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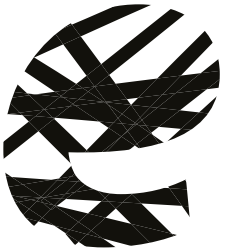

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Editorial

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Digital Capture: 3D imaging in Art, Design and Architecture

This is the third special issue that Clear+Park (C+P) have edited for AIS, and working with them has once again been a hugely enjoyable experience. In all our collaborations, we have enjoyed enormous freedom in the type of projects that can be included, especially the license to mix practice-based projects and speculative approaches alongside more traditional academic text-led pieces.

In this edition, we look at the technologies of digital capture: 3D scanning, photogrammetry and depth, and motion detecting technologies. The introduction of these instrumental forms of capture has allowed highly accurate processes by which objects and spaces can be surveyed, mapped and digitised. Currently, this information is predominantly used to catalogue, record and document spaces and artefacts as part of a digital project workflow, often within a construction or heritage context.

The introduction of CAD into mainstream architectural production in the mid-1990s is now a ubiquitous part of the architectural workflow; however, one aspect of this process has required the manual input of data in the form of the measured survey for a long time. The introduction of laser scanning now sees that even that process is integrated as part of a fully digital workflow; even though professional scanners are still expensive, their use through specialist companies or to hire is part of the mainstream.

These imaging techniques have an in-between quality that is part photograph, part digital model, and part mixed reality. Consequently, many of the projects that use these technologies sit in an intermediate state and blur the definition of what a design project is, often suggesting speculative possibilities that question ideas of permanence and substance.

However, once the data is captured, it can also be converted into editable formats and combined with other practices to produce a wide variety of outcomes, including objects, images, animations, and speculative design projects. The opportunities afforded by digital capture technologies can be used beyond the traditional practice of architecture as part of a creative workflow, forming new spatial opportunities for architects to explore.

In this edition of AIS, we bring together some of the most innovative figures working with scanning, photogrammetry and digital capture to explore the latest approaches to this fast-evolving field. From projects that require veracity in situations of heritage documentation, the use of lidar as a camera to produce mappings of movement as part of practice-based research, playful constructions of social spaces facilitated through live stream capture, to the use of scanning and photogrammetry as a design tool, and the work of C+P who focus on the role of affect has in the reception of point-cloud imagery and its use in the re-imagining landscape.

The wider use of this technology is still relatively marginal, especially the utilisation of high-end devices, which are hampered by the expense of the equipment and the necessity for high-performance machines to process the data. But that is changing as scanning technology becomes readily available through the addition of lidar on phones and tablets, as well as the widening popularity of processes such as photogrammetry and the introduction of Gaussian splats. The further proliferation of this technology is inevitable, and with it, we will see its wider utilisation, not just by architects, designers and across the creative industries but also by the public as a means of documenting their spaces. These advances will herald new directions for spatial and place-based culture. If the introduction of photography changed the direction of painting and sculpture in the 19th century, then the introduction of digital capture techniques may have had a profound influence on the future of representation in the 21st century.

At a time when the use of Large Language Models is proliferating in creative practice to the point where human creativity appears endangered, the introduction of digital capture may seem a further sign that automated processes are taking over, but as we hope to show technologies such as scanning are one area where the results and the possibilities outweigh the negatives.

It needs to be remembered that Artificial Intelligence in the form of Large Language Models is not intelligent. It is, at best, Augmented Intelligence and quite often Arbitrary Intelligence and we are still a long way from having anything that resembles General Artificial Intelligence that meets.

What all the works in this edition demonstrate is that human intelligence can make machines and digital processes do things that could never be realised without the quixotic input of someone somewhere saying what if....

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