A disciplined approach to interdisciplinary working

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EDITORIAL:
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The aim of this journal is to offer a platform for the dissemination of research in all aspects of design and creative practice in the context of health and wellbeing. This issue, as with previous issues, demonstrates the diversity of creative approaches applied within the multiple contexts and definitions of health.

If the domains of Design and Health are to collaborate in meaningful ways, it is important that researchers in each discipline challenge their own perceptions and avoid misguided assumptions about the other. The contrasting cultures of Design and Health do present a significant challenge which is further complicated by the diverse disciplinary practices within each. It is important therefore we don't homogenize 'Design' and 'Health' since each have their own very distinct and diverse cultural practices. For instance, a product designer, graphic designer, textile designer and film maker each bring their particular inherent knowledge, and different skills sets and methods to research. This applies equally across the broad fields of health. Consequently, it is important that we strive to recognise, interrogate and better understand the nuances across and within these fields that might then allow us to more conversantly transcend our disciplinary boundaries. The papers presented in this journal issue present authors from diverse backgrounds applying 'design' for 'health' in a variety approaches in diverse contexts.

In this issue Gooding's exhibition review presents a vivid insight into the intriguingly titled exhibition 'Teeth' at the Wellcome Collection. Teeth have often been considered a good indicator of our general health, and the application of design in the devices for their treatment has a long history. Gooding however reminds us that health is not just about efficient treatment but a sensory experience and, set in the context oral health, potentially one of fear and anxiety. The exhibition review highlights the rituals of dental health and how teeth shape our identity, and prompts thoughts about how medical interventions to improve and preserve health are increasingly being applied for cosmetic purposes. Artificial teeth are a form of prosthesis that most of us will experience at some point in our lifetime; Calliendo et al. then present an innovative approach to the design of a hand orthosis. Designers have long been inspired and Designs shaped by materials. Plastic waste has attracted recent widespread media coverage and design cannot ignore the fact it has played its role in contributing to this environmental problem. Their paper

'Hand orthosis designed and produced in DIY biocomposites from agrowaste' explores the aesthetics, meaning and emotions relating to the materiality of objects. It explores how the creative use of bio-materials embeds an environmental concern for the product's production, consumption and disposal.

Novak and Loy's paper 'A Pilot Study for Utilizing Additive Manufacturing and Responsive Rewards in Physical Activity Gamification' is also concerned with a wearable device supporting health but with the focus here on a digital product. With increasing pressures on health services, technological advances will enable a shift of care outside traditional healthcare settings. Consequently, we are increasingly witnessing a plethora of new devices for collecting personal health data. The authors describe a pilot study that explores how the design and utilization of gamified systems in healthcare products might overcome current reluctance in engaging with such devices. They argue gamification can promote motivation as they re-imagine the relationship we have with activity data, exploring how it might be interpreted and presented.

The vast majority of articles published in the journal to date have been interdisciplinary and engaged a wide range of stakeholders and experts beyond the traditional boundaries of Design and Health. Swann, Meaton and Bartys' paper 'WAAA! The conception and rapid development of a wearable for good Technology' explores the role of design in the form of another wearable and concerns the important issue of reducing neonatal mortality. Proposing an innovative design solution to assess the health of newborns, the main focus of the paper reflects on the format adopted to facilitate cross disciplinary working. Engaging stakeholders in research and development of new solutions is generally recognized to have a positive value, but enabling this poses significant challenges. This paper acknowledges the limitations of short, intense sandpit-type events, but concludes there is value in this method of approach to support cross-disciplinary research which remove the constraints of usual ways of working and help build relationships.

Innovation generally means changing the way we do things, and this change can often be met with a degree of reluctance. It might be reflected in a resistance to adopt a new product or service but also in a reluctance to engage with a new method or culture of working. Many projects concerned with Design for health have met these challenges and as more design and health graduates recognise opportunities and enter this arena of research, providers

of education have a responsibility to better equip these students to understand and be prepared. Two papers contribute to the discourse around this important issue, the first of which is 'Challenges for design researchers in healthcare'. Informed by a series of workshops with design students, researchers and practitioners, Groeneveld et al. map the challenges design researchers might encounter when working on projects with healthcare specialists or healthcare settings. Potter, Reay and Thornhill, meanwhile, present an exemplar case study based on innovative student project the authors facilitated that strategically adopted a more person-centred, empathetic design approach concerned with visualizing health information. In their paper 'Communicating information in health: engaging students in design for health awareness', they discuss how the 'live' project allowed the students to learn in a real-world setting.

While these two papers focus on the challenges for designers working in health, Huang et al. in contrast by advocating the value of training public health researchers in design. In their paper 'Design Thinking to Improve Implementation of Public Health Interventions: An Exploratory Case Study on Enhancing Park Use', they describe design thinking workshops they conducted to explore possible interventions to enhance the use of renovated parks in New York City. The paper reiterates the value of community engagement to help ensure the effectiveness and relevance of interventions to those receiving them and importantly stresses the added value of design in this process.

Many of the articles in this journal issue are concerned with the design of tangible products but Huang et al. discuss the potential of design thinking and extend the definition of health through highlighting the value of public recreational spaces and their positive impact on our health and wellbeing. The authors reflect on science's linear approach to problem solving and evidence based strategies, this is further explored in McLaughlan and Liddicoat's paper 'Evidence and affect: Employing virtual reality to probe what's missing from evidence-based design research'. Here too health is set within the context of the built environment. The authors draw on the fast-emerging Virtual Reality (VR) technology for opportunities for research within the context of design and health. They present a pilot study using VR that was designed to begin the process of understanding how individuals respond to architectural spaces and as a vehicle to investigate affect. They make a case for how VR technology can provide a means of investigating more easily how questions of affect play out within architectural environments, and how this might be acknowledged within the context of evidence based design.

From our historical relationship with teeth to the emerging new VR technologies and architecture, these articles demonstrate the diversity, complexity and multi layers of design and its application in the context of health and wellbeing.

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