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Creativity & Cognition Studios

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Undivided Diversions

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Abstract

This paper will outline some instances of 'tekhnē', the Greek term for art, incorporating the tool and its expression in the hands of the protagonist regardless of the outcome of the purposeful creative act. With examples of work from various domains, it will argue that cross-disciplinary, practice-based work in studio and laboratory, in moving towards the dissolving of historical divisions in the generation of knowledge or experience, will be central to giving form to future work for and of, social engagement.

With examples drawn from the historical and contemporary record, the often tense and antagonistic relationship between the arts, science and technology will be briefly surveyed. If we are to both locate new forms and find them meaningful and pleasurable experiences, then it will be necessary to open ourselves to interdisciplinary practice not defined by restricted languages, jaded tastes and faded ideologies.

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Introduction

This paper will address the aesthetic possibilities of interdisciplinary approaches. The expression best describes my practice as it has developed over the last 30 years or so. It is a practice in common with a many other artists, some of whom I will discuss. But our interdisciplinary approaches are rarely described by ourselves in terms that can be understood by those who encounter its outcomes. It is only recently that interdisciplinary practice-based research has been formally recognised by academia as a basis for the making art. Some would say the recognition has been at a cost, but I will cover some of the benefits observed through the opportunity to work across the artificial divides created by disciplines and departments and the constraints they maintain for what can only be described as administrative convenience.

The divisions may have something to do with attitudes inculcated at an early age. Artists have skill, with tools, such as brushes and language, and sometimes rational thought; Scientists have knowledge, with evidence from, and logical thought about, the material world. Simplistic descriptions like this represent attitudes still promulgated by the media for instance, and are held by the majority of Western populations.

Diversions

John Ruskin wrote in 1883 that:

“With increasingly evil results to all of us, the separation is every day widening between the man of science and the artist Such men not only do not desire, they imperatively and scornfully refuse, either the force, or the information, which are beyond the scope of the flesh and the senses of humanity.” Deucalion V1 Ch2 (Clark 1967)

The online Oxford English Dictionary reflects the complexity of meanings around the word artist: One skilled in the ‘liberal’ or **learned** arts; ...a scientific man, man of science, ... a medical practitioner, physician, surgeon, a professor of magic arts or occult sciences; an astrologer or alchemist; a chemist and One skilled in the **useful** arts ... a skilled performer, a proficient, a connoisseur, a practical man, (as opposed to a theorist), an artificer, mechanic, craftsman, artisan; one who makes his craft a ‘fine art. (This includes by way of illustration a quote from the Pall Mall Gazette, 12th May 1883 “Artists from the National Training School of Cookery will show the public..how fish ought to be cooked.”).

One who pursues an art which has as its aim **to please**, who cultivates one of the fine arts, in which the object is mainly to gratify the æsthetic emotions by perfection of execution, whether in creation or representation. One who practises **artifice**, stratagem, or cunning contrivance; a schemer, a contriver - the OED by way of illustration credits The (*Sydney*) Bulletin on 22 Aug 1934, with the neologism ‘booze-artist’....(OED 2004) At this point as artists we can ask ourselves, where does my practice fit? Learned; useful; pleasing or artificial?

Scientist comes from the Latin *scientia*, meaning knowledge. It was a branding mission in 1834, recorded in the Queens Review, that sought to find a name for the person practising science:

“...the want of any name by which we can designate the students of the knowledge of the material world collectively. ... some ingenious gentleman proposed that, by analogy with *artist*, they might form *scientist* ...” (OED 2004)

So there we have it, artists have only ourselves to blame for inspiring one group of people to lay claim to knowledge. A few years later in 1840 Blackwell's Magazine stated that 'Leonardo was mentally a seeker after truth - a scientist; Coreggio was an assertor of truth - an artist.' If absolutes of this kind can be disregarded today we will be able to understand more completely the dynamics of creative people, when they make stuff in the studio, office, laboratory, or workplace, and as they adapt to changing times.

New Media

Photography arrived on the scene at about the time scientists were organising themselves into the omnipotent lobby group they have since become – branding: it's powerful stuff. Branding represents the mind-sets and knowledge silos that divide us today. In the year 2000, I wrote:

“There are few photographic venues or screens where the term ‘new media’ is regarded as anything but meaning the newer technologies. It has been a development path to which photographic practice has constantly contributed and from which its practitioners, both professional and amateur have received benefit. The time-based technologies used to ‘fix light to a time signature’ have likewise been in constant flux, each component in the tool chain being honed and eventually replaced. The act of making an image has been wholly integrated within this evolution, procedures and technology defining outcomes alongside the imagination and the skill of the artist.

Such a blending reminds us that the root of the word is TEKHNE (τέχνη) from the Greek word, meaning ‘art’. It came into usage about six centuries ago, at about the point oral culture was beginning to use the new technology of *graphie* or writing which was to move Indo-European culture toward a state of empirical consciousness dominated by literacy and numeracy.” (Leggett 2000)

The newer technologies, from aesthetic databases to written language itself, have happened as a result of a relationship between materials, and the thought and needs of creative people. We could not have foreseen that the 19th Century cinematograph would lead to video installations in art galleries, or a myriad of genre forms on television, in games arcades and now on mobile phones. Time-based media evolved from a flux of relationships between people. As a communication process it was uneven and inconsistent, involving the complex interplay of artists (using the broad OED definition), with entrepreneurs and audiences. Artists active in accelerating these processes for more tangible social outcomes, worked between the established infrastructures of the so-called communication industries of the popular and the elite arts. Norie Neumark described this process:

“... to be involved with communicating for artistic concerns, to play with communications technologies and bureaucracies, as artists or artist/activists in various new groupings and configurations is very different from operating within information industries. The artists, even the most activist of them, were not seeking some transparent version of communication. Artists working with and using communication media and networks brought with them an awareness of their medium. And although the information age was then in its early days and information was already a direct concern for some, these artists were not turning on some electric light of pure information.....” (Chandler & Neumark 2005) pp12

Case Study

In an attempt to communicate to other artists, teachers and students in art schools about the new media of the early-70s, video, I made a poster, recently unearthed. Between 1971 and 1972 I was working quite intensively with the first generation of ‘industrial’

video cameras, monitors and spool-to-spool recorders. I was a part-time lecturer at various colleges of art so had access to low bandwidth video facilities. Teaching institutions, if not individuals, could afford to purchase low-band video at this point as it had low running costs as well as good pedagogical prospects. The Poster, 'Video + Video/Film – Some Possibilities Suggested by Some Experience,' emerged from several converging circumstances. My background working with photography and 16mm film, both as a film-maker artist and as a film editor and cameraman in the television and film industries, made my entry to working with this technology a soft one compared to those artists coming from the more traditional trainings in the 60s of painting, sculpture and print-making.

In the course of working with art students and collaborating with other visual artists during this period, I began noting the processes of understanding and identifying the specificity of the video medium; the options that were taken during the development of a work, the interweaving of the plasticity of this time-based image with looping decision-making processes that occurred before a final sequence was committed as completed to videotape.

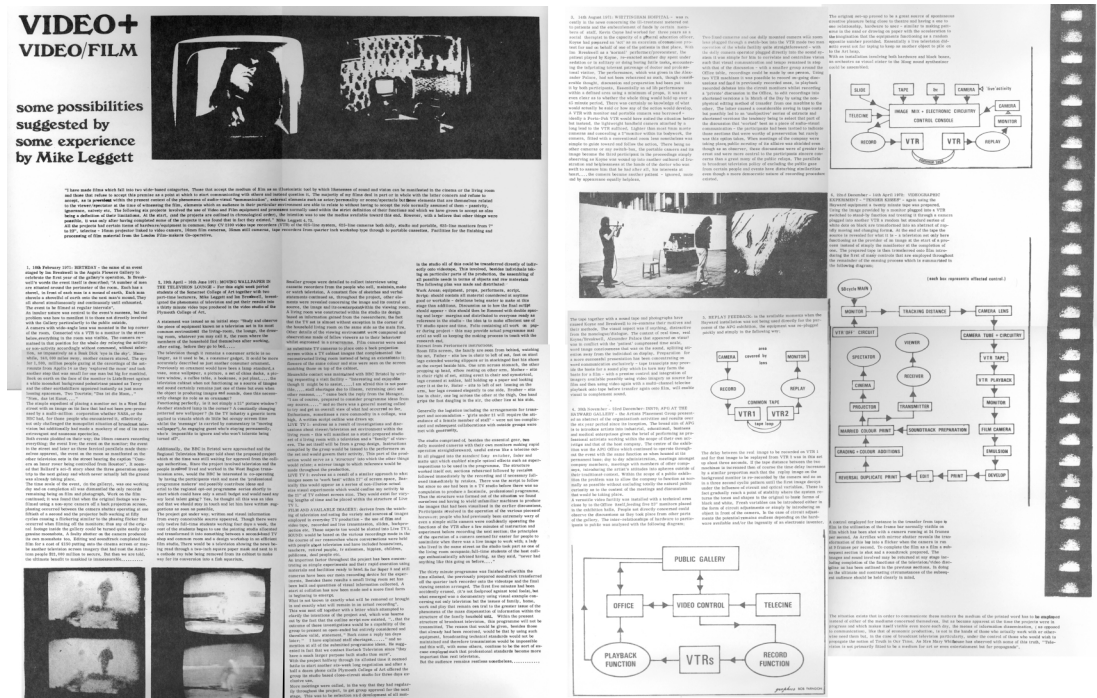


Fig 1 Video+Video/Film poster 100cm x 75cm (Leggett 1972)

The Poster records areas of and approaches to collaborative working, an activity not familiar to individuals trained to work as fine artists within a set group of art forms. The Poster is also the only remaining evidence of many of the video projects undertaken. This was the era of the immaterial in art and the elevation of the ephemeral was echoed by the ease with which videotape could be erased – not always intentionally – and re-used: some projects were simply grist for the next. The Achilles' Heel in the area of electronics-based technology - obsolescence – has accounted for many tapes from this time being lost. The new media of then is the lost media of now, giving the Poster added significance.

Practice-based Research

This act of (prescient) practice-based research in 1972 used a reflective approach to draw together into the Poster form the various notes and diagrams that had been accumulating on paper and in mind. The format circles back to my situation today in which the Poster is a familiar mode of presentation at science and technology events, but virtually unknown in the art world. The reason, some would say, is that the artist expresses themselves through their art work, that other forms of expression about art are best left to those who communicate with words. However, the form has been demonstrated as good for communicating to groups on the periphery of becoming a part of the community of interest, by displaying concepts, images or descriptions that potentially link to perceived concerns and issues. As a Poster, as with a gallery floor-talk, it is an element in the 'inter-' function of interdisciplinary activity: creative, practice-based research, reported as a performance – not a lecture, nor a conversation – at a particular place and time.

As an interactive tool the inter-performance can be useful for closing the gap between the scientist or the artist, their peers and their audience. But it does present an additional load in preparing the meta-language to describe the work. A more efficient solution – avoiding diversions from the creative process – is to structure collaborating partners, disciplines and expertises with a framework that off-loads the description, the interlocutory, onto another technology channel. An integrated function rather than supernumery. Paper-based technologies like notebooks, through to language itself are such tools, with machines such as computers beginning to similarly mould themselves to our needs. They are all good examples of what Andy Clark has described as:

“...the pervasive tendency of human agents to actively structure their environments in ways that will reduce subsequent computational loads.” (Clark 1997)p. 150)

It is of course the development of computer technology that has enabled us to restructure our environment, to greater degree by some, to lesser degree by many. This reduction of load has accelerated at extraordinary rates in ways that was not foreseen by many in the 70s. It has also become the focus of re-appraising the false diversions instigated in the 19th Century and maintained for a variety of vested reasons until the present day. My own engagement with modes of interfacing with memory machines has brought together my earlier work with film and video and the recent work by researchers in interrelated fields. Partly motivated by personal necessity but also related to another of Clark's observations that:

“...our brains make the world smart so we can be dumb in peace...” (Clark 1997).

Fuzzy Science

Science-based researchers often come to conclusions which they can back up with quantifiable and qualitative evidence, conclusions that artists might assert through intuition. Shneiderman notes in the late 90s that the machine memory industries specialising in servicing the demand for storing data and knowing how to retrieve it again, were moving away from notions of information retrieval and database management towards information gathering, seeking, filtering and visualisation. (Shneiderman 1998)pp. 510-511)

I also discovered that a computer-science team from Monash University, who had “...designed i-Map, an interactive system for visualising and navigating a large scale

image database...” that clustered images onscreen enabling the user to “...explore areas which look more promising...” before selecting an initial image which the system would then seek matches for before re-clustering. (Lim, Smith & Lu 2004) Whilst this research had identified ‘the problem’ of how to enable designers to find pictures in a photo-library, the interface for enabling them to interrogate the collection is as direct as being able to determine ‘more’, ‘same’, ‘less’ in each successive step that eventually isolates the desired image.

This in turn led to hearing of similar relational models described in the early 80s by Ballard and Brown as turning away from *representing* models, to *matching* models from within a knowledge base. Proposition and inference become important aspects of interaction with the database in the knowledge-making process. These approaches have become central to scientific, medical and surveillance sorting, storage and retrieval systems, (Ballard & Brown 1982) p. 9) but have emerged as behaviours within interactive systems less to do with knowledge management and more with experiential knowledge.

A decade later Ballard used the term “personalised representations” (D Ballard 1991) to describe the means we use to facilitate everyday behaviour. Correctly identifying our toothbrush in a bathroom shared by the household is an example I suggest: some residents may use colour differentiation whilst others, distrustful of their colour memory, prefer placing their toothbrush in a part of the bathroom different to the others, drawing on their better sense of spatial memory. Clark has described this as action-orientated representation “...that simultaneously describe aspects of the world and prescribe possible actions, and are poised between pure control structures and passive representations of external reality.” (Clark 1997) p. 49).

Fuzzy Art

I am in the early stages of interdisciplinary research into human memory and its relation to machine memory, methods of storage and retrieval of media elements in the current context of information and communication technology (ICT). It proposes an approach to indexing audio-visual media utilising a representational system that draws on a real-world time-space representation as the taxonomy for the indexing procedure. An interactive experimental prototype, PathScape, and further practice-based research, approaches author-defined storage and retrieval systems for digital video based on non text-based indexing. (Leggett 2005)

Recent work by Nigel Helyer uses real-world space orientation as a means for ordering audio material. He and Mari Velonaki have both been working over the past two years within interdisciplinary environments in partnership with industry, university departments, the Australian Research Council and the Synapse program of the Australia Council.

Nigel Helyer has maintained over the past twenty years a consistent link between sound, the oral and transliteration, combining the technologies of electronics and digital media with sculptural form, his practice often including close working with technology industries, such as a recent research relationship with Lake Technology. Currently, at UNSW he is working on a raft of partnership projects with a budget of some \$360,000 over three years that include the *AudioNomad* series. (Helyer 2004)

Mari Velonaki, with her recent project, *Fish – Bird*, moved towards autonomous three-dimensional kinetic objects, a large conceptual and technological shift. (Velonaki 2005) “I felt I had to collaborate with people who were not only proficient with such technologies, but also were innovative thinkers in the use of such scientific knowledge. Working in a large-scale collaborative project requires time to think and evaluate, space to work and test, and sufficient shared activity for ideas to cross-pollinate.” Velonaki reports that at the Australian Centre for Field Robotics at the University of Sydney “I felt welcomed and supported from day one. The Synapse initiative itself was extremely important, since it provides a framework within which artists can approach leading scientific groups with proposals for collaborations” (Leggett 2004)

Exhibition spaces are responding to the different expectations interdisciplinary outcomes are producing. They have more to work with than simply objects and texts. Some, like *beta_space* at the Powerhouse Museum in Sydney, (CCS 2005) include the audience in the research process, observing by various means, reflecting, modifying, developing and extending the meanings and possibilities of interactivity within the system. Likewise at the Australian Centre for the Moving Image, Zentrum fur Kunst und Media in Karlsruhe, MIT Media Lab etc, the spaces for research, production and exhibition are moved closer together.

Conclusion

Anna Munster observed in 2004:

“By working from a position of mutual respect for their differences and armed with scepticism balanced by thorough research into each other’s respective fields, art and science can come together in modest ways on specific projects.” (Munster 2004)

This description of a situation of ‘stand-off’, across which negotiated settlements can occur has now to move towards the next stage. The physical integration of disciplines within the universities has been underway for several years with projects such as Creativity and Cognition Studios at UTS, one of a number of Australian initiatives. Sited within a Faculty of Information Technology it provides access to a range of computer-science activities which can be described as so specialist that there are few researchers who are able to comprehend the scope of the whole discipline. This replicates in a sense, the scope of the field of fine art, or design, which in collaborative practice may produce work that emerges from several different specialisms. In this sense, Anna Munster’s comments apply to the initiation of *any* act of collaboration between individuals who possess potential affinities.

Whilst some might prefer the term innovation, a re-emerging creativeness need not be about solving problems, nor be concerned with purveying the collectable object or reputation. The ‘creative industries’ need to be more about shared knowledges and less their commercialisation. Creative cultures of the kind encouraged by the Australia Council’s Synapse initiative, need now to expand to enable larger numbers of practitioners to move out of the audience and into the new aesthetics of interdisciplinary spaces.

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