

Navin Doloswala

AEGIS

University of Western Sydney

L8 263 Clarence Street

Sydney Australia

k.doloswala@uws.edu.au

Abstract

The purpose of this paper is to discuss the role that networks play in the composition process of electronic music production. The networks that are referred to here are not limited to interpersonal networks but rather draw on Callon's discussion of techno-economic networks. Callon's description of techno-economic networks will be explored in relation to electronic music composition, with the network being described as the interplay of people, programs and sounds/samples. In acknowledging the interplay between these three types of actors and intermediaries a range of policy opportunities will be discussed. The paper suggests that policy instruments that promote the interactions within these techno-economic networks can lead to positive outcomes for individual participants, the field and policy agencies. The paper seeks to contribute to better understandings of mechanisms to support new media development.

Introduction

The purpose of this paper is to discuss the role that networks play in the composition process of electronic music production. The networks that are referred to here are not limited to interpersonal networks but rather draw on Callon's discussion of techno-economic networks. Callon's description of techno-economic networks will be explored in relation to electronic music composition, with the network being described as the interplay of people, programs and sounds/samples. In acknowledging the interplay between these three types of actors and intermediaries a range of policy opportunities will be discussed. The paper suggests that policy instruments that promote the interactions within these techno-economic networks can lead to positive outcomes for individual participants, the field and policy agencies. The paper seeks to contribute to better understandings of

Viewing electronic music arts funding through the lens of emergent networks: Policy implications

mechanisms to support new media development.

The art of sampling in many genres has undergone a significant decline as a consequence of cumbersome legal processes and the fear of litigation. Initiatives in the creative commons and recording technologies are once again opening pathways to this creative process.

Online collaborative environments are now impacting on the extent to which artists are able to interact beyond the restrictions of geographic proximity. Initiatives making it to the popular press such as www.garageband.com, www.loopwise.com and www.ejamming.com (Holloway 2005)– suggests that there is a need for policy to intersect with, interact with and acknowledge emergent networks. Rather than the development and promotion of these emergent network initiatives being provided by industry or committed individuals and organisations there is a need for policy level analysis and intervention in this area. This papers suggest that adopting a 'creative networks' perspective rather than an individual creators perspective may shed light on how to increase innovation, diversity and output in the electronic music segment of the creative arts. This paper suggests establishing a framework to facilitate the emergence of networks rather than being only focused on the provision of individual, project or key organisation funding. It does not however suggest that governments, through policy instruments should necessarily construct and direct the formation of specific network forms. This approach shares some commonalities with the Australia Councils new restructure in moving towards being an 'agent of support and change rather than the central funding provider' (Bott 2005) and attempts to include support for the arts on other departments agendas. The propositions suggested however have not been subject to empirical testing and are thus

raised as a means of generating discussion and debate over the best approaches to supporting sound arts in Australia.

Castells overriding framework of information-alisation will help to position the analysis. An outline of Callons key points in relation to technoeconomic networks will follow. Situating creativity will be discussed which will lead to an outline of the policy framework in relation to this discussion of creativity. The funding structure and experience of the past three years through the New Media Arts Board of the Australia Council will be analysed. This will raise for consideration and comment an approach that promotes the network formations outlined as a possible mechanism for achieving complexity, diversity and interaction within the art form. Finally a number of possible approaches to establishing these emergent networks will be discussed.

The broad framework

The broad framework within which I wish to situate the discussion of Callon's techno-economic network is Castells Informationalism and the network society. Castells contends that it is 'through available electronic information and communication technologies that the network society can deploy itself fully transcending the historical limits of networks as forms of social organisation and interaction' (Castells 2004 6). A paradigm shift to informationalism. Castells argues that this paradigm shift from industrialism to informationalism is characterised by three distinctive features of the technologies involved.

- their self expanding processing and communicating capacity in terms of volume, complexity and speed
- their ability to recombine on the basis of digitization and recurrent communication
- their distributed flexibility through interactive, digitization networking

(Castells 2004 9)

It is in the feedback potential of communication technologies that Castell suggests is unique about high bandwidth communications. Technological innovations fueling further innovation leading to emergent properties, the ability to derive new unforeseen processes of innovation by their endless reconfiguration. It is this ability

of the internet to introduce, reintroduce, configure, and reconfigure information in synchronous and asynchronous time that marks current communication technologies apart from the past.

Acknowledging this broad framework I wish to examine specific types of networks and their interactions within this broader communications paradigm.

Techno-economic network

components

Callon describes techno-economic networks (TENs) as a product of interaction between intermediaries and actors. Actors interact with intermediaries in the creation of networks. These actors, which can be people are defined as actors through the process of authorship, and this act distinguishes them from intermediaries. An actor is an intermediary that puts other intermediaries into circulation (Callon 1992 141). Intermediaries according to Callon is 'anything passing between actors which defines the relationship between them' (Callon 1992 134). Thus to draw together sociological and economic approaches Callon contends that 'actors define one another in interaction – in the intermediaries that they put into circulation' (Callon 1992 135).

Callon's argument suggests that people, technologies, written articles and software can be both actors and intermediaries. For the purpose of this argument it is not so relevant how they are specifically labelled within this framework. It is acknowledged that in differing configurations and at different times the role of the author may shift between individuals and software. What is more important for this analysis is recognising that the network, or rather some networks of electronic music creation involve the continual interaction between artists, programs and samples. This network of course does not describe all electronic music composition – far from it. It rather describes and comments on a segment of this broader art form, industry and cultural practice.

Callon then defines techno economic networks as 'a coordinated set of heterogeneous actors which interact more or less successfully to develop, produce, distribute and diffuse methods

for generating goods and services' (Callon 1992 133).

The networks

Kuppers & Pyka suggest in the conclusion to *Innovation networks: Theory & Practice* that one of the principal reasons hindering industrial innovation systems achieving their objectives is the difficulties and failures in technology transfer in closed systems with heterogeneous actors (Kuppers and Pyka 2002 215). These challenges, in part, attributable to discontinuities between codified and tacit knowledge. In industrial systems codified knowledge, the language of specifications, manuals and written knowledge, is both dominant and generally most easily transferred. I suggest that within the composition of music and sound with electronic instruments, a cultural practice and expression, a different set of relationships exist. These relationships are structured to a greater degree around tacit knowledge, knowledge developed through practice and in part shaped by play. However I further suggest that this tacit knowledge development is also informed by elements not so visibly evident in industrial production. Within industrial production this tacit knowledge is some of the most challenging to transfer and replicate. Within electronic music composition some of this tacit knowledge transfer is enabled through the cracking (breaking software codes) and sharing of electronic instruments. This represents a modality through which the components of Callon's network are able to translate each other; to interact. This is also supported by user communities, email lists, blogs, RSS feeds, learning by doing and play. These all represent, whether legal or illegal, the ways in which Callon's actor networks interact and operate.

Pekka Himanen suggests that one distinction between the industrial society and the networked society is that in the informational economy there is very little work that can be done in isolation, rather most innovative work is performed within networks of innovation (Himanen 2004 426). The networks Himanen and Granovetter refer to are human interactions, Granovetter raising the importance of weak ties between people (Granovetter 1983). I contend that there is also a significant dynamic

that has been unrecognised at the Arts funding policy level. That is the networks of people, software and sounds/samples.

Creativity

From a cognitive perspective, creativity is the ability to perceive new connections among objects and concepts – in effect, reordering reality by using a novel framework for organising perceptions (Carayannis and Gonzalez 2003 588). This cognitive process occurs both at the individual level and at the group level. Organisational studies of creativity, such as that done by Drazin, have demonstrated that creativity is both an individual and a group level process (Drazin, Glynn et al. 1999). Becker encourages us to think about how art emerges as a result of a huge number of choices, and an acute and perceptive sense of editing, rather than appearing spontaneous (Negus and Pickering 2004 80). The arguments over whether the spread of electronic instruments, pre sets and the standardisation of tools are expanding or constraining creativity are beyond the scope of this paper and are a continuing debate. However I contend that as a consequence of this distribution of tools the amount of interaction (at Callons techno economic network level) is expanding at the artist, professional amateur, enthusiast and tinkerer levels. This access to a field is raised by Csikszentmihalyi as being an essential ingredient to creativity (Csikszentmihalyi 1996).

The Helsinki agenda highlight this in stating "Global new media culture is articulated through a series of interrelated hubs, overlapping networks and connected processes. Organizations, initiatives, individuals and agencies, as well as events and festivals, act as these hubs, enabling a systemic energy and dynamism" (Czegledy, Diamond et al. 2004 2). This document highlights that creativity occurs at a level of interaction that is mediated both in geographical space but also through the virtual. Thus approaches that foster creativity beyond geographic clustering are necessary and should be recognised at a policy level.

Institutions

Sotarauta & Srinivas in their discussion of innovative regions contend that institutions are im-

portant as they frame the choices and actions of many agents and therefore they play many roles in the co-evolutionary processes (Sotarauta and Srinivas 2005 36).

They further postulate that 'at best it is dynamic capabilities that connect various actors together in a city region, and link them to global flows and networks. On the other hand disconnected or missing capabilities may lead to deteriorative processes (Sotarauta and Srinivas 2005 39). Thus dynamic capabilities need to be approached from three points of view: the point of view of the individual actors, the point of education and research institutes and from the policy making view. The best case impact is that these three perspectives work in concert and form dynamic capabilities. This is often not the case. Thus the institutional frameworks are the guiding framework for evolutionary processes and by reinterpreting and shaping institutions policy makers can direct many emergent processes indirectly.

So I suggest is that it is not only internal network conditions but also the policy environment which structure each other. The interaction between participants and how these interactions are facilitated by and moderated by policy environments has significant development implications. Thus when the primary Arts funding mechanism is individual support grants this has an impact on how the field organises itself.

In a review conducted by the Australian Expert Group in Industry Studies, commissioned by the Department of Communications, Information Technology and the Arts (DCITA) it was found that almost all government arts and cultural departments and many major cultural institutions in Australia are seeking to include social impact in the targets they set for policy (Marceau and Turpin 2004 39). Indeed engaging communities and building social capital is one of the three major goals for new arts policy.

The Creative Queensland policy reflects a whole of government approach to engage with cultural development mechanisms and develop best practice. One approach of doing this is to focus on a sense of place. What this paper suggests is that in addition to the instruments (initiatives) that focus on place, and the relationship that people have with places, what is also needed

from a policy perspective is a recognition of the placeless network spaces. The agora of virtual communication and collaboration. In a very real sense it is taking one of many steps beyond initiatives to improve community access to the internet, for example.

This paper suggests that greater attention be brought to bear in the construction of policy instruments of facilitating virtual networks. This does not necessarily mean that policy institutions should be directly involved in creating collaborative environments. This approach represents one aspect of how policy can support the emergence of creative networks.

Current policy situation

The structure of arts funding in Australia remains structured around finding and supporting talented and creative people or groups. While there exist specific instruments that seek to fund collaborations between either groups of artists within a specific art form (New Media Art) or across a number of art forms (Hybrid Art) the collaborations must be already formed, existing in a complete enough form to complete the application form and concretely visualise and articulate approaches, outcomes and artistic merit of a collaboration prior to funding being granted.

A competitive environment in terms of funding allocations leads to 'survival of the fittest' outcomes. Those who succeed are the ones with the most experience in not only coming up with creative ideas but also those who are experienced in writing to address selection criteria and in the language of grant application writing.

Additionally there is key organisation funding, either on project or triennial basis. The next section comments on these in turn.

What is the funding experience?

Individual Project funding

A document based analysis of the New Media Arts Board Assessment Meeting reports for the past three years was conducted. The basis used for the reallocation of funds to the Visual Arts Board/Music Board adopted a 80/20 split based on the funding experience of the last three

year period and an artform context assessment (Donovan 2005). Using this basis the funding allocated to music/sound based projects on an annual basis is contained in the following table

New Media Arts Board - Sound/music			
Annual Figures			
	New work Applications	Ap- proved	Amt granted
2004	27	3.6	\$ 89,379
2003	19.4	3	\$102,988
2002	20	4.4	\$105,674

New Media Arts Board Assessment meeting reports 1/11/2004, 1/5/2004, 1/11/2003 and 1/11/2002. 80/20 split used to reallocate New Media Arts Board funds between Visual Arts Board and Music Board.

These figures are clearly not representative of music/sound arts activity in Australia. Based on these statistics it is clear that arts funding via individual projects concerning electronic music/sound are not adequately supporting sound based artistic endeavours.

It is recognised that many new media arts projects involve electronically generated sound and music. This analysis looked at funding where sound/music was the principal outcome. It is further acknowledged that a number of new media projects may be funded under different areas of the Australia Council (eg the Music Board and the Performance Board) however there are no adequate reliable statistical data on total support for new media arts. A more complete understanding of this is an objective of the scoping study planned by the Inter Arts Board of the Australia Council.

Accommodating this overlap was also considered and some analysis of the Music Board Assessment meeting reports was also conducted. It was notable that under this board funding was primarily utilised for the development of recording projects, attendance at festivals, study, presentation and promotion and individual or group new work development. Additionally funding of projects to establish develop and strengthen international networks was a common theme.

Key Organisation funding

A comprehensive review of the key organisations supported by the Arts Council is not possible within the remit of the current paper. Indeed, given the establishment of the Key Organisations section within the restructured organisations and the intention of the 'scoping study' to identify the support of new media arts over the past 10 years, it appears beyond easy analysis within the Arts Council also.

However some general comments may be inferred from the documentation provided under the Assessment Meeting Reports of the New Media Arts Board and the Music Board. A remit of all organisations receiving project and triennial funding appears to be the promotion of networks. This is achieved through membership, email lists, links, festivals and other initiatives not apparent to a desk based review.

The New Media Arts Board Assessment Meeting Report for application closing date 1 May 2003 states 'The assessment meeting had a focus on infrastructure for new media arts with the Board considering, along with the project grants, its Key Organisations categories of Triennial and Program grants. Foremost in the minds of Board members was balancing limited infrastructure for new media arts and the need to remain responsive to new developments in the field' (Board 2003 5).

Of the Key Organisation and Program Grants funded I draw attention to two initiatives in particular:

The first is MAAP. MAAP was established to bring focus to "unmapped" new media cultural content emerging from the Asia Pacific regions. MAAP has now grown into an Asia Pacific touring new media art festival and web site resource partnering with key organisations in the region. MAAP will continue regional festivals in Beijing 2002, Seoul 2004, Singapore 2003, and Brisbane 2005 to expand exposure and research in the region. MAAP specialises in showcasing the work of the region's major and emerging new media arts practitioners, creating new networks, introducing the artists and their work to audiences, and increasing cultural contact and understanding through the experience of new media arts. MAAP is the atlas of the new world - the place where culture, art, technology, and the dynamism of the Asia region come together.

Now in its 5th year, MAAP has established itself as the Asia Regions pre-eminent new media arts festival. MAAP encompasses 14 countries in the region and is the only new media festival to focus on Australia and the Asia Pacific regions. (<http://www.maap.org.au/>)

The second is a program under the triennially funded Key Organisation ANAT. The ANAT New Media Lab 2005 will be an intensive two week full time workshop for Australian new media arts practitioners. The aim is to provide an environment for 15 - 20 established new media artists to come together, network, develop skills and seed new projects. It will support collaboration and exchange and investigate the potential and possibilities of emerging media. The ANAT New Media Lab is unique in Australia and is the only intensive professional development opportunity specifically aimed at new media artists.

Both of these initiatives focus on the development of interpersonal networks, (suggestive of Granovetter's weak ties hypothesis (Granovetter 1983)) within a physical space of interaction; a festival and a workshop. With the intention that further network connections will emerge from this initial concentration. In adopting Callon's techno-economic approach to the definition of networks new understandings are evident. On the one hand it recognises that interactions occur between people and technologies, between actors and intermediaries. It also provides a new basis upon which to consider the emergence of networks. That is by facilitating connections at this level it moves away from a once off event towards a continual interplay of actors and intermediaries.

I commend the actions of these organisations in their creative network development. However I raise the question how is the development of creative networks best achieved? Is it conducted through organisations that must continually apply for ongoing funding and the development of network focussed events? The impact of not being successful being felt not only within the organisation but also in the loss of network connections (between people) that would have eventuated had the funding been granted. This paper suggests that while individual grants and organisational funding is important an exploration of emergent networks is required. That the burden of establishing, supporting and developing creative networks should not only be the responsibility of committed individuals, organisations and firms. Nor

should it be the responsibility of a single arts funding organisation.

Areas of further attention

So what does this extension of the network approach mean in tangible terms from a policy perspective? I raise a number of propositions with respect to further research and investigation. These propositions have not been empirically developed and tested however the intention is that my thesis will inform these areas.

It suggests that further research is needed on understanding the role of illegal software in the music production process. With the directions that the industry is heading (with IP legislation and the intermediaries of the established music industry read here the big 5 record labels and the army of IP enforcers) constraining the extent to which artists and producers can 'stand on the shoulders of giants to reach further' how long before the lens is brought to bear more critically on the production process.

Additionally further research or activity is required on the availability of intermediaries to agents. This may involve a grater support/understanding from a policy perspective on the initiatives occurring within the creative commons framework.

Incentives developed to promote emergent networks can be based in geographical space or virtual space. Examples of geographically oriented network spaces are incubators, networking functions and festivals. It could be argued that increased internet penetration to disadvantaged areas may also represent a support for network however it is not merely in increasing the ability of people to check their emails but rather workshops in software through public internet locals (eg public libraries/youth centres). Thus the key is actively engaging intermediaries in the creation of emergent networks. This approach additionally echoes the 'whole of government' approach being adopted by the Australia Council in placing arts funding on the agenda of other government departments and responsible offices.

One of the challenges that funding/policy bodies will need to at some point face is the ownership conflict within the networks described previously. However there are opportunities pro-

vided by the open source movement that represent an approach of strengthening these networks without transgressing on IP constructs.

References

Board, N. M. A. (2003). Assessment Meeting Report : Application Closing Date 1 May 2003, Australia Council for the Arts.

Bott, J. (2005). Australia Council Sydney Public Meeting, MCA Sydney.

Callon, M. (1992). Techno-economic networks and irreversibility. *Sociology of Monsters*. J. Law.

Carayannis, E. and E. Gonzalez (2003). Creativity and Innovation = Competitiveness? When, How and Why. *The International Handbook of Innovation*. L. V. Shavinina, Elsevier Science Ltd: 587-606.

Castells, M. (2004). Informationalism, networks and the network society: a theoretical blueprint. in *The Network Society a cross cultural perspective*. M. Castells.

Csikszentmihalyi, M. (1996). *Creativity: flow and the psychology of discovery and invention*. New York, Harper Collins Publishers.

Czegledy, N., S. Diamond, et al. (2004). Helsinki Agenda: International Expert meeting on media arts and media culture policy. ISEA2004, the 12th International symposium on Electronic Art., Helsinki.

Donovan, A. (2005). Director Inter Arts Australia Council. Sydney: telephone conversation.

Drazin, R., M. A. Glynn, et al. (1999). "Multilevel theorizing about creativity in organisations: A sense making perspective." *The academy of management review* 42(2): 125-145.

Granovetter, M. (1983). "The Strength Of Weak Ties: A Network Theory Revisited." *Sociological Theory* 1: 201-233.

Himanen, P. (2004). *The hacker ethic as the culture of the information age. The network society*. M. Castells. Cheltenham, Edward Elgar.

Holloway, D. (2005). *Making music online*. SMH. Sydney: 10.

Kuppers, G. and A. Pyka (2002). *Conclusion. Innovation Networks: Theory and Practice New horizons in the economics of innovation*. A. Pyka and G. Kuppers. Cheltenham UK, Edward Elgar.

Marceau, J. and T. Turpin (2004). *Social Impacts of Participation in the Arts and Cultural Activity Report on stage 2: Evidence, Issues and Recommendations*. Sydney, Australian Expert Group in Industry Studies (AEGIS) University of Western Sydney.

Negus, K. and M. Pickering (2004). *Creativity, communication and cultural value*. London, Sage Publications Ltd.

Sotarauta, M. and S. Srinivas (2005). *The Co-evolution of Policy and Economic Development A Discussion on Innovative Regions*, MIT Industrial Performance Centre Special Working Paper Series on Local Innovation Systems.