

A stitch in time saves nine: the impact of academic research on professional design practice.

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Presentation

Abstract

This paper discusses some issues about the nature and usefulness of ‘research’ in the academic and professional design communities with reference to the UK Universities periodic research assessment exercise around 2014, when academic researchers have to show evidence that they have thought of the ‘pathways to impact’ of their work outside academia.

It does this with reference to a ‘pilot’ questionnaire survey undertaken in liaison with the Chartered Society of Designers (CSD). It is suggested that there is a need to improve collaboration of ‘professional design practitioners’ in industry and ‘researchers’ within academia, and that this will enhance the productivity of the ‘creative economy’ generally to meet future needs, desires and requirements of people.

The notion of ‘engaged scholarship’, along with some issues about the dissemination of research outcomes are recommended as a way of improving the possible ‘impact’ of research in the future. It concludes with some topics that might be of mutual interest to academic researchers and professional design practitioners and suggests that ‘fashion and textiles design’ could have a special role to play regarding development of the research culture in the creative industries.

Keywords:

Research, design, impact, REF 2014, engaged scholarship, tacit knowledge, CSD, fashion.

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Presentation

Introduction

In this paper I outline some issues about the nature and usefulness of ‘research’ in relation to the academic and professional design communities. Firstly, I declare that the perspective is mine from a career largely spent in the twilight zone between research, education and practice of design; and that I have a passionate interest in improving the coherence between the worlds of academic researchers and professional design practice; also the paper is not ‘academic’ as such, and it does not necessarily follow academic protocols of discussion, for example I am using QR Codes to give you direct access to additional information. My intention is not to defend, criticise or promote a ‘practitioner camp’ or an ‘academic research camp’ but to make an ‘impact’ for the benefit of both in the future for creating new kinds of interactions and relationships for knowledge exchange.

I suggest here that there is a need to improve the collaboration of ‘professional design practitioners’ in industry and ‘researchers’ within academia for enhancing further the productivity of the ‘creative economy’ generally. The capability of fashion and textiles design to meet its future needs, desires and requirements is part of this, and I suggest it could have a special role to play for the design community at large.

To make a point about a concern I have adapted a story received by anonymous viral email. It does not imply anything whatsoever about a particular situation, but depicts a general perception, and mine after many years observing the communities.

A fashion designer and a research scientist go on a camping trip. After a good dinner, they retire for the night, and go to sleep. Sometime later the fashion designer wakes up and nudges her faithful research scientist friend,

"Scientist, look up and tell me what you see?"

"I see millions and millions of stars, fashion designer" exclaims the research scientist.

"And what do you deduce from that?"

The research scientist ponders for a minute.

"Well, astronomically, it tells me that there are millions of galaxies and potentially billions of planets. Astrologically, I observe that Saturn is in Leo. Horologically, I deduce that the time is approximately a quarter past three. Meteorologically, I suspect that we will have a beautiful day tomorrow. Theologically, I can see that God is all powerful and that we are a small and insignificant part of the universe".

"What does it tell you, fashion designer friend?"

The fashion designer answered:

"Research scientist friend, it means that someone has stolen our tent!!"

This 'tongue in cheek' story indicates a perception of the different viewpoints of the researcher in academia and professional design practitioner generally. It questions whether the relationship between the two cultures is as productive as it could be. There appears to be a closer relationship between the work of practitioners and those engaged with research in other fields such as, 'Medicine'. However it has to be acknowledged that 'Design' includes creation of culturally rich and aesthetic designs, where 'creativity' is of premium value unlike in 'Medicine', and therefore comparisons between the research and practitioner communities are not simple. For example, in 'medicine' it is clear new insights can take years to make an impact in the GP Surgery or University teaching hospitals, whereas many new ideas are often applied very quickly in 'Design', especially within fashion and textiles design. However it is far less clear than in Medicine where new insights from research done in the Universities have an impact on the professional design practitioner community and contemporary design practice.

"Houston we have a problem..." ?

Do we have a problem? I will outline where one might exist, and then focus upon how this might be resolved.

Firstly, it is worth digressing with a potted history; a shoot from the hip approach for brevity. Art&Design as a subject for study moved into the University from the Art College only a few decades ago and therefore it is still relatively new to its 'organised research culture'. When this happened there some would say "*We must do what Universities do now – design is not in an Art School*".

Two new camps of Design evangelists for change appeared - one with the attitude that 'Design' is an inferior form of science and if 'designing' could be made less intuitive and more scientific, collective and rigorous, designs would be better. And another camp had the attitude that 'Design' is warped by the 'star' designer role model and designers are as a result too artistically self-indulgent. If only they would focus more of what business needs, have a more collective attitude and be happy working in teams then designs would be better. These camps wanted to chase the current individualistic 'Art School' cooks out of the design kitchen. Both the camps stressed an ideology of 'collectivism' over 'individualism' and it can be perceived that there was an attempt at a coup d'état within Art&Design Institutions on the individual creativity design culture.

Deans of Art & Design Faculties made efforts to encourage their staff to produce 'academic papers', apply for research grants, and increasingly recruited people from outside the field who could do this to complement their current creative staff, and therefore many researchers within Art&Design Faculties have never been educated on a course of the field. Some might say this resulted in an 'occupation army' of aliens appropriating academic posts and funds, which should really belong to true artists and designers. Many others who had an education in the field found they had interests and aptitudes suited to the rational thinking of research rather than having the intuitive mind of the creative teaching practitioner, and adopted ways of the sciences and humanities of the University, which gave them a career edge often by acquiring the first PhD's in the field. Two further camps could be seen of teacher creative practitioners and the rationalistic researchers. These became separate islands where 'blue water' between them was jealously guarded. The requirement now is that all academics are required to do research as part of their role.

Institutionally, some lip-service to the traditions of Art&Design were made based upon the now defunct CNAA (Council of National Academic Awards') – a course validating body used by Art&Design, as Universities are trusted to validate their courses themselves. CNAA accepted 'creative works' as part of research, but these were not considered the research itself. Some felt in these early days research in the sector should be a 'special case' due to the different way designers think. Others felt that to question established practices in the Universities would merely indicate that the sector does not know what it is doing. Others lamented such navel gazing and said 'design should just get on with it'.

Early attempts to develop a credible 'designerly scholarship' on its own terms were made during the mid to late 20th Century, such as at the Royal College of Art – a solely postgraduate University. As well as an Art&Design practice camp it had a 'Humanities scholarly camp' to complement this, and it also explored 'systematic design methods' for a couple of decades from the 1960's. Here designing would satisfy the scientific process requirement of being 'systematic' at least and therefore might even be regarded as 'research' itself if it was 'written up' in the same way. This Department was axed in what seemed at the time to be a Spaghetti Western shoot out at the RCA'. It was followed in the 1980's with

course having a 'pick 'n mix' management and multidisciplinary design ethos aimed to break down the silos of design - axed later at the RCA, perhaps by the individualist camp. Such efforts can be seen to have had a variety of lasting effects judging by the nature of UK design courses available today.

Latterly, 'practice-based research' has developed, where designing is included as a fundamental part of the research process. Here it is necessary to ask a 'designerly question', then meticulously find out what has been done before and provide answers through designing, where every thought, every action, and every decision has to be made 'explicit' to argue a 'convincing' case that can be 'believed' by others or challenged on evidence presented. Results it is said have 'reliability' and 'robustness' where you can trust that outcomes relate to the original 'question' and methods used. This counters the 'autocratic' star designer role model favoured still by many, and loathed by others, especially those with hyper-egos not anointed by the community with the role. However, the notion of 'practice-based research' is not accepted by some at the extremes of the traditional research and traditional design cultures. The latter view it as 'uncreative designing for the intuitively-challenged' unlikely to allow imaginative leaps in insight, and the former regard it as 'not-proper research' with philosophical objections.

So have things changed much?

Do most creative practitioners still have the attitude, "Why would creative artists and designers want to be interested in, let alone do, such tedious, mind-numbing, number crunching, data doodling activity anyway as research, going nowhere truly original, and very slowly"? Are research posts in Universities and research grants still reserved for rationalists? Does the requirement to write Journal papers still dominate, with disadvantages for the often dyslexic creative practitioners with enquiring minds?

The requirement that design students have to pass a trans-disciplinary module in 'critical writing' to get an Honours Degree still persists; a condition brought in many decades ago to perhaps placate contemptuous sections of the University establishment with the view that if a student is not using words they are not thinking critically. That designing involves high levels of critical thinking, both tacitly and cognitively, was not considered enough. Today I tend to support the trans-disciplinary idea that education should be well rounded, but for all, and Design topics should be taught to other disciplines. For example, I advocate that such students as those of English Literature should be required to demonstrate proficiency in articulating ideas within literature visually by passing an Illustration Module before being allowed to get their Honours Degree. In fact traditional Chinese culture maintains that to be a true scholar above all else one has to be proficient in *siyi* (四藝), comprising the four arts of *qin* (琴 qin), *qi* (棋 qi), *shu* (書 calligraphy) and *hua* (畫 painting); something which should perhaps be resurrected and adopted today across the Universities (1). Just joking (well.. half-joking!).

Attitudes to research stem from what is considered acceptable thinking along with acceptable formats for sharing results, and nature of the outcomes of research. According to some research evangelists, the first step of research is to ‘define the question’ to answer about a topic. Here ambiguity in what needs to be done and serendipity in doing it frowned upon. Selecting appropriate methods in a comparative way to answer the research question is the essential next step, it is said. Note the plural of ‘methods’; the holistic single process of ‘designing’ is not deemed acceptable on its own. Individual ‘creative work’ without a paper trail is considered by some as not ‘communicable’ and therefore not part of research as communicability is a central tenet of it. However, many professional design practitioners seem to have little interest in the research done by academics. Does academic research fail in its own criteria of ‘communicability’?

The evolution of attitudes to scholarship and research in the University has been interesting and is an ever evolving one. Some might say the ‘impact’ of the Art&Design culture the other way on the traditional research culture within the University is only beginning.

New Scholarship

It is encouraging that contemporary scholarship and research practices in the Universities are now being challenged from outside the Art&Design sector, many of which are slowly changing towards those used traditionally in Art&Design with use of more project work, visualisation of ideas and data, and a more trans-disciplinary attitude. For example on the central pivot of the traditional research culture – the usefulness of the journal paper has been challenged by Professor Andrew Pettigrew, Said Business School, University of Oxford, who highlighted something of anecdotal interest at a recent Symposium (2) - 90% of academic journal articles are never cited, 50% of Journal articles are never read beyond the authors, referees and journal editors, and only one article in a journal is cited repeatedly on average. It is becoming clear that this publishing practice is an increasingly self serving commodity market rather than an efficient system for ‘communicability’.

Incidentally, evidence of the lack of ‘impact’ that academic research had on the professional design community appeared in an early study done by the Department of Design Research at the RCA. It indicated that research-papers are not read by the design practitioner community. Bruce Archer, Emeritus Professor, said (3):

“One of the studies done ... was an investigation into the degree to which research had actually penetrated professional practice in design. The findings of that research were that almost nothing was transferred from research into design practice and that is astonishing.”

Similarly, the effectiveness of academic conference papers has been questioned. (4) The actual paper presented is often in a bound copy of the Final proceedings which excludes a

record of the actual ‘conferencing’ that went on in the typical five minute question and answer session - a mere token gesture to audience interactivity. Conference papers are often used as a sideline income stream for the Journals, and this is another commodity market where authors can gain ‘cred’ for University research assessment exercises.

However the most important limitation of journals and conferences concerns the issue of ‘tacit knowledge’ – knowing through experience of new things - seeing, hearing, feeling and using them. Enquiry within fashion and textiles design especially develops new tacit knowledge insights through experiencing its designs. Consider the buying of shoes. You can read all about the shoes in Fashion magazines but this is not usually enough – you need to try them on. The Journal and conference paper format excludes communication of new insights in tacit knowledge.

Frank Peters, Chief Executive Officer of the UK Chartered Society of Designers has remarked (5),

“.....one of the difficulties for the designer is that they are not wordsmiths; they are good at visual images..... and probably in design research the language needs to be more compatible with design practice, and then it may be taken on board a lot easier.”

Today many designers use the medium of ‘the exhibition’ and ‘fashion catwalk’ within industry trade shows. Fashion leads in real physical engagement and interaction with communication attributes of ‘ease of accessibility’ to full scale, full colour information demonstrating the dynamics in a new designs use. It is therefore reasonable to infer that research work within design generally could also use these as prime media for sharing new insights gained and as a research publication in its own right. It could be particularly useful for making academic research outcomes more ‘communicable’ to the professional design community generally, and for making more ‘impact’. The benefit of the exhibition is it can include demonstrations and 3D products the audience can look at, use and discuss. It creates an asynchronous arrangement in which individuals can choose which publications to look at, and for how long, and when they want. The idea of the ‘research exhibition’ was introduced in 2002 with an experimental one organised by me with Chris Rust of Sheffield Hallam University. Then we said (4),

“It is increasingly expected that researchers will seek to present their work in ways that reflect the professional standards of their design disciplines to gain the attention and respect of the design practitioner. This is particularly important when they seek to influence the work of professional practitioners or wish to claim some insight into the professional practice of design.”

Since then, little progress has been made with prototyping the idea of the research-exhibition, apart from some attention to online digital media appearing that enables more multimedia visualisation and accessibility of research. Perhaps those who had spent years perfecting the skill and practice of academic writing feared the need for high level media skills implied, which might disadvantage them so they did not pick it up. Recently I conceptually developed ideas further with the ‘Research-Opera’ – an interactive event enabling people to learn about research done through immersion into a poly-sensorial informational experience (6): a little like mixing London Fashion Week Exhibition and the Cat Walk performances with demonstrations. This challenges the status quo even more and was resisted when presented by those using the contemporary practice of writing for Journals. However, both the research-exhibition and research-opera would require a more rigorous approach to information than contemporary forms used today in design practice. There is a need for new information formats to assist ‘communicability’ of the diverse research outcomes for Art&Design.

The perception and anecdotal evidence that there is an apparent lack of ‘communicability’ of academic research done within Design, if true, is most probably resulting in many new insights not being transferred to the professional design practitioner community. As a result, the full potential of the ‘creative economy’ is not being achieved with gaps in understanding, edges for innovation unexplored, and lost opportunities. But there is a question of ‘what is the actual situation?’

A Way Forward.

The Chartered Society of Designers (CSD), the professional body for designers in the UK and worldwide (7), sees an opportunity in the UK Universities periodic research assessment exercise happening around 2014 called the Research Excellence Framework (REF). There is a requirement for academic researchers to show evidence that they have considered the ‘pathways to impact’ of their work outside academia. CSD is keen to help ensure that there is a substantial amount of research being undertaken using public funds within the Universities concerning ‘Design’ and that this is of interest and useful for the membership; that it is in a palatable form for its members, and easy to access for their professional design practice. CSD sees the possibility of being a link or bridge between the two communities and therefore it is undertaking some research ‘into’ what professional designers think about various issues surrounding the topic of ‘academic research’, initially within the field of Art&Design Design. It is acknowledged that ‘Design’ is at the nexus of art, technology, business and society and therefore professional design practice draws from many sources, however the origin of CSD has historically been related to the Art&Design sector with its perspective, although this is evolving with the requirements of professional design practice.

A first step taken to explore the topic was the testing of a ‘pilot’ questionnaire with the aim to start probing what issues are of interest to 'professional design practitioners' generally regarding the topic of 'research'. Of particular interest was the view on the usefulness of

academic research outcomes for the professional practice of design, and identifying where gaps might be.

The ‘Pilot Questionnaire’.

The pilot questionnaire had four basic sections. The first asked questions about designers engaged with professional design practice about their background; a second asked questions about views on what ‘research outcomes’ meant to them; a third aimed to find out their views on research and practice within design, and the fourth probed the nuisances of their attitudes, knowledge, and motivation around the topic, including their view on how the CSD can support ‘research’ activity for the benefit of its members and the design community.

There were some introductory points made to contextualise the issues being addressed, which were not exhaustive of the nuances of the topic but merely indicated to potential respondents that the topic might be more complicated than first thought with the aim to encourage careful consideration of the questions. These are summarised below:

- Research activity can of different types, each having their own focus and methods. For example, research activity can be 'scientific', such as exploring the properties of new materials; it can be based on 'humanities' interests, such as critiques with new angles on the work of designers; and it can be 'design research' with a focus on ‘designing’, which can be divided into a further three types with methods appropriate to each.

Research INTO Design, such as where the design process is investigated from an 'external' perspective to find new knowledge and insights.

Research THROUGH Design, such as where 'designing' itself is a method used to find new knowledge and insights by practicing designers.

Research FOR Design, such as where information is sought to inform a specific design project, using methods such as the Questionnaire Survey or 'focus group'.

- Academics have varied kinds of research 'outcomes' and communicate them in a variety of ways; however they dominated by Journal and conference papers. Researchers within 'Art&Design' additionally can have outcomes such as 'a painting' or 'a design' exhibited alone within a prestigious International Gallery. There is an ongoing debate on what are the most important, useful and appropriate research ‘methods’ and 'outcomes' within Art&Design Design. This can cause some confusion when discussing the nature of 'research' in relation to that done by academics and that done within professional design practice.

On reflection these points might have confused, although probing responses to them was part of the exercise. Participation in the pilot questionnaire was requested from approximately 2200 subscribers of five online lists, who were mostly professional designers. This ‘pilot’ was aimed to merely test the questions and focus subsequent enquiry with a better designed, more widely circulated questionnaire, rather than be a definitive study. Participation in the Questionnaire only required a single click by someone on a simple web address to be directed

to the Questionnaire hosted on the website SurveyMonkey.com. For interest, at the time of writing this the Questionnaire was still accessible at the address appended to this paper (8). The questionnaire was ‘open’ in that all questions could be viewed without answering them, rather than questions made available only as each one was completed.

The pilot questionnaire took place over a period of three months, after which only 1.5% of the available online list subscribers had responded, and only half of these completed the Questionnaire to the end. It is unknown how many subscribers viewed the Questionnaire and decided not to even start it due to the ‘open’ design. While there were answers to questions on a wide range of subjects relating to the topic, the low response means these are unreliable and unrepresentative of the professional design community as a whole and therefore not covered here. The questionnaire was therefore of little, if not of no use for getting insights on specific issues, however what might be inferred from this could be one or more of the following:

- a. the questionnaire was inappropriately designed to elicit responses from the population targeted,
- b. the design practitioner community seems to have little interest in the topic generally,
- c, individual design practitioners believe they could not contribute useful answers.

The opportunity to make free comments was available in all questions, as well as a position on a scale of agreement of multi-choice answers to each question posed. As there was no evidence for (a.), or (c.) above from free comments provided, the low response provides some support for (b.), the perception that the design practitioner community seems to have little interest in the topic of ‘academic research’.

Does this imply that professional designers and the academic research community of Design could be better connected? Are the two communities polarised, and if so how much?

‘Research’ and its ‘Impact.’

It is worth stating first that much research done in Universities will be of use only to academics, and there is some good quality work within Design like this providing academic careers for those doing it at least. Likewise organisations in commerce and industry will do research of use and interest to themselves alone, which is often kept confidential rather than being shared due to its commercial value. However public money is provided for academics to do research and it is increasingly expected that such work has benefits beyond academia. Importantly it is this ‘mutual interest’ I am focusing upon here.

It is important that new insights and knowledge from the research community within ‘Design’ enable the general professional design practitioner to provide people with a better quality of life amongst other benefits by applying it in specific situations. It is also important that the academic research community knows what would be of interest to the professional

design community, and this takes two-to-tango. These are implied in the forthcoming university REF 2014 mentioned above,

If the pilot questionnaire is of any value it is the indication of point (b.) above which does not bode well for the University REF 2014. However, there is time for all to address some matters involved prior to then so I will firstly outline how the notion ‘impact’ of academic research is described, and the definition of research used by the Higher Education Funding Council (HEFCE) in the Research Excellence Framework for academic researchers.

These definitions covered below are quoted directly from the HEFCE document of July 2011 (9). In bold are ‘inclusions’ and ‘exclusions’ to put relevant work into context.

Research:

1. For the purposes of the REF, research is defined as *a process of investigation leading to new insights, effectively shared.*
2. It **includes** work of direct relevance to the needs of commerce, industry, and to the public and voluntary sectors; scholarship; the invention and generation of ideas, images, performances, artefacts including design, where these lead to new or substantially improved insights; and the use of existing knowledge in experimental development to produce new or substantially improved materials, devices, products and processes, including design and construction. It **excludes** routine testing and routine analysis of materials, components and processes such as for the maintenance of national standards, as distinct from the development of new analytical techniques. It also excludes the development of teaching materials that do not embody original research.
3. It **includes** research that is published, disseminated or made publicly available in the form of assessable research outputs, and confidential reports.

My comment: There are definitions of ‘research’ other than that of the Universities REF which are preferred by some people to distinguish the practice of research from other kinds of practice, as briefly touched upon above. What is notable in this REF definition of ‘research’ is that it enables inclusion of creative thought processes and practical work when researching as long as any new insights resulting can be disseminated well and perceived by other people than the person who originated the insight. I find this definition of research helpful in acknowledging the contributions made by the diverse community in Art&Design to their field.

Impact:

For the purposes of the REF, impact is defined as an effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life, beyond academia.

Impact **includes**, but is not limited to, an effect on, change or benefit to:

- the activity, attitude, awareness, behaviour, capacity, opportunity, performance, policy, practice, process or understanding

- of an audience, beneficiary, community, constituency, organisation or individuals
- in any geographic location whether locally, regionally, nationally or internationally.

Impact **includes** the reduction or prevention of harm, risk, cost or other negative effects.

For the purposes of the impact element of the REF:

- a. Impacts on research or the advancement of academic knowledge within the higher education sector (whether in the UK or internationally) are excluded. (The submitted unit's contribution to academic research and knowledge is assessed within the 'outputs' and 'environment' elements of REF.)
- b. Impacts on students, teaching or other activities within the submitting HEI are **excluded**.
- c. Other impacts within the higher education sector, including on teaching or students, are **included** where they extend significantly beyond the submitting HEI.

My comment: REF research impact is linked elsewhere 'internally' with teaching of students, but could also be linked with many occupations of their graduates directly. These criteria imply impact on the work done by members of the 'professions' but this could be made more explicit, perhaps within supplementary guidelines.

'It takes two to tango'.

However I am not only concerned here with the REF 2014 but a wider issue that there is fundamental research being done within professional design practices and much of this seems to go unrecognised or respected by the design academic community, possibly because it is not framed as such.

Although as mentioned at the beginning the engagement of researchers with practitioners is perceived to be better in other areas such as Medicine than Design, there is a general concern for improving 'impact' of research. For example, in the social sciences, Professor Van de Ven, author of the book 'Engaged Scholarship' (10) highlighted at a recent Symposium (11) that 'impact' involves two main issues - use of language and nature of engagement. The media issues of the research culture I discussed above relate to language used within the design community. Professor Van de Ven raised the need for more participation of different communities and with this 'interaction expertise' to facilitate engagement. He stressed that researchers must do 'practice' within their field as well as do research in order to gain the required insights of language etc. He added the concept of 'co-location' of research activity was important - people in one location, and that researchers and practitioners have a dual responsibility to create a two-way street of knowledge exchange. Importantly Professor Van de Ven suggests impact is not just an outcome but the process of creating relationships during research can be impact itself. Furthermore he believes the current 'trickle down' model of research to practitioners is not good enough, and the researcher who says their job is to create

new knowledge and it is up to others to do the trickle-down is vain. He added that dissemination of research outcomes does not imply that ‘impact’ happens, and when the wrong research question is asked it is too late to engage users. It is more important he advocates to research WITH practitioners than FOR practitioners and there needs to be a ‘will to do’ for impact and engagement to happen.

The notion of ‘engaged scholarship’, along with some issues about the dissemination of research outcomes are a way of improving the current situation in Design no matter how good or bad it is, or perceived be. Nonetheless collaboration between people with different attitudes and backgrounds is not a simple matter and has to be carefully managed (12). There is also a need to be clear as to the incentives and why it is necessary. The Universities REF is one incentive but will it be enough?

Conclusion.

The way designers think and work has a valuable contribution to make in expanding the nature of enquiry within the Universities, not only for itself but also for others. Some in the ‘science of complex systems’ community are for example embracing design and acknowledging designers understand ‘complexity’ in the dynamics of the socio-technical world well within the design process (13). A design approach can help where traditional reductionist scientific methods of enquiry have limitations. I suspect that some ‘research questions’ if answered using ways of the creative professional design practitioner, where there is more serendipity and some might say even ‘magic’, many projects would provide more funding value and more ‘impact’ than if done by ‘normal’ ways. However, there is a tendency for much academic research funding of design to follow the ‘polo mint’ model where issues addressed concern anything but the core of creating aesthetic and cultural value, especially sought after by and from the professional design practitioners. The design community as a whole could be pioneering new practices of research not only on its own terms for itself, but for all. New ways of visualisation to express and share ideas within research comes to mind.

If most academic research within Design is currently having little or no impact upon professional design practice then it would appear that it is the professional design practitioners who are mainly advancing the field of Design in reality, unlike in other fields such as ‘Medicine’ with its more mature and well funded research culture. Therefore more respect for the kinds of enquiry within professional design practice may be warranted, and especially by research funders for tackling problems in different ways. However there seems to be a need for better ‘attitudes’ by professional practitioners and also academic researchers of the design community on whether and how they might engage each other to realise the full potential of Design in the creative economy.

I believe research within fashion and textiles design generally could be a test bed for the ‘Design’ sector of the creative economy as a whole in developing a more ‘designerly’ research culture with appropriate research questions, outcomes, formats for dissemination of results, and ‘impact’ through ‘engaged scholarship’. Fashion and textiles design has all the general attributes of ‘Design’ as well as particular perspectives of its own. With its relatively short period from the moment of a new idea to seeing new designs made and marketed in retail outlets there is a particular advantage regarding use of research outcomes in practice. The range of materials that fashion designers can deal with from natural ones to highly technological is very wide and new ones can be relatively quickly tried and tested with ordinary people in their everyday lives. Also there is a strong cultural link through its designs to the social fabric of society, along with providing ‘utility’, where there is potential even to link it with such challenges as national health and security.

Fashion and textiles design focuses upon creation of new cultural and aesthetic expression and value in wearable products of the creative economy, so I suggest just five topics as examples where fashion and textiles designers and academic researchers might engage together productively:

- a. Aesthetics of sustainability and human dignity.
- b. 4D design of new fashion sub-cultures for design of their 3D garments.
- c. Adaptable aesthetics using nano-technology and smart materials etc..
- d. Delightful conversational garments linked to the internet.
- e. Creation of valuable aesthetics for new ‘auxetic’ materials

Finally returning to the REF 2014, the assessment process relies upon decisions made by expert panels of people who review the research outcomes of academics in an area, such as fashion and textiles design. In the documents HEFCE referred it states that the different Assessment Panels will be providing further guidance in relation to the kinds of impact that they would anticipate from research done under their remit. This extra guidance was not available at the time of writing this paper on the topic. The Universities REF ‘Impact’ criteria for research in the field of ‘Design’ should I suggest explicitly include impact on the professional design community, rather than being subsumed in general criteria, as follows:

1. upon the general processes involved in the professional practice of design,
2. upon the outcomes of professional design practice in terms of new products, systems, services and performances.
3. evidenced by doing research WITH professional designers and their professional bodies through ‘engaged scholarship’,
4. evidenced by the quality of a research outcome judged by the professional design community,
5. evidenced by the use of research findings by one or more members of the professional design community for improving the quality of people’s lives, and other benefits.

Beyond the REF 2014, I suggest there is a need for a new research funding body with more empathy to the creative industries generally, and fashion and textiles design in particular, for helping it to keep ahead of the international game of global economics - perhaps a Creative Economy Research Council (CERC) - a stitch in time.....?

Footnotes and References.

For access to sources scan the QR Code with your phone camera using a QR Reader app. (Free QR Code readers can be downloaded from your phone app store or <http://www.i-nigma.com/Downloadi-nigmaReader.html>).

QR CODE

1. For reference to the Four Arts of the Chinese Scholar and notion of 'Li' in design see paper 'Future "designing" and the Chinese notions of "Li"' by Alec Robertson and Delai Men, (2011) in , *Kybernetes*, Vol. 40 Iss: 7/8, pp.1137 – 1148 Emerald. Accessed Sept 2011 via www.emeraldinsight.com/journals.htm?articleid=1949432&show=abstract



2. Comment by Andrew Pettigrew of Said Business School, University of Oxford at the AIM Capacity Building Workshop: 'Engaged Business Research for Impact', London , 23 May 2011. Details at <http://www.aimresearch.org/calendar/61/219-Building-Capacity-for-Business-Engagement-with-Impact-with-AIM-VIF-Andrew-Van-de-Ven> . Accessed 17 Aug 2011.



3. Comment by Emeritus Professor Bruce Archer in his DRS Life Time Achievement Award Address at DDR4 Event at RCA in March 2004. Available via www.4d-dynamics.net, with full details of this DDR4 Symposium, or go direct to a menu of video clips for his comments with the QR code. (Accessed 17 August 2011).



4. "Show or Tell? Opportunities, problems and methods of the exhibition as a form of research dissemination". Paper by Chris Rust and Alec Robertson for the EAD03, University of Barcelona, Spain, Accessed 17 Aug 2011 and available at <http://www.dmu.ac.uk/4dd/CG-2002.html/Exhibits-intro.html>.



5. Comment by Frank Peters , CEO, of CSD at event "Reflecting, Refreshing, Reuniting and Renovating." (DDR4, 2004) hosted at RCA in March 2004. Details available via www.4d-dynamics.net, or direct to Q4 with QR Code. (Accessed 17 August 2011)



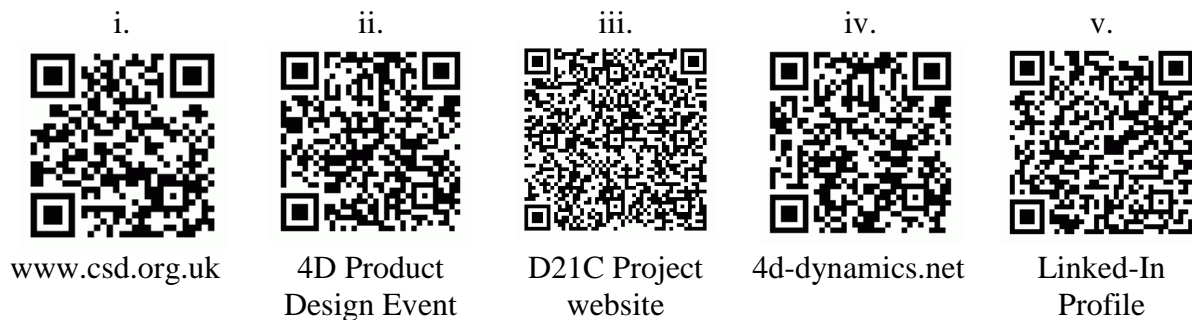
6. “Towards the Research-Opera.” Presentation by Alec Robertson at the 8th Qualitative Research Conference, Bournemouth University in Sept. 2010. Event details accessed 17 Aug 2011 available at <http://www.bournemouth.ac.uk/qrc/index.html>
7. Details of Chartered Society of Designers (CSD), the professional body for designers can be found at www.csd.org.uk CSD is celebrating its 80th year since its foundation. For further details go to the website above or via the QR code on your mobile phone.
8. The Pilot Survey is still accessible at the Survey Monkey address of <http://www.surveymonkey.com/s/X5F8VH5> Here you can view Questionnaire and feel free to answer questions and make comments.
9. Research Excellence Framework 2014, Assessment framework and guidance on submission. (REF 02.2011 July 2011). HEFCE. Accessed August 13 2011. Available at http://www.hefce.ac.uk/research/ref/pubs/2011/02_11/02_11.pdf
10. ‘Engaged Scholarship: A Guide for Organizational and Social Research’ book by Andrew H. Van de Ven . Published by OUP. 24 May 2007.
11. Van-de-Ven, Andrew at Engaged Business Research for Impact. AIM - Capacity Building Workshop, London, 23 May 2011. Presentation Accessed 17 Aug 2011.at: http://www.aimresearch.org/uploads/AVdV_May_23rd_presentation.pdf
12. For discussion see “Emergence and complexity: some observations and reflections on trans-disciplinary research involving performative contexts and new media” by Dave Everitt and Alec Robertson, in *International Journal of Performance Arts and Digital Media*. Vol. 3, Issue 2&3, pp.239-252, Intellect Books 2007.
13. Details of the ‘Embracing Complexity in Design’ Cluster (ECiD), which was part of the ‘Design for the 21st Century Project funded by AHRC & EPSRC available at <http://design.open.ac.uk/ecidIII/>. Accessed 17 Aug 2011



About the Author.

Alec Robertson is part of TeamCSD, Chartered Society of Designers – the international professional body for designers (i), and advises on research strategy and knowledge exchange within and between researchers and practitioners in the design sector of the creative economy and other sectors. Alec has a particular interest the “impact” of design research on professional design practice, and has organised several design research symposia, including the multidisciplinary event “4D product design for the everyday”, hosted at the Science Museum, London (ii). He was part of the UK “Designing for the 21st Century Initiative”, funded jointly by the UK research bodies AHRC and EPSRC (iii). Additionally he has substantial experience in teaching postgraduate and undergraduate design students. Alec is a graduate of the Royal College of Art, a member of the Chartered Society of Designers, and a Fellow of the Royal Society of Arts, UK.

As Principal Consultant at www.4D-Dynamics.net (iv), Alec specialises in design trend forecasting for the application of new ideas, technologies and materials into everyday products and services. He focuses on the value of kinaesthetics and people-artefact conversations, with an interest in ‘smart’ fabrics for fashion design. (v)



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