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METHODS  
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**PRACTICE BASED ARTS: 'BLUE SKIES AND SINGING RINGS': DIGITAL TECHNOLOGIES AND JEWELLERY OF THE FUTURE**

An Expert Seminar hosted by David Humphrey (Royal College of Art) at The Dana Centre Studio, London, 26 October 2006



research rca

# Seminar Report

## AHRC ICT Methods Network *blue skies and singing rings* seminar

The Dana Centre, National Museum of Science and Industry, London  
26 October 2006

### Background

Digital technologies have already impacted on the world of jewellery at a surprising and rapidly increasing rate. Since the first, tentative experiments with computer-aided design in the 1970s, through developments in computer numerically controlled manufacture in the 1980s and, critically, since the mid 1990s in rapid prototyping processes, the take up of all these technologies by the jewellery design and manufacturing community has accelerated to a degree that in view of the traditional values of the discipline is perhaps unexpected. It is fair to say that digital technologies now play some part, often the major part, in virtually every sector of jewellery design, manufacture and promotion, from that of the experimental artist-craftsman to that of the finest jewellery houses. The so-called 'contemporary jewellery' movement as a whole, however, has stood back from this development.

### Context

The Royal College of Art has a good track record in the area of jewellery research. Recognising this, in September 2006, the Royal College of Art established the Centre for Jewellery Research – an offshoot of the department of Goldsmithing, Silversmithing, Metalwork and Jewellery and led by its former chair, Professor David Watkins. CJR, the first research centre to grow out of a studio discipline at the RCA, provides a working environment for a small number of researchers and their projects, funded by the AHRC, The Leverhulme Trust and the RCA Research Development Fund.

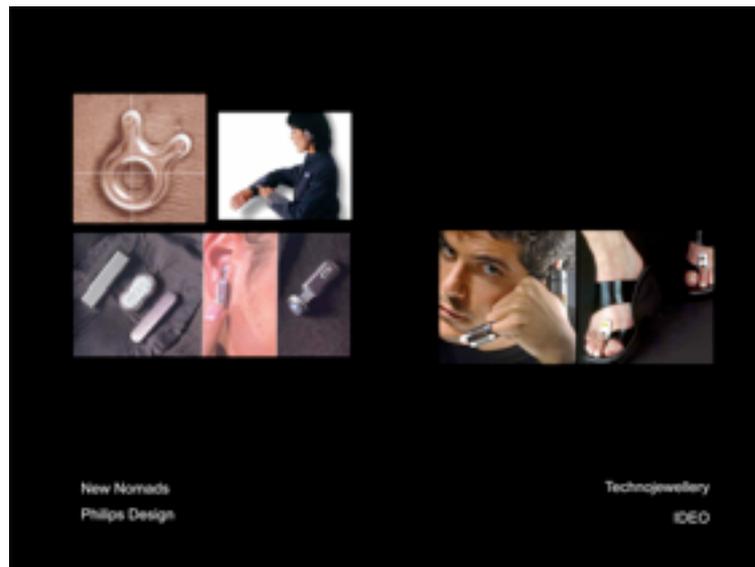
Within the Centre for Jewellery Research, research through digital technologies is a common factor: staff and research students actively explore and promote the use of advanced technologies through projects and expertise that range from the design and manufacture of new jewellery artefacts, through the development of innovative electronic devices, to the more academic, virtual reality reconstructions of 'lost' historic jewels. Discussions within the Centre itself, however, had identified recent technical developments in other sectors, including for instance, personal mobile communications devices, as opening up renewed opportunities for theoretical and, especially, practical research.

### Seminar Report

The seminar, *blue skies and singing rings* was organised by Dr David Humphrey, of CJR. Contextualised by the field of contemporary jewellery but recognising a world of shifting values and changing resources, its aims were broad and cross-disciplinary: to stimulate debate and to open up channels of communication on a range of methods, issues and opportunities - consequent in the main on developments in digital technology - that now confront the creators of contemporary jewellery, jewellery users and others in fields allied to that of jewellery.

This seminar brought together an invited group of speakers and delegates including practitioners and theorists from jewellery and the applied arts, fashion and textile designers, historians, critics, policy-makers and environmentalists, to consider new research directives for the integration of digital technologies within the field of jewellery, and for the development of new research methodologies and innovative products. The seminar's objectives included: a review of the impact of digital technologies on jewellery design and production to date; the identifications of key issues for the future development of jewellery in relation to digital technologies, and the exploration of new working processes and methodologies.

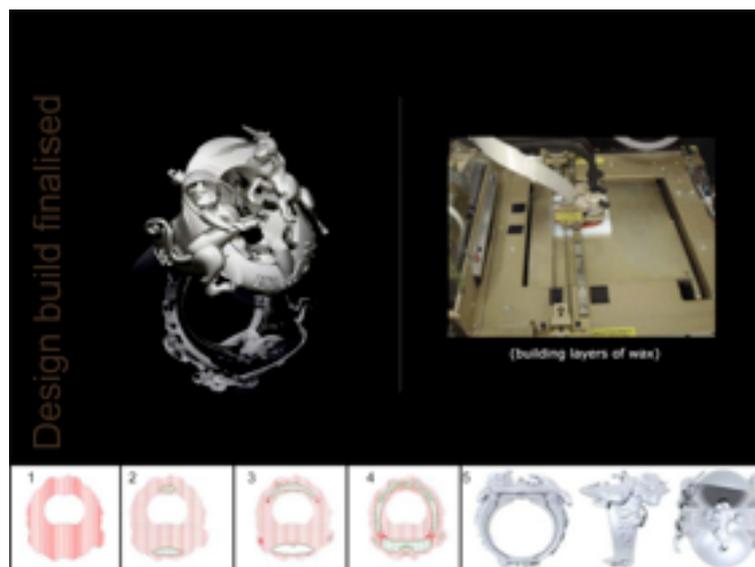
Jayne Wallace, a researcher from CultureLab at the University of Newcastle, spoke about her projects involving the integration of communications devices into jewellery-like and sculptural artefacts which explored the positioning of this technology within the historical continuum of jewellery as a substantially subjective medium.



*Examples of meetings between digital technologies and jewellery concepts*  
© Jayne Wallace, 2006

Joan Farrer, Business Fellow from the London Technology Network asked whether we needed to reconsider our definitions of 'precious' in an era of diminishing resources and, further, to consider how the introduction into the production economy of advanced technology, at the expense of manual labour, might threaten the work economies of poorer nations.

Leon Williams, a doctoral research student in the Centre for Jewellery Research at the RCA, and Jenny Tillotson, Senior Research Fellow in the Innovation Centre at Central St Martins College of Art and Design addressed the use of digital technologies for the personal management of medical conditions and for personal health benefits – Williams through his work on relocating medically-assistive devices within the conceptual field of jewellery and Tillotson through her *Scentry Design*® concept, which posits the gaining of psychological benefits from a holistic approach to biological conditions.



*Examples of the rapid prototyping process*  
© Leon Williams, 2006

David Humphrey, Research Fellow in the Centre for Jeweller Research at the RCA, suggested possible strategies for engaging current digital technologies in the development of future jewellery.

Ian Pearson, BT Futurologist, speculated provocatively about a possible future jewellery - one in which our lives will be impinged on and mediated through (imminent) developments in global, local and personal digital devices and services.

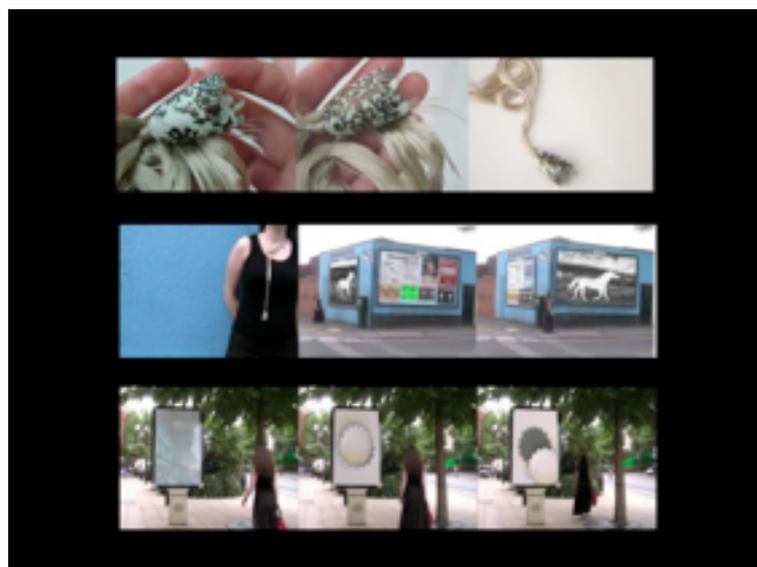
Steven Bottomley, Chairman of the Association for Contemporary Jewellery, offered a more conservative view, arguing that future development would be incremental rather than revolutionary, since radical change is difficult to achieve in the competitive market that contextualises the practice of studio jewellers.



*Examples of Ulli Oberlack's work shown in Stephen Bottomley's presentation*  
© Stephen Bottomley, 2006

Karin Paynter, Assistant to the Director of Technology and Training at the Goldsmiths Company, detailed the impact of digital technologies on small businesses, on the roles of their employees, the need for training, re-training and the costs of re-equipping manufacturing facilities.

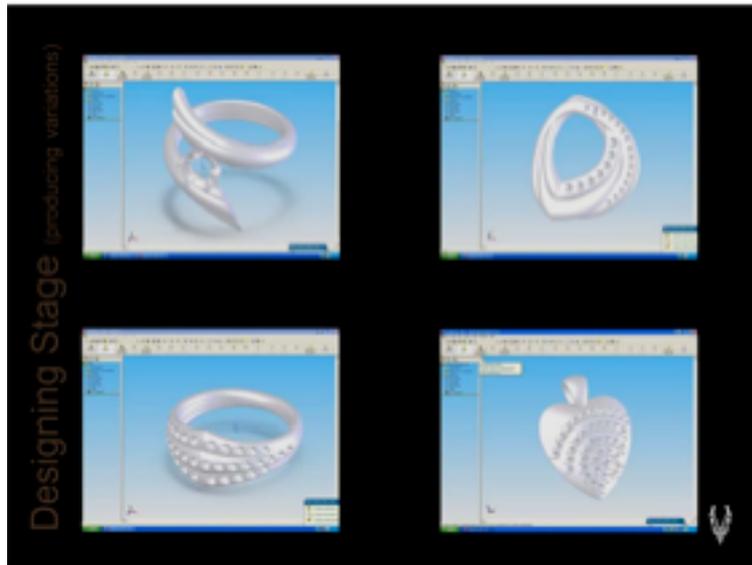
The speakers contributed to the day's over-arching theme as they interpreted it, which resulted in the articulation of a very wide range of opinion and practice. Their general message, however, was that digital technologies are bringing exponential change, and that, for those who are inclined to take up its challenges, creative assimilation of this change will probably necessitate new attitudes, new research methods, new production paradigms and new collaborative associations.



*Examples of Jayne Wallace's recent research work*  
© Jayne Wallace, 2006

To put this in context, both the presentations themselves, and delegates' responses to them, made it clear that whereas the practical integration of digital technologies into the jewellery field as a whole is for many manufacturing companies a matter of fact, it remains not only philosophically controversial but also unattainable for many practitioners in the otherwise experimental and path-finding field of contemporary jewellery. Within this small-scale sector those practitioners who have wholeheartedly embraced and advanced digital technologies, although increasing in number, remain relatively few and often – to their perceived advantage - located within or associated with academic institutions which provide technical and research support.

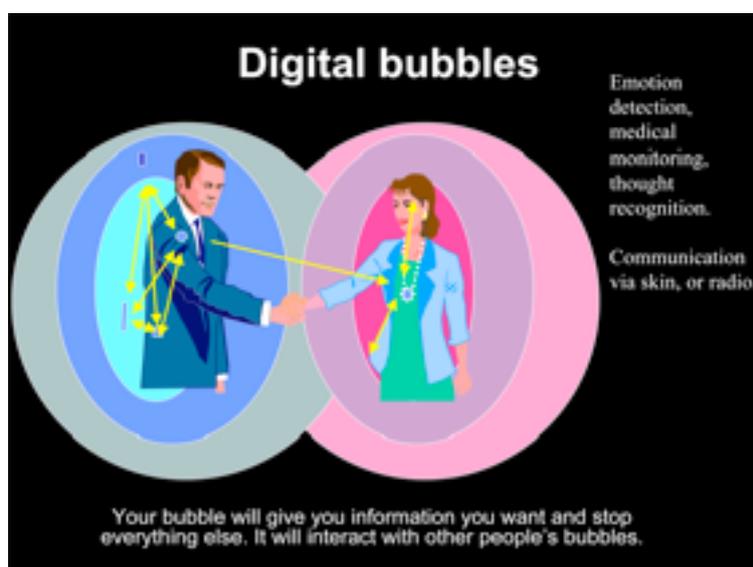
*A forum that would provide an opportunity for wider debate on the philosophical and practical issues currently dividing digital sceptics or 'have nots' and digital activists in the contemporary jewellery field would be a constructive and welcome initiative.*



Examples of digitally-based design development  
© Leon Williams, 2006

Given, on a purely practical level, that the production of digital files for manufacturing and outwork services is now standard industrial and small industry practice, the seminar considered the new requirement of enhanced computer literacy in education at design and production stages, but recognised that increased computer literacy would, and should ultimately impact on research methods at a more generic level.

*Further debate on issues surrounding the requirement for increased computer literacy within education should address not only practical aspects of digital design for manufacture but also, in research terms, the earliest stages and substrates of project development and methods.*



An example of Ian Pearson's vision of the future  
© Ian Pearson, 2006

It emerged, from presentations and debate, that those few contemporary jewellery practitioners who are currently involved with digital manufacturing processes are, through their practical researches, effectively gathering personal knowledge bases about the comparative benefits and limitations of competing technologies. It is commonly asserted that with the use of digital design tools it is possible to design and manufacture just about anything. Be that as it (philosophically) may, the reality is that all technologies that output design to manufacture present different but inherent practical limitations, and that the testing and understanding of these limitations in relation to jewellery requirements is key to unlocking their innovative potential. 'Key' though it may be, such understanding is currently obtained by individuals, by trial and error, at the interface with individual technical service providers. As such, it is presently an important but fragmented resource.

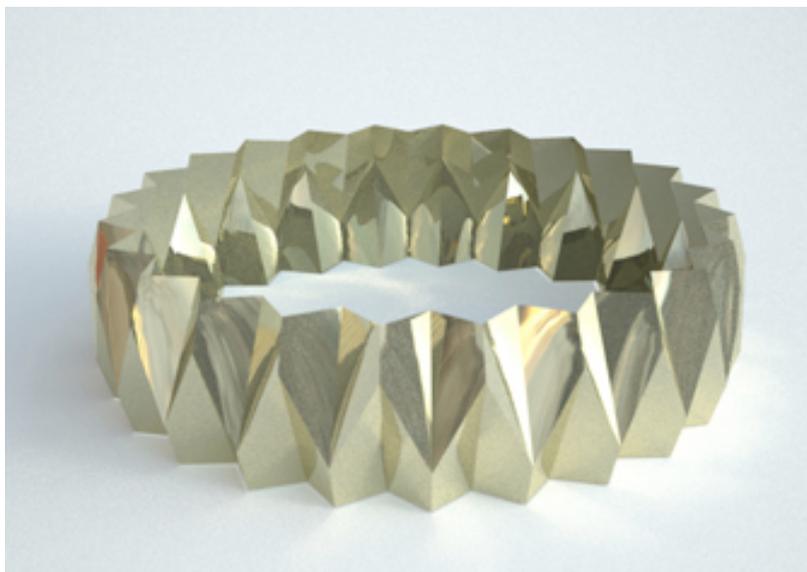
*For those working in the field, a means of acquiring up-to-date understanding of comparative technical eccentricities across the field of digital manufacturing processes would seem essential, and to imply the need for extensive training and/or updating. The seminar discussed means of achieving such an objective, considering the establishment of a 'network' and follow-up workshops. It was suggested that the AHRC Methods Network might play a role in training and dissemination.*

In terms of immediate conceptual opportunity and practical research for contemporary jewellers, perhaps the most striking outcome of the seminar was its demonstration of current advances in communications devices. In some respects, the ability to exploit a useable interface between electronic media and jewellery or jewellery-like personal items has been on a long-standing 'wish list' for researchers, conceptualists and practitioners who have looked to expand the horizons of their discipline. Such ambitions have focused, for instance, on the possibility of interactive sensory communications through jewellery itself, and, in a more general sense, on a potential 'cross-over' of jewellery expertise into more mainstream consumer product development. In particular, until now, the practical limitations of available technologies, and access to them, have repeatedly limited or outright frustrated these ambitions.

*Current technical developments in communications media and devices suggest that renewed effort in these areas would now present a more tractable and fruitful development area for contemporary jewellery researchers.*

## Summary

Taking the seminar as a whole, it was clear that whilst current developments could present significant opportunities to the contemporary jewellery fraternity – a fraternity that on an individual basis has not been slow to explore radical alternatives to tradition – they would also present broad based and complex challenges, on conceptual and practical levels alike, to both individuals and institutions. In terms of structured academic research, it was apparent that an effective response to these challenges would require not only the decisive identification of key issues but the establishment of wide-ranging and well-resourced development strategies.



*Digital simulation of a bangle under development using real world lighting data.*  
© David Humphrey, 2006

At the end of the seminar the consensus was that the field of contemporary jewellery has lacked research focus of this kind, and that it was desirable, perhaps vital, that new research methods and concepts should be effectively shared and explored through similar, structured events in future.