Giuseppe Bono

BLUE PAPERS

Studies on digitational architecture

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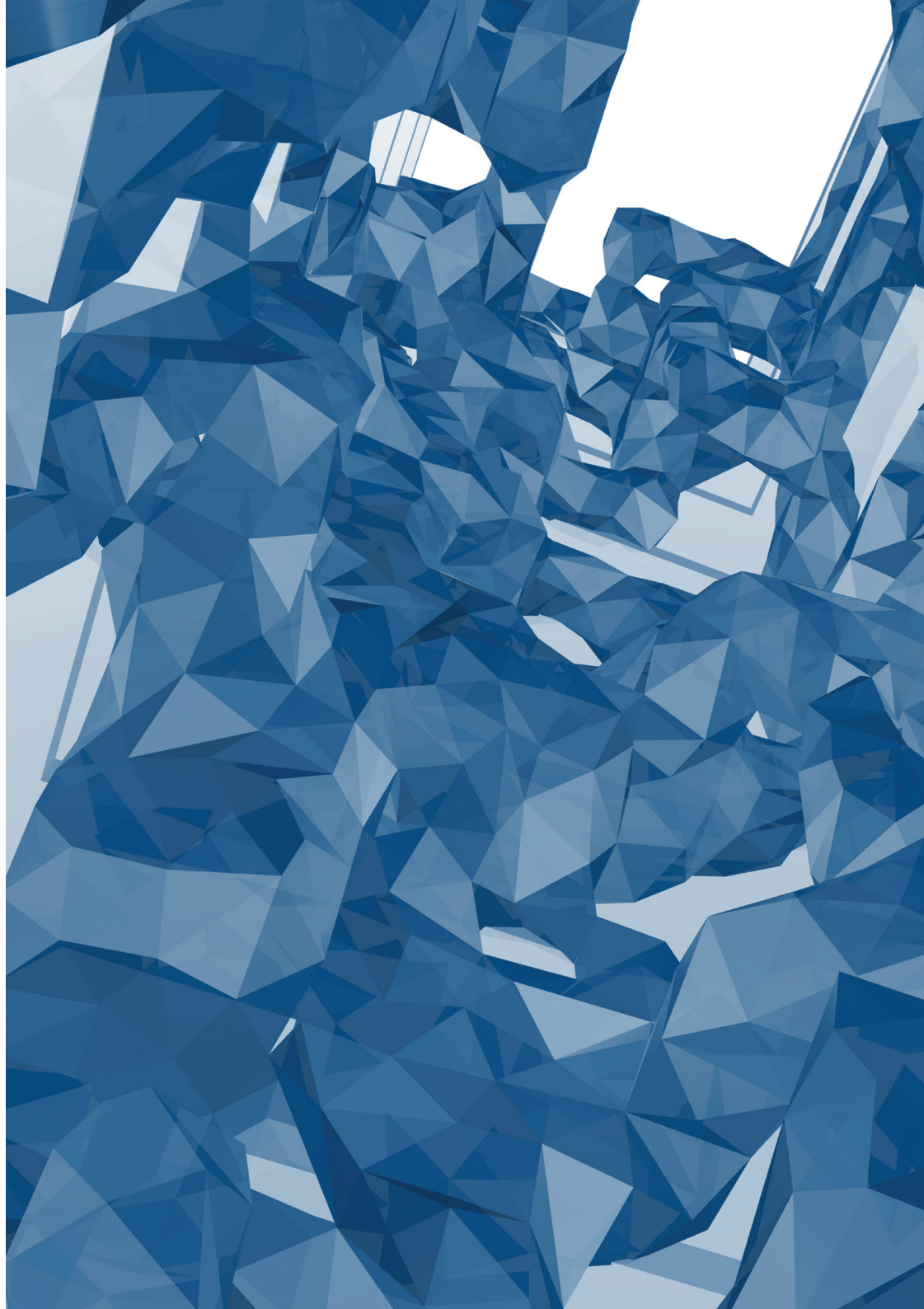

Preface

by Pilar Maria Guerrieri

Let me begin by saying, without anticipating to the readers what Giuseppe Bono's *Blue Papers* has to say, there is no doubt that this is an interesting book. With its innovative approaches and comprehensive referencing, it analyses the contemporary digital shift and its implications within the architectural realm.

After years of practising architecture in several countries around the world, an incredible passion for research, and ongoing studies in robotics and architectural computation conducted inside the B-Pro MSc Architectural Computation at The Bartlett School of Architecture (UCL), have made it possible for Bono to construct a satisfying and original picture of the impact that digital technologies have in architectural design and inside the construction industry. Such digital impact analysed from different perspectives, from practice to education, provides a 360-degree study of particular relevance.

However, it is not only in this perspective that the study is interesting. *Blue Papers* contributes a significant degree to the debate around the relationship between the human being and the computational machine. It is currently evident that such relationship cannot be avoided, and new research is imperative to capture its perspective. As Bono states, the current digital turn in architecture "is a matter of human progress rather than a mere technological development".

The book has been written at a particularly complex and contradictory time in the contemporary world, a time where multidisciplinary approaches have become more and more mandatory. Bono's book has been trying to analyse the current digital evolution of architecture, keeping the balance between written papers and experimental projects, a decision that well reflects Bono's background as an architect. The visual apparatus is very explanatory of the imaginative digital potential. It is clear from the beginning that the book is written by an architect and not by a historian in the way it explains from within crucial topics and tools related to architectural digitisation. It demonstrates a deep knowledge of the ongoing technological innovation, such as computational design and robotics, being

able to showcase its potentials to the readers and, at the same time, becoming a tool for practitioners.

A virtue of the book is that it reads the digital shift in a proactive way, always keeping a balance between technology and humanities. In fact, often, one sees that technologists are in love with technology in itself and far from real challenges, whereas humanists address technology without really knowing the new tools and their potentials. This book does have the merit to attempt creating a bridge between the two realities. Bono has a hybrid educational and professional profile that allows him to address the current digital turn in architecture towards a technological and at the same time humanistic perspective.

However, acknowledging the incredible potential of the digital realm, I would like to point out certain critical considerations that came to my mind while reading the book and which might be an inspiration for further observations.

Anonymity vs authorship

Bono recognises the great potential of the digital revolution and its large impact, mainly on Western society. He defines it as a 360-degree cultural shift and not just a simple technological innovation. A shift that also implied a radical change in the figure of the architect, who—in Bono's terms—is increasingly becoming a *digitational architect*. An architect who not only knows how to use technological tools but also how to address them inside of a wider context of reference; beyond the mere technological development and towards a panoptic understanding of a new human progress. The presence of computational tools and methods, increasingly predominant in design and construction, raises a question that is not secondary with respect to the authorship of projects: the more the machine becomes responsible for the result of the architectural project, both structural and aesthetic, the more it will necessarily tend to standardise, compared to the much more intuitive and unpredictable human creativity; no matter how much it may be possible to customise the final result modifying the inputs given. A process that optimises, but also ultimately impoverishes the final project.

The appeal is to find ways to maintain control of the final architectural output and not let concerns of greater efficiency and economy reducing architecture to data input, leaving to an algorithmic jungle the wonderful world of design, and projecting us into even more repetitive architectural scenarios than those that already characterise the world we are living in.

The interpretation factor

The digital revolution, as Bono clearly shows us, has in most cases led to optimisation processes, but this efficiency is not necessarily the most important goal to be achieved. Solving the great contemporary challenges, or at least trying to do so, is the goal. It is not always understood by technocrats that the digital revolution, the technological innovation, and the development of its tools are always medium—never the final goal.

The old-fashioned architecture, if we can define it that way, being intermediated much less by cold numbers and data, gave ample space and margins to emotional and critical interpretation, with all its approximations. Interpretation, often slow and tentative of places, context, atmospheres, psychological aspects, and cultural nuances of various kinds were the projects' soul. Interpreting situations in an emotional way is something that machines are not able to do yet. Computational machines can respond to pre-set parameters, calculate, and create projections based on data but cannot design emotionally, imagine, project freely. The ability to interpret is key in reading situations and finding key issues to solve, understanding which ones give real priority. It is a visionary ability. In fact, something that may appear irrelevant from the numbers could, instead, be something with a great implicit potential to develop. Machines do not have visions; they execute according to commands. Digital technology has, in fact, a terrible tendency to eradicate the complexity of natural issues, providing efficient solutions—devoid of critical and emotional interpretations—that often create more hypothetical questions than real answers.

Information overload

Bono highlights the power of *connectocracy*, namely the power of connections that the digital age has made available to us. By doing so, he also shows the implicit speed at which these connections are possible today. Connections at all levels have substantially changed the way we conceive design as a whole. Easy accessibility has changed models, often leading to more amateurism in research and a profound change in aspirations. At the digital level, where everything is accessible and therefore seems feasible, solutions are imagined for one place due to free and fluid information but may be inspired by another place. Perhaps the inspiration is taken online from a very different place in climate, culture, and materials; not taking into account the diversity of contexts.

The access to new reference parameters has determined a good dose of superficiality and has created certainties instead of doubts, adjustments, and adaptations. Even if the design was slower in the past, slowness was

sometimes a value: it dismissed, chose, adjusted, and finally—as a result of this long process—crafted the final design.

The middleman

I agree with what Bono says about the great digital potential, the new opportunities that the digital world opens up for the built environment and its efficiency. Digitisation is an innovation process that it is impossible to avoid. However, I believe though that there is a subtle implication involved by digital technologies that has not been considered enough: the constant need for the presence of a tech expert, a middleman between the design and its realisation. Unfortunately, digital technologies, programmes, and artificial machines are not intuitive yet. They need a professional capable of dealing with their complexity during the design process. This high level of technology needs the constant presence of someone capable of sorting out tech-related issues; allowing the machines and programmes work, understand, and write in computer language. Being able to translate that computer language into reality, communicating the digital inputs to physical workers. Such skills create an inevitable gap between the machine and those who build. It is very important to work on the accessibility and simplicity of use of these digital tools by everyone, avoiding the mandatory presence of a middleman.

Disparity

Bono highlights scenarios of new possible teaching methods through new forms of multidisciplinarity. His vision can certainly be shared, although we must not forget the disparity of possibilities that different contexts present. Digital technologies and its new potential are still very costly, buying a computer is expensive, new software, time and investment to keep up with updates involve constant costs, and not everyone can afford it. We must be aware that the potential of the digital revolution, in the way the author presents it, is not yet ready to face less developed realities, such as those of the poorest countries or the most marginalised rural areas in most parts of the world. So it is true that this is an extraordinary possibility but, as of today, it runs the risk of creating bigger disparities at social level, between those who are rich and those who are poor, between those who are educated and those who are not, between those who can afford the digital innovation and those who cannot. This is an issue that cannot be addressed ex-post because, at that point, it will be too late. The digital world must defend the values of democracy and try to orientate itself from the beginning towards the most difficult and less fortunate realities, always offering an opportunity to contain the social gap and not be the cause of it. The digital innovation yes, but at what price?

As Mies van der Rohe taught us: “The new era is a fact: it exists, irrespective of our yes or no. Yes, it is neither better nor worse than any other era. It is a pure datum, in itself without value content”. Digitisation is a fact; it is not just a matter of concern of architects but a global evolution that we face every day. Acknowledging it is fundamental to face contemporary challenges, we should make the most of it, but never losing our critical perspective. By staking out a position on the field, Bono establishes himself with prospective readers as a reliable reference to future digital development in the architectural realm. The book is an eyeopener and a very valid starting point for future research.