



LJMU Research Online

Wright, MW and Stubbs, M

Recalibrating the White Cube as a hub for social action

<http://researchonline.ljmu.ac.uk/id/eprint/5737/>

Article

Citation (please note it is advisable to refer to the publisher's version if you intend to cite from this work)

Wright, MW and Stubbs, M (2016) Recalibrating the White Cube as a hub for social action. Digital Creativity, 27 (4). pp. 304-313. ISSN 1462-6268

LJMU has developed **LJMU Research Online** for users to access the research output of the University more effectively. Copyright © and Moral Rights for the papers on this site are retained by the individual authors and/or other copyright owners. Users may download and/or print one copy of any article(s) in LJMU Research Online to facilitate their private study or for non-commercial research. You may not engage in further distribution of the material or use it for any profit-making activities or any commercial gain.

The version presented here may differ from the published version or from the version of the record. Please see the repository URL above for details on accessing the published version and note that access may require a subscription.

For more information please contact researchonline@ljmu.ac.uk

<http://researchonline.ljmu.ac.uk/>

Recalibrating the white cube as a hub for social action

Mark Wright^a and Mike Stubbs^b

AQ1 ^aLiverpool School of Art and Design, Liverpool John Moore's University, Liverpool, UK; ^bFACT (Foundation for Art and Creative Technology), Liverpool, UK

ABSTRACT

A new form of practice is developing in which cultural organisations are transformed from white cubes to hubs for social action and learning. Focus extends from the showing of art to its creation, and the empowerment and agency of communities through enactive learning. In this model the arts organisation acts as a catalyst for collaborative action and enquiry involving academia and a wider ecosystem of communities and stakeholders including the public, academia, artists, digital creative industry, maker spaces and local government. The new model entails embedding of research, innovation and arts practice within the arts organisation itself. We illustrate the approach with examples of projects spanning mental health, physical disability, young people, veterans, children and parents, which have had a real impact on health and well-being of our communities.

ARTICLE HISTORY

Received 11 September 2016
Accepted 18 September 2016

KEYWORDS

Co-design; digital creativity;
well-being; engagement;
interdisciplinary

1. Introduction

There is a world-wide movement underway in which art institutions are evolving from a traditional 'white cube' model, of showing art to a narrow passive audience base, towards acting as a hub for enactive engagement with a broad ecosystem of stakeholders. This ecosystem includes the general public, communities, artists, maker spaces, creative sector companies, academia and the government. As part of this development, arts institutions are increasingly involved in projects addressing health and well-being at the interface of socially engaged arts practice, digital technology and emerging models of co-design. In this paper we discuss the roots of this new practice and illustrate it with a model of collaboration and case studies taken from FACT, the Foundation for Art and Creative Technology, the UK's leading new media arts institution.

1.1. An art institution as a hub for social action

FACT is the UK's leading new media arts centre. Based in Liverpool, FACT focuses on bringing people, art and technology together. FACT's award-winning building houses three galleries, a cafe, bar and four cinema screens and hosts over 300,000 visitors per year. Since the organisation was founded in 1988 (previously called Moviola), it has commissioned and presented over 250 new media and digital artworks from world leading artists including Pipilotti Rist, Nam June Paik and Bill Viola. Recently, FACT hosted the first gallery show of the collective assemble whose ground breaking work, including the renovation of houses with the Granby four streets community land trust in Liverpool, won them the 2015 Turner prize.

| | | | |
|----|--|--|--------|
| 5 | | | |
| | | | 50 |
| | | | |
| | | | |
| 10 | | | |
| | | | 55 |
| | | | |
| 15 | | | |
| | | | 60 |
| | | | |
| 20 | | | |
| | | | 65 |
| | | | |
| 25 | | | |
| | | | AQ2 70 |
| | | | |
| 30 | | | |
| | | | 75 |
| | | | |
| 35 | | | |
| | | | 80 |
| | | | |
| 40 | | | |
| | | | 85 |
| | | | |
| 45 | | | |
| | | | 90 |

FACT delivers internationally significant exhibitions and events, an award-winning community collaborations programme, a nationally significant technology service, a research centre and a training programme. FACT is unique in having an international quality digital arts programme embedded within the major world networks of practitioners and institutions globally, coupled with unparalleled deep authentic community engagement.

2. A new model of research partnership

FACT and Liverpool School of Art and Design are engaged in an experiment to explore the future of digital culture, citizenship and enquiry by embedding research and innovation capacity directly into the arts organisation at a fundamental level. Our aim is to create a new form of hub for social innovation by combining the Arts institution with an academic research base, local developer community and in house digital skills. This means the gallery becomes, not just a site for the display of art, but for its production and the exposure of that making and experimentation. FACT has established strong links with the Liverpool School of Art and Design at Liverpool John Moore's University (LJMU). A Lecturer in Digital Creativity has been appointed which is one of several 'inspire' posts pioneered by LJMU where academics are embedded in arts organisations permanently for 50% of their time. Other similar posts include those between the Liverpool School of Art and Design and Tate Liverpool and the Liverpool Biennial. This link provides stimulus via new approaches to action research and co-design as well as critical reflection and insight. This relationship is different to other arts/Higher Education sector collaborations in that the academic is fully embedded in the arts organisation for 50% of their time rather than as an external project partner. This means research expertise is applied

strategically at a fundamental level. The researcher is involved in management planning and in the shaping of activities within the arts organisation. This arrangement is mutually beneficial as the arts organisation benefits from new research thinking and methodologies. The academic institution benefits by reaching wider audiences and increasing the impact of its research. Both can create new forms of cross and trans-disciplinary activities. It is also possible to access more diverse funding sources than either could apply for alone.

2.1. Embodiment as a unifying philosophical perspective

An important aspect of our philosophy includes the concept of embodiment and the theories of interaction (Dourish 2001) and cognition (Clark 2011) that follow from it. This provides a unified perspective of the role of technology in culture and arts practice and, in particular, overcomes the fetishisation of digital technology. From this viewpoint, the cultural significance of technology is simply that it creates new forms of physical and social embodiment, which lead to new ways of being, thinking and acting. The roots of this approach extend from the division of philosophy into two broad schools. These are Analytic Philosophy (Weitz 1966), foregrounding logical reasoning and broadly aligned with the Scientific world-view, and Continental Philosophy (Cutrofello 2005), foregrounding lived experience and broadly aligned with Arts and Humanities. Behind these definitions is a profoundly different conception of what knowledge is and where it resides. In the analytic tradition knowledge is a linguistic abstraction, which may be encoded in symbols and words such as statements and laws. In the phenomenological tradition knowledge is embedded and situated and arises through interaction such as application of skills and the interplay of social relations.

95

100

105

110

115

120

125

130

135

140

145

150

155

160

165

170

175

180

2.2. Co-design as a methodological practice

FACTLab uses creative practice and ‘design thinking’ to tap the tacit, embedded and socially situated knowledge of communities. Participants are transformed into empowered actors and creative practice is thrown into unexpected trajectories while remaining relevant to the complexities and issues of a modern conflicted society. Commercial and cultural innovators are able to rapidly create and test ideas, tapping into the tacit intelligence of real world situations and communities.

Co-design is related to a number of similar approaches, such as action research and practice led research, which involve active engagement with the world rather than passive observation. Co-design involves participants as equal partners and invokes a process of inclusive exploration and cycles of action and reflection. Such an approach to enquiry would not be possible via technological innovation alone or through a passive investigation of existing culture. In contrast, this is an enactive and inherently collaborative approach.

2.3. FACTLab

FACTLab is an experimental research, production and learning space embedded within FACT itself. FACTLab is the principle vehicle through which FACT implements its approach. The Director of FACTLab is the academic collaborative post holder, further embedding a research culture into the centre of the arts organisation. The purpose of FACTLab is to enrich the core functions of the Artistic Programme and Public Engagement at FACT through the use of co-design methodologies. The key aims of FACTLab are:

- Transform FACT from a typical ‘White Cube’ in which Art is only displayed to one in which Art is created and the processes of production are made visible through a direct link between artists and the public.

- Aid artists to produce new forms of art through residencies and other forms of interaction.
- Empower the public and artists to develop their own agency through education in digital technology through enactive creative expression.
- Enhance engagement through the provision of learning platforms, technical support for those platforms and education of third parties in their use.
- Highlight trends in digital arts practice, technologies, social and political thinking as it relates to new media art and digital culture.
- Bring research from a range of disciplines into collision with arts and community practice to act as a catalyst to inform and enhance exhibition and engagement through new thinking, doing and art making.
- Act as a centre to grow a community of artists, developers and publics for innovation in new media art, digital interaction and socio-technological systems.

FACTLab was piloted during the ‘Build Your Own’ show at FACT and situated in gallery 2 as a workshop and presentation/learning space. It was successfully migrated to the ground floor where it continued its public-facing activity. It has been re-established in gallery 2 for the show ‘Follow’ to engage the public in online video creation. Cutting across and through FACT’s different departments, Collaborations and Engagement, Exhibition Programme and Research and Innovation, it is driven by a strategy to bring deeply researched and speculative risk embracing art practice to the forefront of the activities of FACT through public facing and tangible outputs as part of the Public Programme, Inside, Outside and Online. Ultimately the aim is to capture, support and develop new arts practice that acts as a force magnifier for real change and impact across local national and international economies, culture and communities. Cultural and social innovators are able to rapidly create and

test ideas, tapping into the tacit intelligence of real world situations and communities. FACT and LJMU are recognised leaders in this field and FACTLab is our way of exploring this space. Although many other centres exist, we are unique in combining a permanent embedded senior researcher, world class artists, extensive community engagement and now, with FACTLab, in-house public-facing artist developers.

3. Case studies in co-design of digital systems for well-being

We present three case studies of projects recently carried out at FACT, which illustrate the development of digitally related applications for health and well-being within the context of an arts organisation.

3.1. Case study 1: In Hand a mobile app to aid young people with mental health

FACT, Red Ninja (Liverpool based app agency) and Mersey Care (our local mental health care provider) secured funds to develop and release an app called *In Hand*. *In Hand* is a new application for smart phones that acts as a personal interactive recovery coach. Young people with mental health issues can use it to avert or deal with rapid deterioration in their mental health.

As an app, it is reactive and proactive and aims to promote independence and strengthen resilience. Rather than commission an app with an agency directly, it was decided to adopt a co-design approach. This meant engaging with young people with mental health issues as fellow artist and designers. In conjunction with our young peoples engagement team, designers from Red Ninja and medical professionals, other apps were evaluated and a new approach established. The co-designers then used paper prototyping and iterative evaluation to create the app. The result is a very clean design, which is appealing and easy to use. The main page of the app asks how a person is feeling from great, so-so, not good and awful. Based on this input the app gives a range of responses from encouragement, ideas to do something, inspiring quotes or advice on how to contact a health professional. All aspects of the app design were reviewed by the clinical partner to ensure that the support provided was safe and appropriate.

Gabi, one of the young co-designers on the project said,

So you may be wondering who I am and why I decided to get involved in this project. I'm Gabi, one of the people who have worked together with the team to help create this app so I'll just start by giving you a brief summary of myself. I've suffered from a few mental health issues from a young age and it has

Colour online, B/W in print

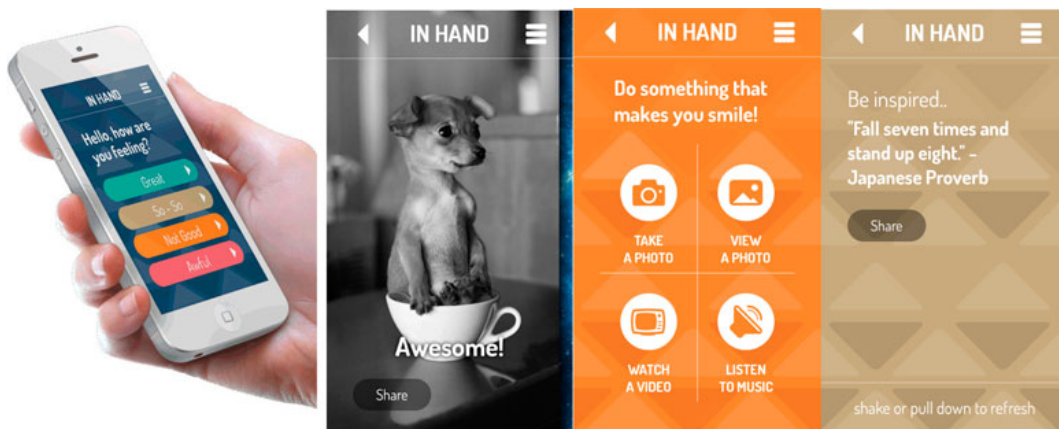


Figure 1. In Hand Mobile app asks how you are and provides support.

caused some of the largest obstacles in my life. Learning how to handle, and even understand, my mental health issues took a lot of years and I still struggle with them from time to time. I've always wanted to help others who may struggle every now and again and as someone who lives through constant ups and downs, I felt I could give my point of view to the team, which could maybe help others in similar situations. The biggest lesson I learnt was that the person who is struggling is the strong one and has to constantly strive to keep emotional balance in their lives. Being involved in this project has truly been one of the best experiences I've ever had. I've met so many great people and learnt so much in the few months from when we all started. The best thing about this project is knowing that there's a chance that someone out there will find this app and it may help them through a tough time in their lives; that this app will hopefully help someone in need. I feel the *In Hand* app enables the user to be fully independent and it can be used as a personal aid to help keep a balance in their lives. Of course everyone has good and bad days, myself and the rest of the team know this. That's why we all came together to create an app that aims to help anyone and everyone through the good and the bad times, giving gentle motivation and prompts for when you're feeling great or maybe having a bad day. In the future I hope to complete my university degree in graphic design and continue to take part in projects which aim to help others.

The app has been downloaded more than 10,000 times from the Apple and Google App stores and is recognised as an example of best practice by the UK National Health Service.

3.2. Case study 2: *Desktop Prosthetics*

The Desktop Prosthetics project involves the creation of 3D printed prosthetics for children by Liverpool based maker space DoES (Do Epic Stuff). Inspired by a local family who approached DoES to print hand parts in their workshop, DoES installed a 'production line' for prosthetic hands in the FACT gallery during

the 'Build your own' show on maker culture. They 3D printed the open-source *Raptor Hand* design from the world-wide **e-NABLE** network, which is developed to make printing and assembly of the hand's components as simple as possible. They also modified the design to allow the use of the hands by children with different levels of disability. *Desktop Prosthetics* aimed to raise awareness of some of the practical uses of 3D printing and to demonstrate how collaborative communities like DoES and e-NABLE work, sharing skills and specialised knowledge to solve problems for the well-being of their communities. Over the course of the exhibition, DoES Liverpool worked with Reach, the association for children with upper limb deficiency, to help a number of local children build and assemble a prosthetic device.

This project was commissioned as part of an exhibition on maker culture at FACT in conjunction with the Crafts Council called 'Build your own: Tools for sharing'. During the exhibition DoES invited the public to get involved with testing and building prosthetics, to better understand what prosthetics are, and to see how access to rapid prototyping and open-source digital-making tools can help people make the world the way they want it for their own better health and well-being (Figure 2). One workshop was called 'What's your super power—a prosthetic hack'. This explored how hands, made during the Desktop Prosthetics project, could be hacked and modified to explore the diversity of prosthetic design. Participants travelled from all over the UK to attend the workshop. So far, **fifteen** hands have been created and fitted for children and others are in production.

Members of DoES a Liverpool based maker space, and long term collaborator with FACT and LJMU, articulate their approach to enabling agency in their communities,

DoES Liverpool, if you are new to us as an organisation, do not do projects in a sense;

365

370

375

380

385

390

395

400

405

410

415

420

425

430

435

440

445

450



Figure 2. Desktop Prosthetics—a workshop in the gallery at FACT during 'Build your Own'. Members of the public 3D print, assemble and fit prosthetics with their children.

we simply help our community to realise their projects with the facilities we have. Our community is essentially anyone who wants to do something with us.

3.3. Case study 3: *War Veteran Helmet*

War Veteran Helmet is a project created by the internationally renowned Polish artist Krzysztof Wodiczko. Much of his work engages with marginal groups such as the homeless, refugees and victims of violence, providing them a platform for expression through public artworks, often involving elements of performance and projection. He has worked extensively with veterans suffering from Post Traumatic Stress Disorder or PTSD. The first version of the helmet was designed to protect the veteran from the gaze of the public, while at the same time, sharing some imagery. The helmet (Figure 3) has a visor at the front, which has inside it a small digital screen. If the veteran wearing it wishes to block out the outside world they can lower

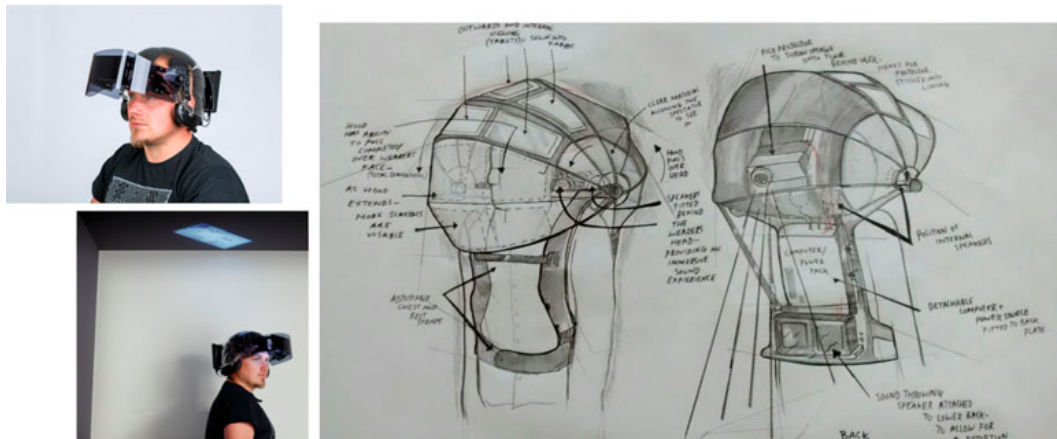
the visor and view media on the screen and hear sounds through some headphones. The back of the helmet contains a pico projector which points vertically upwards and can share what the veteran is viewing by projecting it onto the ceiling.

A second stage of the project was instigated in which the veterans engaged in a co-design process over several workshops to determine the form of a new helmet and what content it could show. The veterans decided that, instead of focusing just on isolation and protection, the new helmet should also be designed to meet and share experiences with the public. A central concept that emerged is the idea of an intimate meeting like a confessional mimicking the feel of chance public encounters such as lighting the cigarette of a stranger or sharing an umbrella in the rain. The veterans also decided that the material displayed should not just be depictions of war but more subtle references. For instance, one veteran shared that a 'trigger' for them, which gives them a feeling

Colour online, B/W in print

545

550



590

595

555

560

Figure 3. War Veteran Helmet—first model of helmet has a visor (upper left), which can be lowered to view media on a screen and hear through headphones. A pico projector in the rear of the helmet displays media on ceilings (lower left). A conceptual sketch of a new helmet designed for sharing experiences with the public is shown (right).

600

605

of panic, is the sound of passing traffic cones in a car with the window down because the beat reminds them of helicopter blades.

560

The group of veterans considered many alternative embodiments of the new design including umbrellas and canopies of various kinds. They also engaged in rapidly trying out ideas by mocking up designs using a small short throw projector. At the time of writing a conceptual design has emerged [Figure 3](#), right. This is based on a new form of wearable umbrella called a ‘Nubrella’, which has been adapted to carry tablet screens, speakers and a projector. The more open spacious design allows for sharing with the public but can also be closed to provide anonymity for the wearer if required.

565

570

575

The first helmet has been on display at FACT as part of the Liverpool Biennial 2016 exhibition and the second helmet and content remains in development.

580

4. Discussion

4.1. Diversity of activity

The case studies were chosen to show the diversity of projects, which we are involved in, and to illustrate similarities and differences in partners,

585

activities and approach. The In Hand phone app and Veterans helmet both address mental health whereas the Desktop Prosthetics project involves physical disability. The In Hand app project involves a digital creative industry partner, while the Prosthetics project is led by a local maker space and the Veterans helmet project involves an internationally acclaimed artist. All show, to some extent, active engagement with some form of community but differ in the role and degree of agency afforded the community. The In Hand project involves young people with mental health issues. The young people were involved in a true co-design process where their agency over the design of the mobile app and its marketing was as equal partners with the design agency. The Prosthetics project involved parents and children with physical disability in their hands. The maker space acts primarily as an enabler for this community to access a world-wide online community and to provide local access and support to physical resources such as 3D printing. During the prosthetic hack, the parents and children were able to assert agency over the design of the prosthetics and feed that back to the online community. The Veterans helmet project involves ex-soldiers with the mental health issue of PTSD. The veterans are engaged in a very deep and

605

610

615

620

625

630

personal way as they collaboratively explore their issues and stories, aided by the artist. In this case, the artist maintains principle responsibility for the aesthetic integrity of the piece at the holistic level. In a new phase of this project more co-design has been incorporated which includes veteran involvement in content and form.

It is also interesting to note how these case studies relate to the different teams within the arts organisation and their collaboration. The In Hand app was facilitated by the Young Peoples Learning Team, as part of their 'informal' learning strand and did not involve an exhibition component, but did lead to a public launch of the app. The Prosthetics project was instigated by the Exhibitions team as part of a show on maker culture. Our engagement team then facilitated contact and workshops with the parents and children. The Veterans helmet project was based on long term involvement with a veterans group and with our communities team. The exhibitions team collaborated to show this work in the gallery.

4.2. De-medicalisation and empowerment

An important aspect of the difference of how health and well-being are approached in an arts organisation as opposed to a clinical setting is the power relations in play and the role and agency afforded to the participants.

Medicalisation is the process whereby human issues and problems are defined as medical conditions and treated from a clinical perspective. Foucault's ([1963] 1975) 'Birth of the Clinic' and its conception of the 'medical gaze' and associated themes, has been used as a critique of medicalisation for some decades whereas others have advocated a more nuanced approach, highlighting the positive aspects of such power relations that Foucault himself described (Broom and Woodward 1996). The work at FACT adds to this discourse as a practice which de-medicalises the subject in various

ways. In each of the case studies the people are active participants to various extents. They contribute to a remediated image of themselves in which they are involved, and gain empowerment and agency through learning and doing. However, it is interesting that these projects can still have input from clinical actors but that the role of the clinician or clinical institution does not dominate the activity and the clinical gaze does not impose itself on the participants.

4.3. Why have these models of creative social engagement arisen now?

Our practice is part of a wider pan-cultural context which is complex, involving a number of cultural, social, economic and politic factors. Already, the digital has shown its immense power to change social interaction, challenging institutions to respond (Shirky 2008). New paradigms of innovation overturn long held assumptions about creativity and authorship (Baldwin and Von Hippel 2010), which echo debates of curatorship and audience engagement in the creative sector. New communities have arisen which adopt a social, collaborative and open platform for creativity and making, which may provide useful models to learn from (Anderson 2012). Indeed we call our participants the new commoners as they acquire knowledge and agency over the physical and digital commons of open resources.

A key question has been what methods can be used to combine the huge potential of the digital with the complexity of the real world to provide new insights and cultural value? The history of Interaction design (Moggridge 2006), provides a fascinating insight into engagement with this problem. Contemporary practice (Rogers, Sharp, and Preece 2011) provides an extensive range of approaches and tools, which can be adapted to our context through practice led research and research by design.

The arts, academic and commercial digital and creative industries sectors have all

680

685

690

695

700

705

710

715

720

725 recognised the importance of engaging the public, not just as passive audiences and consumers, but as active participants. Higher Education, for example, is increasing involved in engagement with the public, industry and regional partners in an activity, which has been referred to as the *third* mission of academia, after teaching and research (Jongbloed, Enders, and Salerno 2008). Universities increasingly recognise their civic role and agency in the creation of place.

730 4.4. Economic and political factors

735 However, we should also be aware of critiques based on economic and political factors. Austerity and intense competition in a global digital economy form the economic backdrop to cultural activity at present. The Art/Cultural Sector is therefore under increasing political pressure to make a strong case for public funding and to find new forms of innovative practices (Bazalgette and Davey 2013). Understanding the nature and potential of the digital at the cultural, social and economic level is essential for the continued well-being and prosperity of all.

740 Finally, we may question whether such developments are precipitated by neoliberalism, which seeks to operationalise the art sector, entrepreneurialise artist and participants, and measure its effectiveness in crude quantitative economic terms in return for continued support (Harvie 2013).

755 5. Conclusions

760 A new form of practice is developing in which cultural organisations are transformed from white cubes to centres for social action and learning. This concept has emerged pan-culturally in the arts, academia, creative industries and maker culture. The focus turns from the showing of art to its creation and the creation of agency in communities through enactive learning. We describe how FACT, a leading arts organisation in the UK has adopted this model through collaboration with academia

and a wider ecosystem of communities and stakeholders. The new model entails embedding of research, innovation and arts practice within the arts organisation itself. We illustrate the approach with examples of projects which have had a real impact on health and well-being of our communities.

Disclosure statement

No potential conflict of interest was reported by the authors.

Notes on contributors

780 *Dr Mark Wright* holds a joint appointment between FACT (Foundation for Art and Creative Technology) one of Europe's leading centres for new media, where he is Director of FACTLab and the Liverpool School of Art and Design at Liverpool John Moore's University, where he is co-director of the Contemporary Art Lab. Previously he has been a senior research fellow between Edinburgh College of Art and the School of Informatics at the University of Edinburgh. He holds a PhD from the University of Cambridge. His research interests centre around the relationship between arts practice, culture and technology and how new meaning unfolds from their interplay. Such an approach requires a focus on the development of new cross disciplinary methodologies encompassing the engagement of real communities through arts practice and co-design.

795 *Mike Stubbs* is director of FACT (Foundation for Art and Creative Technology), which is the UK's leading organisation for commissioning, exhibiting, promoting and supporting artists' work and innovation in the fields of film, video and new media. Mike Stubbs' work encompasses film, video, mixed media installations, performance and curation. He has won more than a dozen major international awards including first prizes at the Oberhausen and Locarno Film Festivals, and in 1999 he was invited to present a video retrospective of his own work at the Tate Gallery, London. A selection of his work was featured at the 2003 Adelaide International Film Festival. Trained at Cardiff Art College and the Royal College of Art, *Mike Stubbs* has worked for the Australian Centre for the Moving Image as Curatorial Manager. Previous to this, he was Senior Research Resident at Duncan of Jordanstone College of Art (Dundee,

AQ4 775

770

780

785

790

795

800

805

810

Scotland) and Director of Hull Time Based Arts, where he established several innovative schemes to encourage production and exhibition of new media art. He has produced installation group Granular Synthesis (Venice Biennale, 2002) and curated new media programmes for various international festivals. Art exhibited at FACT include works by Pipilotti Rist, Nam June Paik, Bill Viola, Apichatpong Weerasethakul and Isaac Julien.

References

- Anderson, C. 2012. "Makers: The New Industrial Revolution." *Crown Business*.
- Baldwin, C. Y., and E. A. Von Hippel. 2010. "Modeling a Paradigm Shift: From Producer Innovation to User and Open Collaborative Innovation." Harvard Business School Finance Working Paper No. 10-038; MIT Sloan Research Paper No. 4764-09. doi:10.2139/ssrn.1502864.
- Bazalgette, P., and A. Davey 2013. "Towards Plan A: A New Political Economy for Arts and Culture." RSA/Arts Council England.
- Broom, D., and R. Woodward. 1996. "Medicalisation Reconsidered: Towards a Collaborative Approach to Care." *Sociology of Health and Illness* 18 (3): 357-378.
- Buur, J., and B. Matthews. 2008. "Participatory Innovation." *International Journal of Innovation Management* 12 (3): 255-273. **AQ5**
- Clark, A. 2011. *Supersizing the Mind: Embodiment, Action, and Cognitive Extension*. Oxford University Press. **AQ6**
- Cutrofello, A. 2005. *Continental Philosophy: A Contemporary Introduction*. Routledge. **AQ7**
- Crabtree, A. 2004. "Design in the Absence of Practice: Breaching Experiments." Proceedings of the 5th conference on Designing Interactive Systems: Processes, Practices, Methods, and Techniques, 59-68. Cambridge: ACM Press. **AQ8**
- Dourish, P. 2001. *Where the Action Is: The Foundations of Embodied Interaction*. MIT Press. **AQ9**
- Foucault, M. [1963] 1975. *The Birth of the Clinic: An Archaeology of Medical Perception*. New York: Vintage Books.
- Harvie, J. 2013. *Fair Play - Art, Performance and Neoliberalism*. Palgrave. **AQ10**
- Jongbloed, B., J. Enders, and C. Salerno. 2008. "Higher Education and its Communities: Interconnections, Interdependencies and a Research Agenda." *High Educ* 56: 303. doi:10.1007/s10734-008-9128-2
- Moggridge, B. 2006. *Designing Interactions*. MIT Press. **AQ11**
- Rogers, Y., H. Sharp, and J. Preece. 2011. *Interaction Design: Beyond Human Computer Interaction*. Wiley & Sons. **AQ12**
- Shirky, C. 2008. *Here Comes Everybody*. Penguin Group. **AQ13**
- Weitz, Morris, ed. 1966. *Twentieth Century Philosophy: The Analytic Tradition*. New York: Free Press.

815

820

825

830

835

840

845

850

855

860

865

870

875

880

885

890

895

900