landscape climbs and falls, light seems to spill from within the earth. Powerful yet obscured, light defines the energy of the environment, rather than the space itself. It represents the energy of the people, the environment, and most importantly, the connection between. A story is written as people move through the territory, spreading out, climbing and descending. Light pulses with an energy on both a small, personal scale and the scale of the whole.

There is not a building in the world that could harness the scale of the work.

The intervention is realised by injecting artificial light into an otherwise natural environment - an environment normally lit only by the sun and moon. Two sources of light combine to create the work - sources placed throughout the landscape and luminous objects carried throughout the landscape by participants and observers. These luminous objects, 'batons', would essentially consist of a light source, a battery, and a custom piece of electronics designed to both control the brightness of the light source and communicate with a central control hub. Narrative is written by understanding the location, altitude, and brightness of each baton. The batons would be a new product based on existing technologies and off-the-shelf components.

Integrated lighting would be a high brightness LED, due to the low power consumption of these sources. Batons could be charged during the day from a central harvesting source, and would receive additional charge harvested from participants as they move through the landscape. In this way, a direct connection is maintained between the brightness of the batons and the energy of the participants. All energy used is harvested on site. Different light sources could be used to designate different groups of participants. Simple differences in light colour, warm and cool white, blue and amber, would create strong variations throughout the environment and highlight groups within.

The narrative of the work is written in real-time during the event via a central control system. Lighting throughout the landscape transmits and receives data from this control system, resulting in an accurate map of the work at all times. The system would be based upon existing d3 software developed by UVA. Information can be relayed through a nodal network, effectively reducing the distance which each baton would need to communicate. Over time, all of the movements are to be recorded, creating the opportunity to replay events within a virtual environment. The result is the intertwining of the individual participant's stories across the landscape.

As participants arrive on site before beginning their journey across the landscape, the batons could be collected from a central location - flowing across the landscape like reeds or articulating an individual volume of space. After navigating the path across Arthur's seat, the batons could be delivered to a final field structure which will grow over the duration of the installation as more and more batons are brought over.

Risk Assessment

Over the last decade NVA have developed a progressive, ground-breaking and consensual system of researching, analysing and agreeing multi-partner systems for ground impact management and mitigation within sensitive natural landscapes. Experience is paramount in dealing with fragile natural locations, in the case of our work on the Isle of Skye; we delivered 67 planning mitigations in order to fulfil the necessary conditions to allow an audience to access one of the most protected landscapes in Europe over 42 nights.

Our aim is to work in partnership with Historic Scotland over the next two years to produce a coherent risk assessment, operational plan and ground impact study and to produce The Speed of Light consensually and sensitively within the parameters laid down in line with the sites designated status and national importance. Final plans will only be implemented on the basis of a joint sign-off with Historic Scotland. We will work closely with nominated officers to ensure that the plans address issues of access, conservation, interpretation and other related matters. This may require additional fundraising to support the maintenance of the existing path network to ensure that the complex geology and habitat is protected. The project documentation will fully detail plans for security, placement of equipment, audience management, positioning of infrastructure, risk assessments, public liability and employer insurances. Best practice will be used to ensure that responsible and sustainable individual access to fragile natural settings is a key message to be conveyed by the work.

Legacy

While The Speed of Light will have a number of benefits to the individuals, groups and national partners working together to achieve the total artwork, there is a specific international outcome that is of direct relevance to the global setting of the Olympics. The British Council have begun a tangible strategy leading to thinking around working with Artists and Climate Change, to find and champion inspiring work that can engage in issues that are of vital importance for the future of arts practice concerning sustainable touring, international travel and ecological responsiveness. NVA are defining a democratisation of our practice where we create active exchange models to allow people to use our experience and process to support their development and means of expression.

As a result the British Council are very keen to start a series of long term dialogues with international partners in countries where issues of power use and overuse of natural resources are particularly important. The aim is that NVA in through as self-devised system of support and knowledge transfer help localised organisations to replicate the approach taken by the Speed of Light, ending in the creation of an 'NVA' initiative but led by and influenced by specific geographic and cultural conditions.



Speed of Light Image by James Johnston