

Keynote presentation

Digital Media Revisited

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The engagement of the digital media in any given design universe can trigger the discussion on the nature of creativity. What are digital media limits and opportunities in design? How best to tap its creative powers? I will illustrate some of those issues with my own work, as well as design of my students and colleagues at the end of this address. Next to the growing popularity of digital media, several other tendencies in design can be recognised. As the global expansion of the internet is taking place, the issue of connectivity enters design practice. This can be seen both as an instrument for communication and for the remediation of past conventions. Perhaps the possibilities for creative work are expended if computers are regarded not only as tools, but as the means to further engage with others in all aspects of design. New forms of practice, such as distance design collaborations over the internet and participatory design in virtual design studio environments, are being integrated into the creative process of the contemporary architect. As design becomes form of correspondence and as architecture can be practiced anywhere and at any time, we are witnessing a redefinition of practice and seeing architects operating outside the limits of its locality. Design teams are structured more like a film production groups, or multi disciplinary units. They are coming together for short term, intense tasks and assume a different guise after the completion of each project.

The digital media are not longer new, after all Adobe will release Photoshop 8 soon and AutoDesk version is probably well past its teens by now. So, new is no more new? Well, the role of media in representation was always central. BBC had interesting program on Venice recently. Apparently, the very accurate paintings of the Venetian artist Giovanni Canaletto have been recently re examined in order to establish the originals sea level. It was found that high water level in Venice rose by almost one meter over last two hundred fifty years. The use of camera obscura in constructing the vedutta typical to XVIII century painting was a principal reason for almost photographic accuracy of those representations. This is no news for those, who recall reconstruction of Warsaw Old City some fifty years ago. Its restoration from the state of total ruins was partially based on the work Bernardo Bellotto Canaletto, 1724 -1780, the nephew and student of Giovanni, who settled in Poland. His meticulously rendered images of Warsaw were used as guides to assist in the rebuilding of the old town, together with photographs and measured drawings made once at this faculty. The use of pinhole camera is rather unlikely today, but the geometric conventions governing recording and constructing the design or its representation remain largely the same. In architecture the abstract, orthogonal projections and Euclidean constructs were used for centuries, not only to describe and represent the architecture, but also for the abstract, conceptual notation during the design process. However, in the last decade we are witnessing the growing importance of the complex 3D digital model in the representation of design and in its generation. It has to be acknowledge that Canalettos used also rather curious type of fantasy painting called Capriccio, for which camera obscura was of course less relevant, but power of narration of those images was still

quite potent. Today, the emerging digital media with strong narrative potential are interactive, as the motion models are being rapidly deployed in architecture. The interactive moving pictures enter the field initially as the presentation tool giving a convincing walk-through, simulation and real time immersion into pictorial space. Finally there is the fascinating ability of new media to extend 3D models into the immersive space as well as the ability to work with the illusionary materiality and new projected digital image. Those aspects have already been utilized in the theatre, TV and movie culture for some time, but with the collapse of professional boundaries and the proliferation of digital media, all of these techniques are now widely available to all designers.

More recently we see motion being deployed during the design generation. Using morphing or twinning with key framing and endless parametric constrains, the designer can now algorithmically generate a vast array of formal transformations and select from this serial model production a condition of particular interest. Those digital motion models, characterized by complex, non-rational surfaces and are often uncritically embraced by students of design who see it as a tempting automata for the generate and test mode of design. Recent proliferation of NURBS modelers gives the designer the exceptional opportunity to access the magically complex, organic universe of forms. However, the enthusiastic embracement of this cannot produce seminal results until it is rigorously critiqued on the basic aspects of its realization, i.e. its construction, materiality, cultural or environmental situation. Perhaps the other promising aspect of the digital model is its inherent ability to be used for the production of design and to serve as data in CAD-CAM, or the quick prototyping production process. This can potentially create a new relationship between designer, project and object of design, perhaps turning architect into the digital artisan-craftsman¹.

Architecture's strength as a discipline was always derived from its ability to engage geometry while operating on the fixed, frozen condition of frame. The digital media has rather destabilizing effect due to the redefinition of time-honoured conventions, but in the long range it can be very exciting and seminal. In the meantime, the crisis is becoming evident and question posed by the contemporary Spanish architect Rafael Moneo is important: "Can [we] truly see current architecture more and more [as] landscape of situations, rather than assembly of structured languages?"²

The accepted way of making predictions is through projection of the current trends. But the emergence of computers onto the stage of architectural theory and design has been so extremely rapid and, considering developments in the last decade, rather overwhelming. This new wave is battering architecture as we know it, Will it upset established conventions? Despite the growing engagement and interest in the digital realm, the guiding power of long established abstract design conventions needs to be acknowledged. The ease of visualization and design, digital simulation in the early design stages can enable the collaborator, client, and ultimately the public to develop a more complete understanding of the design narrative from its conception. Yet, the need for abstract conventions in conceptualization remains in place. The two-dimensional, orthogonal projections of plan, elevation, and section developed the design notation and exclusive language which has been well understood by the initiated few since times of Vitruvius are safe.

On the other hand, digital media is crossing the boundaries of familiar conventions to those of non-architectural disciplines. The nature of these media permits the designer to think more naturally in three dimensions, but the ease which simulated complex surfaces are generated by new media could be disturbing to the additive rigor of traditional, structured design conventions. We expand the definition of

¹ *McCullough, M., Abstracting Craft : The Practiced Digital Hand, MIT Press, 1998.*

² *Moneo, R., Lecture, Harvard Design Magazine, 1998*

media types used in architectural design, acknowledging the necessity for communication, for the discussion and negotiation which occur in the design cycle. In the near future, the narrative power of the digital media should redefine the nature of professional design work by bringing the client-citizen closer to the design process, communicating visual information more effectively and more often. Let's consider contemporary media as a design facilitator that can impact the nature of contemporary practice through the development of a new relationship with the public. It will be truly interesting once user participation and feedback is facilitated by the new media and by distributed design practice. The digital media is also enhancing design teaching environment. It is rapidly being explored and popularised as the long-established concerns of validation and dissemination of knowledge are not longer held within the exclusive domain of academia. The digital media deployed as education technology can become instrumental in the popularisation of design culture and might impact our urban civilization in the most profound way.