Situating within Society: Blueprints and Strategies for Media Labs
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History

Today's digital society functions with principles and innovation developed at research labs around the world over the past 50 years. So-called media labs have entered a phase of redefinition and soul-searching. There is a concurrent proliferation of labs that parallel a broader take up of technological practice. They can be industry labs, art labs, university labs or labs embedded in local communities. While the notion of a media lab can be conveyed in one word, there is not a single definition of what constitutes a media laboratory. Meanwhile, with the rapid democratisation of technology, the social relevance and purpose of the media lab has shifted away from a purely technological focus to a societal one.

Edward Shanken has retraced this history in his essay 'Artists in Industry and the Academy: Collaborative Research, Interdisciplinary Scholarship and the Creation and Interpretation of Hybrid Forms',[1] and focused on the projects and initiatives of E.A.T. and Philips in another essay, 'The History and Future of the Lab: Collaborative Research at the Intersections of Art, Science, and Technology'.[2] *The Future of the Lab*, a book published by Baltan Laboratories, assembles the key references in the field, including Michael Naimark's report for the Rockefeller Foundation,[3] and Walter Bender's recipe for the MIT Media Lab's success.[4] A history of UK labs is found in 'Media Lab Culture In The UK',[5] and an up-to-date listing of European labs has been published in a recent issue of *Musiques & Cultures Digitales*.[6]

There is a considerable history of meetings and networks of labs dating back to the ENCART consortium of European art labs that ran from 1997-2001 [7]. The *Future of the Lab* is situated squarely within a recent resurgence of lab networking that includes the TESLA-hosted meeting in 2008,[8] the European Commission's Lifelong Learning program-funded network LABtoLAB,[9] and the recent TASML symposium in China.[10] In the USA, the National Science Foundation (NSF) had its first joint meeting with the National Endowment for the Arts (NEA) in 2010 to map the landscape of interdisciplinary creative media research.[11] New networks continue to emerge, as seen with the session, 'Supporting a Network of Excellence in Interactive Art', programmed at the 2011 International Symposium of Electronic Art (ISEA).

Networking as a deliverable
The meetings described above are forms of research networking that are essential for a diverse field to coalesce. Some, such as the TESLA initiative, produced recommendations, in their case, for the Berlin city council. During its two years of activity the LABtoLAB initiative produced an online resource, and will produce a project end-report for the European Commission. Baltan Laboratories' contributions to these activities include a book derived from the 'Future of the Lab' meeting, and the present book, which, as a case study, contributes to future development of the field.

In order to take a set of challenges and identified potentials and implement a blueprint for future labs, a plan of action must emerge from these networking activities. This might include:

- Holding a series of annual symposia to foster networking;
- Creating a sustainable thematic track at an international conference with an open call for papers, publication of citable references, and archiving of activities
- Developing a series of workshops on interdisciplinary research practice to be delivered at established conferences and festivals in the fields of multimedia, human computer interaction, media art, media art histories;
- Establishing training programs where students and young researchers can learn about specific techniques relevant to media lab research;
- Creating an infrastructure for exchange so that students and researchers can be hosted for brief periods at different types of media labs;
- Publishing the authoritative book on the topic that is a peer-reviewed anthology with an internationally distributed publisher;
- Launching a website that is the pre-eminent reference and clearing house for the field that becomes a working platform for the networking taking place at symposia and conferences.

Organising these deliverables will require a community leader to step forward and commit resources, time, and energy. One possible funding source in Europe for this kind of activity is the European Cooperation in Science and Technology (COST Action) scheme.[12] For such a bid to be successful, it will need to demonstrate innovation, public utility, capacity building, and knowledge enhancement.

This must be done all while retaining the open-ended nature that is essential to the ways in which various lab operate. Part of the work is communicating established practice from a core group of early adopters to a rapidly expanding public. Ultimately it is the balance that is the fundamental challenge to both scientific research – maintaining rigor while remaining open to discovery, and artistic creation – balancing structure with new ways of looking at the world around us.

The impact of such an effort will be the creation of a community of diverse stakeholders invested in forging a shared vision on the shapes and structures of future media labs and a harmonised approach to interdisciplinary research. This will have a measurable follow-on effect in applying the vision to guide the establishment of new labs, education programmes, and opportunities for artists, scientists, and lay people alike.

Lab types
This text presents a de-politicised and non-positional scoping of the media lab landscape and indicates the challenges and potential of media labs to contribute in significant ways to contemporary society. Diversity is a recurring keyword that has come out of the networking meetings mentioned above. Broadly, there are four types of media labs: university labs, industry R&D labs, media art centres, and citizen labs. While this diversity represents the richness of the

area, it also reveals the fragmented nature of the field. Garcia proposes a typology [13] that is the basis for this non-exhaustive summary overview.

Industry labs: Industry-based media labs were built on the model of corporate R&D labs such as Bell Labs and IBM TJ Watson laboratory. Examples include Xerox Palo Alto Research Center (PARC) where inventions such as the computer mouse and the windows/menu-based graphic user interfaces were invented. Labs can be closed down, like Apple's Advanced Technology Group (ATG), or from their inception have defined life spans, like Interval Research's ten years. Industry media labs today include Hewlett Packard's HP Labs, Microsoft Research, Sony Computer Science Laboratory (CSL), Nokia Research, and Philips Research.

Media art labs: Europe has led the field in the area of media arts centres. The Ars Electronica Futurelab in Linz and the ZKM Center for Art and Media in Karlsruhe are forerunners in the field. C3 in Budapest was funded for a period of 10 years by the Soros Foundation before becoming self-sustaining. MCD magazine's special issue, 'Media Labs in Europe' describes the present landscape with topical essays as well as presentations of over 40 labs and artist groups. The relatively large number of Dutch labs, centres, and studios are discussed in Annet Dekker's essay in this volume.

In Japan, labs in the cultural sector are industry sponsored, such as Canon Art Lab (active in the 1990s) and NTT InterCommunications Center (ICC) founded in 1997, or they are supported by local government, such as the Yamaguchi Center for Arts and Media (YCAM), founded in 2003.

In North America, Canada has traditionally been a leader in the field with local and national support for media arts centres including one of the longest running, the Western Front in Vancouver; large arts centres with leading digital media facilities such as the Banff Centre in Alberta; and the Société des Arts Technologiques in Montreal. A leading example in the USA is Eyebeam in New York, founded in 1997.

University labs: The MIT Media Lab, founded in 1985, gave the field its name, and is rooted in American university lab dynamics of entrepreneurship and corporate sponsorship. More recently the Experimental Media and Performing Arts Center (EMPAC) was created in 2008 at Rensselaer Polytechnic Institute. In the UK, Culture Lab is at Newcastle University. The restructuring of European universities in response to the Bologna Accords has resulted in labs such as Media Lab Helsinki at the recently merged Aalto University. In France, Cybermédia, Interactions, Transdisciplinarité, and et Ubiquité (CITU) encompass several research labs of the University of Paris 8, and the recently founded EnsabLab in a leading design school.

Citizen labs: Grassroots movements and development of the creative Do-It-Yourself (DIY) scene have led to the development of community-based labs. Medialab Prado in Madrid is a grassroots media lab focused on citizen access, and funded by local government. Kitchen Budapest has a similar community-facing ethos, and is sponsored by the Hungarian Telekom. The other two partners in LABtoLAB – Constant, and PiNG – are from cities (Brussels and Nantes) where there are a number of initiatives, including iMAL, FoAM, Apo33. The concept of Hackerspaces codifies the operations and practice of community-based centres for creative technologies. These recent developments reflect the democratisation of technology, the increasing inclusion of digital media in all forms of cultural practice, and the increasing audiences that accompany these developments.

The art problem

Despite the diversity of laboratories that work with media, society, and technology, it is tempting to imagine a universal type of lab. Not only is this impossible, but it is important to note that art and culture might not necessarily be the focus of a universal media lab. Art labs in the cultural sector must recognise this, and have to be careful not to selectively draw on a broad history with specific agendas in mind. The MIT Media Lab, for example, is not an appropriate reference for

media arts practice, as it does not have a specific cultural remit. Similarly, an arts centre with media production facilities does not automatically constitute a research laboratory.

The field of media art as a whole has recently been threatened with forced extinction by government funding bodies. The Arts Council of England, in response to the Cameron/Clegg government's Comprehensive Spending Review in June 2010 cut funding to arts organisations by £1.8 million. An inordinate number of organisations losing all their funding operate in the field of digital and media arts.[14] This has triggered an ad-hoc organisation of the practitioner community, the Council of Digital Arts, which has drafted an open petition protesting the cuts and stressing the importance of digital creative culture.[15] In The Netherlands, a sweeping €20 million cut to the visual arts will likewise affect smaller arts organisations, including many of the media arts labs central to this book. This has also resulted in a public online petition.[16]

Without delving into the politics of state support for culture, the overwhelming impact of these recent cuts on media arts organisations underscores their vulnerability. Moreover, the activities undertaken in labs could also be seen as having been accepted by mainstream society to such an extent that they are no longer regarded as exceptional. Shanken cites Rauschenberg on the notion of an organisation's redundancy being a measure of its success. In his essay Hörtner observes that, 'the integration of "digital" into all areas of life – is now essentially a completed process', thereby moving the goalposts and redefining what is at stake for media labs today.[16] Any future strategy for media arts labs, and media labs as a whole, must take into account what is essentially the vulgarisation of the digital.

Social relevance
Throughout the 1980s and 90s, innovation in this area was technology driven. Today, with the wide-ranging penetration of broadband and mobile technologies, innovation in digital media is moving towards issues relating to access, cultural meaning, sustainability, and social benefit. There has thus been a profound shift in focus from one of technology innovation to one of social innovation.

The model of the media lab as an interdisciplinary research centre and as a motor of innovation driven by the creative application of digital technologies has made fundamental contributions to today's information society. There is a need today to facilitate the exchange of ideas and establish best practice to aid in bootstrapping shared understanding across cultural and scientific disciplines. What is at stake is a vision for the role of the media lab in contributing to culture and well being in the broad sense.

A new model for the media lab needs to be formulated to respond to these shifting contexts. We must look at new societal contexts to formulate a vision for a future media lab that is not only driven by technology but also by strategies for sustained development and increased social relevance. There is broad societal benefit whereby a media lab that is configured in the ways defined by this action will be one that is more engaged with the society within which it exists.

Such a vision will facilitate the exchange of knowledge and the transfer of technology beyond experimental media art to all forms of cultural production, creating pathways for the increasing use of digital technology in traditional art forms. This will result in new audiences and broader participation.

These are the elements that make up the contested Creative Industries discourse. The Creative Industries sit at the intersection of cultural activity and business, and include television, film, the music industry, and digital media. The UK economy has one of the most highly developed creative industry sectors worldwide, accounting for 6.2 per cent of the Gross Value Added (GVA) and employing nearly two million people.[18] The cultural sector has an uneasy relationship with the creative industries, sensing the risk of being instrumentalised for economic gain.

The issue is not straightforward, and is not only about whether purely artistic pursuit is still valued, or in what way non-commercial cultural projects may or may not be state-subsidised. The place of the digital is even more complex, with ongoing discussions about whether it is a tool, a facilitating technology, a communications channel, or a creative medium unto itself. The assimilation of digital technologies into everyday life is endangering the existence of interactive media art. At the same time, the social place of art has evolved and is now far removed from the romantic bourgeois concepts of the 19th century. Contemporary artistic practices, including those in the media arts, often seek to forego the individual ego, open up the process to be participatory, and distribute authorship.

To broach these issues deeply, we are able to draw upon a range of contemporary thought in scientific, artistic, and social science theory. This includes theories of science and society,[19] practices of everyday life,[20] technology as extensions of man,[21] critical media theory,[22] and theories of sense-making, social ties and new economies.[23] Included in this broader theoretical framing is the literature on creativity.

Creativity
Creativity is often seen as the elusive magic that is essential to what makes us human. Creative acts play important roles in all aspects of life, not just in the arts. It is the creative spark that leads to innovation in research.

The commodification of creativity has given rise to the creative industries. The term Creative Class refers to the socioeconomic sector of creative professionals who contribute to the economic regeneration of post-industrial cities.[24] Similarly, terms such as the Experience Economy draw upon creative output as elements of a post-service-era economy where monetised value can be attributed to individual lived experiences.[25]

While it is important that we recognise the value of creativity, there is a fundamental contradiction in objectifying it. Creativity is not a commodity in the way that natural resources, industrial output, or services can be considered commodities. While the very arrival of the creative industries is built on the pioneering work of media labs that started two decades ago, the remit for today's labs is to not play into these structures, but to continue to imagine, invent, and innovate.

Research into creativity has evolved significantly in the past 50 years, and is today highly relevant to the post-romantic configurations of artistic practice described above. Early research in the field focused on biographies of creative individuals,[26] with an emphasis on individual differences and on the assumption that creativity is innate. This work tended to concentrate on the creative person and not the creative situation. Gardner leads recent thinking by using cognitive approaches to study creative problem-solving, noting that classical problem-solving revolves around finding one solution, whereas creative problem-solving involves divergent thinking that may produce a multitude of solutions to a single problem.[27] Amabile focuses on motivational models, observing that intrinsic motivation fosters creativity while extrinsic motivation can hinder it.[28]

With this, we begin to understand how the instrumentalising nature of the creative industries may indeed be incompatible with artistic process. Meanwhile, opening up creativity beyond the domain of the artist and making a more democratic model of creative practice holds enormous potential for social benefit and is consistent with the community focus of citizen media labs. The now omnipresent digital technologies present an opportunity for media arts practitioners to propose socially relevant and critically perceptive counterpoints to otherwise positivist technology engineering and development.

Two Cultures

It is with *The Work of Art in the Age of Mechanical Reproduction* that Walter Benjamin proposes a critical examination of modern technology's impact on culture.[29] Scientists have a similar legacy in Alfred North Whitehead, whose *Science in the Modern World* situated science in culture, and re-examined truisms of classical science in light of then new developments such as the theory of relativity.[30] The potential intersection, or lack thereof, of art and science was broached by C. P. Snow in his 1959 Rede Lecture, 'The Two Cultures'.[31] It has come to symbolise the supposed dichotomy between the humanities and the sciences. In the 50 years since then, this premise has been confronted and addressed during the evolution of each respective domain.

In his seminal work on the place of science in society, Bruno Latour looks at the practice of science and situates scientific practice within a broader societal context. In *Science in Action*, he describes scientific tradition as a cultural practice and looks at social constructs that lead to the articulation of scientific principles. He then unwraps these principles and proposes an alternative, process-based interpretation of the scientific canon, moving from 'Ready Made Science' to 'Science in the Making'.

Latour proposes an ethos where scientific practice is inextricably embedded in the society that surrounds it. This vision is very similar to visions of artistic practice as a product of and a reflection on the world around it. Methodological differences or not, here is a view that situates processes of art and processes of science within culture.

Art and science share the quality of being open-ended exploratory pursuits. In both the sciences as well in the arts, the effects of specialisation stifle out-of-the-box thinking through compartmentalisation. It is through the interdisciplinary work of media labs – be they arts centres or technology labs – that we benefit in ways unheard of in Whitehead's or Snow's times, with structures and infrastructures that encourage curiosity-driven investigation, action research, and collaborative practice.

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