idea journal recognises interiors and interiority as an emerging, discursive, and interdisciplinary field of research concerned with conceptual, material, and social relationships between people and environments. It identifies the study of interiors and interiority as necessarily expanded and non-canonical, derived from the confluence of knowledge distributed across many spatially oriented design, art, and architecture fields. Promoting the production of new knowledge and critical practices of interiors and interiority, idea journal provides a space of scholarly engagement for text- and visual-based research. idea journal serves an international academic, professional, and student readership and welcomes contributions from those involved in bolstering theoretical and creative discourse.

www.idea-edu.com

The objectives of IDEA are:

1. Objects

3.1 The general object of IDEA is the advancement of education by:

(a) encouraging and supporting excellence in interior design/interior architecture/spatial design education and research globally and with specific focus on Oceania; and

(b) being an authority on, and advocate for, interior design/interior architecture/spatial design education and research.

3.2 The specific objects of IDEA are:

(a) to be an advocate for undergraduate and postgraduate programmes at a minimum of AQF7 or equivalent education in interior design/interior architecture/spatial design;

(b) to support the rich diversity of individual programmes within the higher education sector;

(c) to create collaboration between programmes in the higher education sector;

(d) to foster an attitude of lifelong learning;

(e) to encourage staff and student exchange between programmes;

(f) to provide recognition for excellence in the advancement of interior design/interior architecture/spatial design education; and

(g) to foster, publish, and disseminate peer reviewed interior design/interior architecture/spatial design research.

Institutional Members:
Membership is open to programmes at higher education institutions in Australasia that can demonstrate an on-going commitment to the objectives of IDEA.

Current members:
AUT University, Auckland
Massey University, Wellington
Monash University, Melbourne
Queensland University of Technology, Brisbane
RMIT University, Melbourne
University of New South Wales, Sydney
University of South Australia, Adelaide
University of Technology Sydney, Sydney
Te Herenga Waka Victoria University of Wellington

Affiliate Members:
Affiliate membership is open to programmes at higher education institutions in Australasia that do not currently qualify for institutional membership but support the objectives of IDEA. Affiliate members are non-voting members of IDEA.

Associate Members:
Associate membership is open to any person who supports the objectives of IDEA. Associate members are non-voting members of IDEA.

Honorary Associate Members:
In recognition of their significant contribution as an initiator of IDEA, a former chair and/or executive editor: Suzie Attiwill, Rachel Carley, Lynn Chalmers, Lynn Churchill, Jill Franz, Anthony Fryatt, Susan Hedges, Roger Kemp, Tim Laurence, Gini Lee, Marina Lommerse, Gill Matthewson, Antony Pelosi, Dianne Smith, Harry Stephens, George Verghese, Andrew Wallace, and Bruce Watson.
this issue’s provocation

While the world reels, reconfigures, and recovers from the drama and trauma of 2020, wishing to thwart the effects of grief and comprehend what was once incomprehensible, there is all good reason to turn our imagination to ‘what ifs’, dreams, and other speculations as an antidote to hopelessness. This issue, *Fictions, Fantasies, and Fabulations*, calls for contributions that consider the unlikely, improbable, or downright impossible in spatial design. In recent history, fictions, fantasies, and fabulations have offered productive opposition to the rampant instrumentality of pragmatism and functional planning. Their impact has instilled optimism, sparked alternative visions, and been sites of countless critiques of conformity and the status quo. Loosely defined impulses towards the unrealisable and the most illogical of things approached in the most logical of ways have led to unparalleled episodes of creativity in drawings, poems, and material production. From Piranesi, Peter Greenaway, Kurt Schwitters, Dora Maar, Hans Op de Beeck, Ursula Le Guinn, John Hejduk, to Daniel Libeskind, explorations of the impossible have led to new interpretative frontiers that move the limits of interiority in spatial practices. Lest we forget or become complacent with the contributory and often unrecognised impact of contemporary social media, advertisement, and technological surveillance that continues to shape interior worlds, experiences, and values. In many ways, there is as much focus on unpacking, making sense of, and disproving the dangerous impacts of fictions, fantasies, and fabulations as there is on setting the scene for dreams and magical realities.

This issue recognises the complex story of fictions, fantasies, and fabulations in spatial design, not as counter-productive forces, but as the necessary counter-balances that offer liberty from convention, propriety, and rational assumptions about behaviour, space, time, and material — the core elements of interior worlds. Far from retreating into solipsistic escapism, fictions, fantasies, and fabulations serve as crucial sites for speculative invention, futuring, and critical reflection. Resistant to the reductive inertia of pragmatism, these generative properties reign in that mercurial shadow world of meaning and value not directly associated with cause and effect.

This call for papers and projects is intended to frame an open examination and exploration of the fictions, fantasies, and fabulations in spatial and interior practices. It prompts us to draw, write, perform, and record the critical edge of the unrealisable in an era that has literally experienced the limits of reason. As described by poet Franny Choi, there is no more time for poetry without stakes because ‘people are literally dying’. There is no more time for creative practices that don’t ask questions that we “truly don’t know the answer to”. Choi’s sentiments air a sense of urgency for relevance as much as they point to the value and agency of poetic meaning and making in artistic, spatial, and interior practices.

reviewers for this issue

Charles Anderson, RMIT
Jen Archer-Martin, Massey University
Thea Brejzek, University of Technology Sydney
Daniel Brown, Victoria University Wellington
Rachel Carley, Auckland University of Technology
Lilian Chee, National University of Singapore
Chris Cotrell, Monash University
Christina Deluchi, University of Technology Sydney
Helene Furjan, Drexel University
Olivia Hamilton, RMIT
Susan Hedges, Auckland University of Technology
Ed Hollis, University of Edinburgh
Cathryn Klasto, University of Gothenburg
Linda Matthews, University of Technology Sydney
Belinda Mitchell, University of Portsmouth
Tiiti Poldma, University of Montreal
Remco Roes, Hasselt University
Jana Scholze, Kingston University
George Themistokleus, Leeds Beckett University
Peter Thule Kristensen, Royal Danish Academy
Jiangmei Wu, Indiana University

[https://www.youtube.com/watch?list=PLYUdgQOLXic/HWlc3nBH7VNNv5HhDTA&v=iwoS-CB7k8&ab_channel=PBSNewsHour](https://www.youtube.com/watch?list=PLYUdgQOLXic/HWlc3nBH7VNNv5HhDTA&v=iwoS-CB7k8&ab_channel=PBSNewsHour)
in this issue

07 introducing, inducing
Julieanna Preston
Luke Tipene

08 a design studio on fantastic space: exploring the narrative of *spirited away*
Demet Dincer
Ilke Tekin
Pelin Cetken

33 variations on piranesi's *carceri*
Andrea Alberto Dutto
Maria Fedorchenko

58 tempering grief through the victorian home's furniture and objects: the emergence of spiritual comfort
Vanessa Galvin

75 imagining a more inclusive world: notes on difference, disability, and space in *the shape of water*
Ann Heylighen
Daniel S. Friedman

93 let it unfold — performative exhibitions: the living interior of the austrian pavilion at expo milan 2015
Ayman Kassem

109 dancing in your brain!: interiority, affective witnessing, and xenoethics
Cathryn Klasto

128 ghost written: the winchester house as cinematic trans-mediation
Cameron Macdonell
John Sicat

138 how not to forget: the speculative interior as apparatus of memory
Evan Pavka

163 refabulating domesticity: a reparative reading of interior genre painting
Kris Pint

182 william heath robinson and k. r. g. browne: literature contraptions as inspiration for facing spatial issues
Sofía Quiroga Fernández
Guillermo Sánchez Sotés

200 whakapapa plotting: an aotearoa-specific method of spatial communication
Georgina Stokes (Ngāi Tahu)
variations on piranesi’s carceri

Andrea Alberto Dutto  
RWTH Aachen University  
0000-0001-8620-5960

Maria Fedorchenko  
Architectural Association  
0000-0003-0645-1235

abstract

As one of architectural printmaker Giovanni Battista Piranesi’s most studied print series, Carceri d’invenzione (1750–1761) constitutes a timeless precedent for architectural experimentation. This text-based research essay describes the outcomes of a design-driven experiment that attempted to unpack the hidden potential of Carceri in the domain of architectural representation. The aim was to analyse Piranesi’s oeuvre from a new curatorial perspective, as well as propose a further speculative step in the hermeneutics of Carceri. In our experiments, the Carceri was understood as a temporary aggregate of heterogeneous materials capable of establishing a metaphorical link with architectural objects at different scales.

cite as:
Dutto, Andrea Alberto, and Maria Fedorchenko,  'Variations on Piranesi’s Carceri', idea journal, 19, no. 01 (2022), 33–57, https://doi.org/10.37113/ijv19i01.476

keywords:
digital representation, experimentation, interiority, Piranesi, speculative design
the theoretical assumptions behind the experiment

Following a design-driven experiment conducted with students of the Architectural Association School of Architecture, this essay undertakes a speculative reading of Giovanni Battista Piranesi’s print series *Carceri d’Invenzione* (1761), which is translated as *Imaginary Prisons*. This essay is in no way a contribution to the considerable number of historiographical studies carried out on Piranesi over the past two centuries. Readers interested in deepening their historical knowledge of Piranesi’s work may therefore be disappointed this essay does not have a historical goal. As the authors are not architectural historians, it is possible that crucial insights from recent historical scholarship on Piranesi will be omitted. This essay reports on the outcome of an experiment carried out with students, in which the objective was to create a new interpretation of *Carceri*, while also producing theoretical and graphic ideas about architectural representation and diagram-making.

Piranesi elaborated *Carceri* at two separate times, about a decade apart, producing two different series of engravings. The first series, created between 1745 and 1750, resulted in highly dramatic spaces, products of an excited imagination combined with an interest in ruins that spread along with archaeological campaigns. In *Carceri* Piranesi put into practice some of the technical skills he had acquired as part of his scenographic studies, which are reflected in the conception of endless rooms, immense yet claustrophobic interior spaces. In 1761, Piranesi produced the second series of engravings, inspired by the previous one, but featuring the thickening of details and the chiaroscuro strokes, resulting in further darkening of the figures. Both series continue to incite visionary drawings.

Over the past few decades, many architectural experiments on Piranesi’s *Carceri* have been undertaken and published in the form of rediscoveries and variations. As far as we are concerned, these initiatives have played an important role in highlighting *Carceri* as references for new architectural speculations. This essay is situated among these experiments, or deliberate variations on originals, carried out in recent years. What we present is therefore a collective body of work that could be seen as part of another larger body of *Piranesi Variations*. It points towards future possibilities of repositioning Piranesi’s work in relation to an advanced epistemology of digital representation.

In this section, we present the theoretical assumptions behind our experiments. These are concepts we have extracted from a direct observation of Piranesi’s prints as well as from the historical literature. It is useful to clarify the overall theoretical concern that informed our experiments, namely the use of references in the making of architectural designs. In other words, we were interested in the ability of the
student to select one of the many aspects of a reference — a building or an image — to find a solution to a problem or speculative scenario. Piranesi’s Carceri were chosen because it would be possible for students to maintain focus on a singular aspect within each image without viewers’ attention being hijacked by the noise of the figure itself.

Students were provided with a very short initial syllabus that included general background texts such as the essay collection on Piranesi edited by John Wilton-Ely. Wilton-Ely offers an elegant and clear introduction to Carceri as:

[…] a series of caprices or fancy jokes […] whose forms are rapidly sketched, traced on the plate in that fluid and summary manner […] and with an equally personal language, where mysterious subjects […] defy all attempts to impose a coherent iconographic solution.

This definition requires additional explanation to be useful to creative and imaginative experimentation. Indeed, a problem with historical assessments such as these is that they do not generally provide cues for creative elaboration — the initiative to transport Piranesi’s drawings beyond the realm of history is delegated to the reader. We noticed that this act of transporting materials out of their field of origin — in this case, from history — is not at all easy for an architecture or design student. Even within their educational curricula, inquiry is divided into fields such as technology, history, design, or theory. For this reason, we combined the students’ introduction to Piranesi’s work with an encouragement to see themselves as twenty-first-century designers.

The experiments took place on three fronts, which we can define as problems: the problem of the author (or the Theft); that of interior space (or the Scene); and that of the book as an object of theoretical speculation (or the Media). More generally, Piranesi’s work stimulated us to reflect and speculate on our shared pedagogy.

**Theft**

The first challenge we encountered in our experiments was to dissolve the feeling of respect and reverence that makes it difficult to use historical material in an unrestrained manner. Without this burden of respect, a student operates with a sense of indifference towards the historical product. But with it, the student can’t feel that it is possible to transport the historical material into the present. In both cases, what establishes a sense of distance seems to be a perceived lack of erudition that generates a fear of the unfamiliar. The case of Piranesi is very useful in overcoming this problem, since he himself is described by historians as an architect who was somehow disrespectful and irreverent toward the historical material he employed for his own creative purposes.
This observation comes from an important essay by Manfredo Tafuri, in which the Italian historian describes Piranesi as a ‘wicked architect’ — borrowing a phrase from the French artist and writer Pierre Klossowski’s essay on the Marquis de Sade. Tafuri means that Piranesi performed two types of work — historical and creative — or rather, his strategy allowed him to achieve a new aesthetic under the guise of archaeological research. During the mid-eighteenth century, the archaeological exploration of ruins became an important theme in the study of the past, and a way of conveying a new architectural aesthetic. As a result of this activity, antiquarian books and prints became increasingly popular and the drawn architectural form became the vehicle of Piranesi’s aesthetic.

As one of his biographers recalls, ‘Piranesi’s first years in Rome was a time of running without respite from ruins to libraries.’ Therefore, when Tafuri (quoting Klossowski) states that Piranesi is ‘concealing the passion under the appearance of thought,’ we believe he means that Piranesi creatively ‘misused’ archaeological materials without letting himself be hindered by respect or reverence for the ancient. On the contrary, Piranesi seemed ready to manipulate the meaning of ruins to the point of appropriating them by highlighting his own contribution over the reference. Tafuri’s statement — which may seem exaggerated for a historian — is a rhetorical device we found useful in provoking the students and giving them the courage to steal, or, in other words, to hide their own personal research into architectural expression behind their analysis of Piranesi’s Carceri.

**scenes**

Carceri have been described by Wilton-Ely as interpretative keys to the spatial complexity found in certain other projects by Piranesi. In our experiments, however, we understood Carceri as scenes depicting alternative concepts of interior space. Some of the plates of Carceri are so absurd that it is difficult to imagine such spaces could ever have existed, or that Piranesi could have encountered them during his visits to archaeological sites. In fact, as he himself clarified, the prints are d’Invenzione — that is to say, invented spaces from his own imagination. They relate to the tradition of veduta ideate, a model of representation that had become popular in the 1720s and consisted of the imaginative depiction of ancient monuments in the form of assemblages and compositions. Perspectival reconstructions by art historian Ulya Vogt-Göknil demonstrate the unstable and disordered geometry of Carceri, as well as their substantial infraction of the rules of perspective. Similarly, Franco Purini has observed:

[…] the axes on which the spaces are aligned penetrate deep into the multiple vanishing points [and] the essence of the interior of the Carceri is exalted in the very moment in which their geometric deconstruction dissolves this “interiority” in an open and divergent coexistence of perspective layouts.

We believe the concept of scene, from the Greek σκηνή (curtain or backdrop), describes the type of representation to which Piranesi aspired. Like curtains, the scenes of Carceri
result in an intensification of reverberating forms, producing a saturated texture within the picture plane. Derived from the use of a central focal point of perspective, these scenes are distorted to the point of destabilising the true rule in which the same perspective is grounded.

Piranesi may have acquired these technical skills of representation through his studies in scenography, and from other artists in the Venetian area, such as Tintoretto, Veronese, and Tiepolo. Piranesi may have drawn on techniques from scenography, which allowed him to create illusions of fantastical worlds of unlimited expanse through the manipulation of linear perspective. Depicting a scene from the corner is something Piranesi is likely to have learnt from Ferdinando Bibiena’s *Architettura civile* (1711). This technique constituted ‘a revolutionary idea,’ writes Wilton-Ely, ‘thanks to which the traditional central vanishing point was abandoned in favour of several diagonal visual axes, each of which allowed to open further views, creating a spatial structure of high complexity.’

Without the time to attempt geometric reconstructions of Piranesi’s scenes, we experimented with different forms of perspectival distortion using image and video processing programs such as Rhinoceros 3D, Blender, and Unreal Engine. This approach resulted in contradictory spaces that were both flat and deep at the same time. Those students who worked simultaneously with the elaboration of three-dimensional spaces and its two-dimensional representation proved more successful in finding innovative and interesting points of contradiction and irreconcilability between space and image.

We were unable to delve into an analysis of secondary literature on Piranesi, such as the studies by twentieth-century Soviet film director and film theorist Sergei Eisenstein, which demonstrate a clear interest on the part of the filmmaker in the variations that occur between series. Nevertheless, we could see how some students were referencing Eisenstein indirectly through filmic means. Another theme left for future research and experimentation was the *memento mori*, and the reception among contemporary audiences of the prints in warning of the dangers of criminality in eighteenth-century Rome.

In a way, the *Carceri* prints point to several possible themes precisely because they were created from the imagination rather than direct representations of physical spaces. With our experiments, we attempted to unleash the expressive potential that can emerge from reinterpreting and reworking the scenes from the series.

media
In addition to considering Piranesi’s imagery, we also extended our experiments to examining *Carceri* as a media publication. This interest was related to recent research on Piranesi that has brought to light some
interesting contextual details. For example, in the 2020 volume *Piranesi Unbound*, the editors Heather Hyde Minor and Carolyn Yerkes demonstrate that the book was a vehicle of knowledge and a powerful tool for the construction of architectural discourse.\(^{23}\) Similarly, Minor, Mario Bevilacqua, and Fabio Barry shed light on a dimension of Piranesi that is no longer limited to his activity of architectural engraver, but also to his entrepreneurship in the making of publications.\(^{24}\) These historical details were of interest to us only insofar as they offer stimuli for experimenting with a different way of reading Piranesi, or rather, of producing speculations about the architect’s field of action.

We asked ourselves some questions about the numbering of the plates and the resulting reading sequence. We realised, for example, that the historian Andrew Robison does not devote any attention to this when he considers the structure of the book to be the result of a spontaneous development, without any preordained thought on the part of Piranesi. Piranesi did not in fact leave any evidence to justify the sequence of the plates.\(^{25}\) As Minor and Yerkes state:

[...] although contemporary readers often expect books to be static and immutable, Piranesi’s volumes certainly were not. For Piranesi, after a book was bound it remained a flexible object. Although the text includes page numbers, the order and composition of the illustrations varies from copy to copy, indicating that there was not a set sequence for the figural plates. Piranesi’s approach to layering sheets together features a sense of fluidity. The layers — the order, and therefore the resultant reading — could change over time.\(^{26}\)

In our experiments, we questioned the sequence of the prints, as if looking for a key to read the work as a book. On the one hand, the sequence of plates works as a device of spatial or temporal proximity between the rooms represented in each panel. This understanding was suggested by Plates X and XV, whose margins appear to allude to possible connections or relations of continuity between the spaces. On the other hand, the attribution of titles to each plate seems particularly relevant when it attracts attention to a specific element, as seen in the *staircase* of Plate VIII (*The Staircase with Trophies*), the *well* in Plate XIII (*The Well*), and the *tower* in Plate III (*The Round Tower*). At the end of the experiments, this feature of the work remained highly prominent and stimulated our collective understanding to establish a continuity between the parts and the whole.

This speculation on how to read *Carceri* seemed to us a good way to also discuss the role of the architect as a cultural agent today. Indeed, we believe this approach can be useful in innovating the way Piranesi’s work
is exhibited, in museums as well as digital exhibitions and publications. As such, we wanted to draw attention to the speculative architecture of the book and introduce students to the fundamental changes the published book might undergo today, in the way it is made and displayed.27

We also considered the concept of the corpus, which emerged from reading an essay by Minor: ‘The word corpo in eighteenth-century Italian referred not just to the human body but also to unbound books,’ she states. ‘There were more than three hundred such corpi in Piranesi’s Museum [Collection] on the day he died.’28 We interpreted the concept of corpo as an accumulation of different materials, heterogeneous in terms of content and subjects, a temporary container that is always inconsistent or incomplete. This concept of corpo allowed us to make some speculative comparisons between the form of the city and the construction of Carceri as a theoretical object.

To summarise, our aim was to revise Piranesi’s Carceri in terms of scenography; the relationship between interior space and scene; and emerging modes of figuration with regards to the plates and media.
critical and methodological observations

Together, our *Piranesi Variations* tried to deflect the conventions of visual representation, while testing additional graphic, diagrammatic, and organisational techniques. A common aspect across the students’ works was the desire to play with dense and shallow renditions of space by tweaking saturation and texture. In many instances, there was a manipulation of the borrowed material as well as new additions. Most of the experiments approached the plate as a singular moment within a much larger interior space.

repetitive elements, inclusive spaces, and loose techniques

In the first cluster of our variations, we started by working with architectural cues from select *Carceri* plates, then enriching, reshuffling, and further animating their contents. Meanwhile, we tried to connect them to contemporary contexts subject to demolition and rebuilding programmes. Inspired by Piranesi’s willingness to fragment, misuse, and collide various formal fragments in dynamic compositions, several student variations extended this approach to address recent urban issues. These voracious interiors began to amass additional *spolia* and bits of wreckage, including, for example, modern construction waste. New streams of content further intensified the process of scenographic saturations — the build-up of form and detail as seen in the transition from the first to second edition of Piranesi’s *Carceri*, and plates I and XVI. With digital shortcuts, we were able to accelerate the production of visual texture by fracturing larger fragments and diffusing finer particles. Set within reimagined crypts and caves, these scenes referred not only to cycles of material transformation and reuse, but also to recent discussions about discreteness in digitally driven design production (see Figure 01). Specifically, they probed the discrete logic of the image itself, beyond the visualisation of digitally controlled assemblies.

Here, we detected a shared interest in building the scenes through repetition and variations of sub-elements. Like the *Carceri* plates, many images were marked by the eerie recurrence of a few select elements, such as arches and bridges, that repeated in various positions, rendered with different technique. The gaps between these repetitive figures made room for subordinate spaces — as interior pockets or vistas — yet there is no illusion of depth. As the density and dynamism of the images escalated, we could see the students were paying tribute to a passionate indulgence in the raw beauty of the surreal landscapes they were creating using design strategies such as splintering, exploding, melting, and fusing. However, considering the technological tools and processes they were using, the students managed to balance this aesthetic intensity with rational thinking; like Piranesi, they dissimilated their intellectual endeavours behind creative enthusiasm (see Figure 02).
An interpretation of fragmentation in current environmental discourse, this exercise used advanced scripting and animation software to expand the range of reused fragments and debris to include modern demolition waste such as concrete, metal, and glass.
Building on the early phases of the experiment in fragmentation and densification of form, the reworked interior scenes were saturated with multiple industrial infrastructures and the material transformations. New mechanics and robotics were depicted, bringing together issues of contemporary technology with emerging design logics and material aesthetics.
The resultant images were not just rich and overwhelming; they also sought to outline transitional stages between different modes of representation. They increased repetition and variation of key visual techniques and attempted to reveal how the representational devices worked behind the scenes. Here, we were directly inspired by Piranesi’s deliberate subversion of the pictorial conventions of his time, drawing on his jumps between foreground and background, multiple axes of escape, and centrifugal explosions of the image across the picture plane.

In several examples of the students’ work, the repetition of architectural features — columns, beams, arches, and stairs — further emphasised the lack of spatial clarity and suggested ambiguous interpretations. By questioning the conventions of image-making and 3D-modelling, several variations alternated between flatness and depth within their algorithmically generated interior worlds (see Figures 03 and 04). Such oscillating thick 2D-images made it difficult to distinguish between object and field, and figure and ground. Depth appeared momentarily, just before it collapsed back into the graphic surface in a deliberate push and pull within the immaterial, virtual space.

While this fertile figure–figure digital realm could support further experimentation, we were cautious not to reproduce the type of self-referential postmodern games that often resulted in drawings that were intellectually astute yet visually overwhelming and virtually illegible without internal theory of the projects — Daniel Libeskind’s *Micromegas,* and Peter Eisenman and Jacques Derrida’s *Chora L Works* are two examples. With this in mind, we undertook the creation of composites by using the relationships between the scenes and, in part, subverting the tradition of layered, hybrid drawings.

---

Left, Figure 03. Ka Chun Chan, *The Arch as Recursive Figure,* 2021. This exercise used repetitive figures such as the arch from Carceri’s The Round Tower to generate an unbounded matrix — a virtual interior. The experiment worked in two phases: the first was a realistic construct, subject to shade rendering and depth allusions; the second was a virtual construct that colour-codes the picture surface without allusion to any analogue environments. With conventional legibility obfuscated, the image became a new figure–figure representation that emphasises the multi-dimensional nesting of spaces, and follows a fractal logic.

Right, Figure 04. Ka Chun Chan, *The Arch as Recursive Figure,* 2021.
The students’ intentional ruptures between flat and deep zones allowed several concepts of space to coexist within the same image. The conceptual complexity escalated as we began to reinterpret *Carceri* in relation to other discourses such as on composite urban images or formal assemblages. However, we did not intend to create more architectural capriccios or collages of disparate fragments. Rather, we tried to expose the impossibility of Piranesi’s scenographic space, and to highlight its relevance.

In some works, the students reminded us of the long-standing relationship between architecture and cinema by approaching Piranesi’s plates through the analogy of a continuously evolving cinematic set (see Figures 05 and 06). Abandoning the correspondence between image and model, they exaggerated the feedback loops between the architectural props of film sets and the cut-up contents of the cinematic frames. To an extent, they tapped into the inherent plasticity of space, explored as a malleable and contingent interior over time. Executed in time-based media, these variations were made up of montages of spaces, threaded with several viewing trajectories.

Above, Figure 05.
Verdi Tsui, *The Round Tower Cine-Set*, 2021. This variation was part of a larger exercise that took five plates from *Carceri* as starting points for the construction of a round tableau of collided architectural elements, using the analogy of the cinematic set. The elements included paths from *The Round Tower*, frames from *The Grand Piazza*, textures from *The Smoking Fire*, displays from *The Staircase with Trophies*, as well as danglings from *The Well*. In the case of the tower, the work zoomed into hypothetical viewing paths that wrap around the anchoring central elements. The spatial spiral was built up using additional flights of stairs, landings, bridges, and galleries. In a deliberate twist, the attempt to consume the whole construct as a top-view exposed its implausibility.

Below, Figure 06.
Verdi Tsui, *The Round Tower Cine-Set*, 2021.
These experiments showed that we can expand, enrich, and agitate the contents of scenes such as Piranesi’s *Carceri*, while highlighting the importance of more dynamic forms of representation that unfold beyond a single composite drawing. As we advanced to working with longer visual narratives and animations, we raised further issues regarding the representation of the spaces that connect multiple moments. Could such in-between spaces become the key tissue of spatial matrices and perceptual connections? Could *Carceri* be understood as the organisational paradigm of such transitions?

**book-spaces, combined tools, and diagrammatic lines and surfaces**

A second cluster of variations drew on *Carceri* as an unbound book or *corpo*, and a loosened organisational diagram. These experiments undertook a manipulation of a larger set of plates. They tended to explore the interdependence of the divergent parts of *Carceri* as well as ways of ordering the whole. Presented as visual sequences and animations, the variations in this cluster focused more on the dynamic links and ruptures — or the discontinuity — found in the originals. The book was used as a diagrammatic ordering device and cultural tool — the book-as-project.

Several exercises began by building up layers of depth within the plates. Imagining the spatial consequences of the partial hints, the students then extrapolated additional spaces between the original plates, constructed by drawing outlines and atmospheric textures (see Figure 07). These added slices of space then called on additional devices — arcades, walkways, and landscape paths — that allowed viewers to almost move through the striated space (see Figure 08). In this way, the distended plate sequence became a longer immersive document.

Next page, Figure 07.
Deborah Wong, *Carceri as an Immersive Document*, 2021. To see the full video go to: https://apc01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fcdn.sanity.io%2Ffiles%2F98ff8%7Eproduction%2F21ecb6b52f35d4f7257f3f910d1e0eb8a72b.mp4&data=05%7C01%7CJ.Preston%40massey. In this exercise, the spaces between the plates were constructed via several techniques: first, by peeling away and spacing apart the pictorial surfaces; and second, by adding surfaces and passages to support the flow between the plates.
The overall impact of *Carceri* was explored as an experiential journey, where interim transitional landscapes were brought together along with manipulated plate-spaces. This experiment suggested that we can rethink the way we conceive architecture in terms of abstract formal rhythms and perceptual thresholds, and how we construct spaces of connection.

**Figure 08.** Deborah Wong, *The Carceri as an Immersive Document*, 2021. The overall impact of *Carceri* was explored as an experiential journey, where interim transitional landscapes were brought together along with manipulated plate-spaces. This experiment suggested that we can rethink the way we conceive architecture in terms of abstract formal rhythms and perceptual thresholds, and how we construct spaces of connection.
However, we were cautious not to equate the experiential journey or visual tunnel — replete with deliberate interruptions, detours, and lateral shifts — with the narrative structure that would conventionally bind together a book. In our experiments, we did not resort to a bidirectional flow of analogies between image and text. While the text has been used as a lens to describe the discontinuities within Carceri, such as by architectural theorist Jennifer Bloomer, we did not attempt allegorical 'constructions' of hyper-texts that explored how various separate points and lines suggest 'constellations' of descriptions and delineations. Rather, we explored how the visual book might be actualised spatially, to trigger an investigation into additional layers and dimensions. Contemplating these spaces presented both familiar moments (they are reminiscent of ruins and assemblages) as well as uncanny ones (they depict mutating monuments, floating supports, lop-sided enclosures). In this cluster of variations, we found additional wrinkles and paradoxes to be explored. The concept of the book served as both an immersive space and an expositional device, always open and receptive.

But here we should ask: how does this spatial approach affect the overall logic and consistency of the project as a whole? In response to this question, the students proposed a shift from the visual narrative to the diagrammatic framework as the primary tool for managing the book-space. Neither the geometric scaffolding involved in reconstructing the spaces behind the images nor the narrative thread can sustain the flow of transitions overall, they found. Experimental diagrams, on the other hand, can manage a project both visually and conceptually. Diagrams help us to sequence the visual samples and unify them into a conceptual whole.

Simple, linear diagrams of progression would be problematic, especially given the images produced by the students, in which vectors, directions, and lines of escape proliferated. And so, several experiments proposed that multiple organisational diagrams can be imposed and relaxed, obeyed or violated. Rethinking the sequence of the Carceri plates, the students tested the application of surface-driven, topological diagrams (see Figure 09). These exercises located the shared elements and implied adjacencies of space laterally, across the edges of the plate. Like the pieces of a huge puzzle, the plates were then arranged and rearranged upon a flexible surface. But how to reveal this process of disconnecting and reconnecting the pieces, as well as the unfolding and refolding of the overall construct? At one point, the animations suggested a kind of three-dimensional myriorama, and at another, they seemed to resemble Surrealist 'exquisite corpses' or postmodern 'architectural jazz'.
Figure 09.
Tara Malek-Gilani, *Carceri Cloud and Unfolding Myriorama*, 2021. To see the full video go to: https://cdn.sanity.io/files/jobfik67/production/38bd3659ab357998ab33b2af519f359aedd444cb2.mp4. This exercise operated with fictional contiguities such as locating another tier of a tower, an extra flight of stairs, or a continuation of a walkway, in order to propose alternative flow across the prints. With this, the extent and the position of graphic fragments was altered. Furthermore, the digital scans of *Carceri* prints initiated a discussion of contemporary technologies of sampling (such as photogrammetry and 3D-scanning). Thus, the construct deliberately switched between surfaces and points-clouds. Overall, the three-dimensional myriorama also invites additional associations: a fragile house of cards, a growing rhizome of connections, and a cinematic labyrinth. The book-space is always fluid, discontinuous, and mutable.
With the burden of these associations, the way we understood our book-worlds became more complex, knotted, and non-linear. And so, whether we experimented with various interconnecting points and lines, or deployed the pliancy of the diagrammatic surface, we emphasised the power of the book as a visual device and intellectual instrument — one crucial for our own architectural culture.

Today, we need more than flexible diagrams that can accommodate fluid patterns of organisation; we also need new tools for processing, filtering, and display of information. And so here we considered the relationship between old and new media tools. If the old media (etched plates, books, archives) could merge with the new (digital exhibitions, websites, virtual platforms), what does that imply for our ability to manage digital sets of architectural representations? Going beyond the spatial book-constructs and the digital archives of prints, could we encompass the collection of urban images using the idea of the growing imaginary city — a cumulative body of work that is *Carceri*? How would that alter our approach to curating and display?

**subdivided city, urban corpo, and digital platforms**

The third cluster of works took our experiments to further levels and scales and focused on transfers between media and visual carriers of cultural content. These variations exploited the logic of *Carceri* as an urban *corpo* — in other words, they attempted to construct a larger project from discrete timelines of architectural variations. They also evolved their diagrammatic frameworks to adapt to the larger scope of the project, using digital matrices, archives, and platforms.

Noticeably, several exercises continued to exploit the gaps and subdivisions found in the *Carceri* plates. Through analytical dissection and re-framing, they released architectural fragments from the imaginary ground. At the same time, they responded to recent cultural debates on the life cycles of urban artefacts (along with accompanying loops of their short-term utility and obsolescence). Focusing on the deconstruction and reconstruction of architectural monuments, several exercises presented us with abstract diagrams and visual tableaux of cities of ruins (see Figure 10). They tracked the processes of erection and collapse in both directions: the complete breakdown of persistent structures such as towers as well as the architectural monsters and chimeras rising from the entropic fields of debris (see Figure 11).
Beyond representing space, the students attempted to visualise time — vectors, timelines, and transcripts. Such preoccupation marked the gradual yet deliberate departure from cartographic approaches to urban speculations. Despite the map-like appearance, the results should not be confused with composite maps of an imaginary Rome. This is significant, for many projects on multiplicity and dis-continuity of the city rely on the *Campo Marzio* as a precedent — another of Piranesi’s renowned projects that is often lauded as the visionary archeological reconstruction and the first modern, architectural project on the city of Rome (the potential plan of the city, extrapolated from the few surviving fragments of the stone map as well as re-imagined to fill in the missing pieces of the spatial puzzle). Its rhythmic architectural plan that spans between several historical periods is often used as a unique basis for projecting further
planimetric grids and infrastructures, as well as adding urban landmarks as linked to contemporary variations.\textsuperscript{39} By contrast, we chose \textit{Carceri} as the central model, serving as a springboard for experimentation on discrete urban artefacts, without the limitations of a totalising map or a common ground (see Figure 12).

\begin{figure}
\centering
\includegraphics[width=\textwidth]{Figure12.png}
\caption{Tianyi Chen, \textit{Reiteration of Fundamental Elements}, 2021. This exercise used archaeological layering in section as a tool to not only show accumulation over time, but also to follow the fates of the most fundamental elements of architecture. These were shown as reincarnated in several historical periods, with different construction methods and material techniques. Viewers can move up and down across a new section of an imaginary vertical space, and also use the image as a cultural device, looking backwards or forwards in time.}
\end{figure}

\begin{figure}
\centering
\includegraphics[width=\textwidth]{Figure13.png}
\caption{Siyue Zhang, \textit{Three-dimensional Corpi}, 2021. This project attempted to explore how the corpo of \textit{Carceri} could be used to subvert contemporary variations on Piranesi’s \textit{Campo Marzio} (an example of the latter is \textit{The Field of Dreams}, a project by Jeffrey Kipnis and a team of students at Ohio State University from 2012). In a conversation with \textit{Field of Dreams}, discrete spatial pockets of the city were also presented as urban palimpsests, containing both historical sites and hypothetical transplants of contemporary landmarks. However, the emphasis shifted to representing evolution of discrete urban sites over time, with less need for the overall map to grant consistency to the project.}
\end{figure}
variations on piranesi’s carceri

Andrea A. Dutto
Maria Fedorchenko

Research Essay
Furthermore, while several experimental practices gave us clear indexical representations of formal transformation (such as via diagrammatic matrices and ‘diaries’), the changes of artefacts in their urban project were harder to track. Working from the idea of corpi, we could better track the evolution of multiple elements simultaneously as parallel timelines. We could also stratify and excavate multiple versions of the same fundamental elements across time and contexts (see Figure 13). This approach allowed the experiments to capture one of the more unique aspects of architectural thinking: the incessant act of tinkering and revision, returning to the past while leaping into future.

In addition to enabling such multi-tracked and self-critical ways of working, this cluster of experiments also made us consider current debates around data-collection, management, and retrieval — especially for urban archives, research platforms, and cultural institutions. For example, some exercises drew our attention to the effects of monitoring information on continuously changing urban sites, while others made us reflect on how growing digital archives might be managed (see Figure 14). Together, these variations presented the future imaginary city as akin to a curated exposition in the virtual space.

Connecting old and new discourses and media, these works sustained the crucial exchange between architecture and city. In them, the future architecture of the city could be glimpsed through select anchor-points, time-sections, and virtual portals. This is relevant for future endeavours, for most of our speculative work will soon be splintered and reconfigured as it moves across multiple platforms — digital archives, multi-media exhibitions, and virtual realms.

Figure 14. Siyue Zhang, Three-dimensional Corpi, 2021. With the use of advanced digital technologies, the historical artefacts and their multiple speculative futures were imagined as one large database. Such a digital database would need new interfaces for browsing and display, especially with the growing importance of the virtual dimension. Building the critique of the frame of the Piranesi prints to other boxes, windows, and portals we deploy on the screens, the project explored multiple points of entry into the virtual exhibition of the urban archive, composed of digital architectural models.
conclusion
This collective experiment stressed the timeless relevance of Piranesi’s Carceri and demonstrated how the series might resonate with current areas of interest within architecture and design, including visual techniques, design methods, and speculative practices. We have shown how these visual explorations can affect the ways in which we construct and manipulate architectural imagery as they perform as carriers of images and concepts while testing new approaches to figuration, organisation, and process. Our Piranesi Variations is a speculative project that subverts notions of flatness and depth, subdivision, and reintegration. As the variations challenged conventions and habits, they also helped us recalibrate our design methodologies in that we became more open to embracing creative freedom while maintaining intellectual consistency.

Our experiments are only a taster of a wider project that could continue elsewhere. It is important to identify further avenues of exploration in the margins of more established research agendas. Specifically, our work could go beyond current obsessions with the surreal, accidental aspects of digital representations, and include deliberate misuses of cutting-edge tools and technologies. At the same time, with augmented (artificial and human) design intelligence, we could generate and manipulate an enormous number of derivative and synthetic images without losing the crucial aspects of subjective judgment and curation. Speculative image-making could be undertaken not only to capture architectural visions, but also to make visible the emerging spatial principles that arise between the visionary and the visual.

By challenging dominant modes of communication and exposition, we could anticipate future curatorial concepts and strategies. We could learn to sustain transformation, variation, and assembly across multiple sites and timeframes. The immersive documentation could traverse interiors that are both real and imagined. To get more out of these journeys and experiences, we would finally be able to switch between discrete and continuous modes of viewing intellectual and spatial frameworks.

Most importantly, we hope our project stresses the benefits of cutting across backgrounds, expertise, and skill sets. This is only a small step towards obviating detrimental divides — between history and speculation, theory and design, analysis and synthesis. With this, we wish to stress the enduring power of the speculative project to deliberately reconstruct and redirect our shared architectural past.
acknowledgements
The authors would like to thank the students in the Diploma 6 Design Unit at the Architectural Association, led by Maria Fedorchenko, who took part in the design-research workshop.

author biographies
Andrea Alberto Dutto is a research and teaching associate at the Department of Architectural Theory at the Faculty of Architecture of the RWTH Aachen University. In 2017 he completed his PhD at the Politecnico di Torino in cotutelle with the RWTH Aachen University. His research focuses on handbooks, diagrams, and maps oriented to architectural design.

Maria Fedorchenko is a Unit Master at the Architectural Association School of Architecture, where she has also taught History and Theory Studies, Housing and Urbanism, and Visiting School programmes. She has held teaching positions at UC Berkeley, UCLA, and California College of the Arts. Primarily an educator and theorist, focusing on diagram and infrastructure, she is also a co-founder of Plakat, an urban consultant, and a co-director of Fedorchenko Studio, and a generalist practice Karta Architecture.
notes

01 Giovanni Battista Piranesi, Invenzioni Capric. Di Carceri all’Acqua Forte date in luce da Giovanni Buzard in Roma Mercante al Corso (Rome, c. 1749–81). Source: Princeton University Art Museum. All prints can be viewed online at <https://artmuseum.princeton.edu/object-package/giovanni-battista-piranesi-imaginary-prisons/36407?page=1> (accessed 27 June 2022).

02 The Piranesi Effect, ed. by Kerianne Stone and Gerard Vaughan (Sydney: NewSouth, 2015).

03 Teresa Stoppani, ‘Voyaging in Piranesi’s Space: A Contemporary Re-Reading of the Beginnings of Modernity’, Haecity Papers, 2 (2006), 32–54; Karissa Rosenfield, ‘The Piranesi Variations/ Peter Eisenman’, Arch Daily, 2012 <http://www.archdaily.com/268507/venice-biennale-2012-the-piranesi-variations-peter-eisenman> (accessed 7 June 2022); Karissa Rosenfield, Venice Architecture Biennale: Common Ground (Venice: Marsilio, 2012), pp. 64–65; Zero Piranesi, ed. by Peter Trummer and Städelschule (Baunach: Spurbuchverlag, 2019).

04 Some of the authors we refer to are published in Log, 31: New Ancients (New York: Anyone Corporation, 2021).

05 John Wilton-Ely, Giovanni Battista Piranesi: 1720–1778 (Milano: Electa, 2008), p. 101.

06 Manfredo Tafuri, The Sphere and the Labyrinth: Avant-Gardes and Architecture from Piranesi to the 1970s (Cambridge MA: MIT Press, 1987), pp. 46–47.

07 Tafuri, The Sphere and the Labyrinth, p. 25.

08 Pierre Klossowski, Sade mon prochain [1947], Pierres vives (Paris: Éditions du Seuil, 2002).

09 Roberto Gabetti and Carlo Olmo, Alle radici dell’architettura contemporanea (Torino: Einaudi, 1989), pp. 156–215.

10 Heather Hyde Minor, Piranesi’s Lost Words (University Park PA: The Pennsylvania State University Press, 2015), p. 9.

11 Tafuri, The Sphere and the Labyrinth, pp. 46–47.

12 John Wilton-Ely, The Mind and Art of Giovanni Battista Piranesi (London: Thames & Hudson, 1978), p. 106.

13 Wilton-Ely, The Mind and Art of Giovanni Battista Piranesi, pp. 4–6.

14 Ulya Vogt-Göknil, Giovanni Battista Piranesi ‘Carceri’ (Zurich: Origo, 1958).

15 Franco Purini, Attualità di Giovanni Battista Piranesi (Melfi: Libria, 2008), p. 30.

16 Wilton-Ely, The Mind and Art of Giovanni Battista Piranesi, p. 101.

17 Wilton-Ely, The Mind and Art of Giovanni Battista Piranesi, p. 12.

18 Ferdinando Galli Bibiena, L’Architettura civile preparata su la geometria, e ridotta alle prospettive (Bologna, 1711).

19 Wilton-Ely, The Mind and Art of Giovanni Battista Piranesi, p. 12.

20 Stone and Vaughan (eds.), The Piranesi Effect.

21 Sergei Eisenstein and Herbert Marshall, Nonindifferent Nature, Cambridge Studies in Film (Cambridge and New York: Cambridge University Press, 1987), pp. 123–54.

22 Andreas Huyssen, ‘Nostalgia for Ruins’, Grey Room, 23 (2006), 6–21 (p. 13).

23 Piranesi Unbound, ed. by Heather Hyde Minor and Carolyn Verkes (Princeton NJ: Princeton University Press, 2020).

24 The Serpent and the Stylus: Essays on G.B. Piranesi, ed. by Mario Bevilacqua, Heather Hyde Minor and Fabio Barry (Ann Arbor MI: University of Michigan Press, 2006).

25 Andrew Robison, Piranesi: Early Architectural Fantasies: A Catalogue Raisonné of the Etchings (Washington DC: National Gallery of Art, 1986).

26 Minor and Verkes, Piranesi Unbound, p. 147.

27 Mark Garcia, ‘Post-Operative “Post-Isms”: Details of the 21st-Century Educations of Architecturalists’, Architectural Design, 91.4 (2021), 76–85.

28 Minor, Piranesi’s Lost Words, p. 4.

29 Discrete: Reappraising the Digital in Architecture, ed. by Gilles Retsin (Oxford: John Wiley & Sons, 2019).

30 Daniel Libeskind, ‘Micromegas Project, Time Sections’, 1979.

31 Jacques Derrida and Peter Eisenman, Chora L Works: Jacques Derrida and Peter Eisenman (New York: Monacelli Press, 1997).

32 Visionary Architecture: Blueprints of Modern Imagination, ed. by Neil Spiller (London: Thames & Hudson, 2006).

33 Jennifer Bloomer, Architecture and the Text: The (S)crypts of Piranesi (New Haven CT and London: Yale University Press, 1993).

34 Construction and Design Manual: Experimental Diagrams in Architecture, ed. by Lidda Gaspertoni (Berlin: Dom Publishers, 2022).

35 Mark Morris, ‘All Night Long: The Architectural Jazz of the Texas Rangers’, in Drawing Architecture, ed. by Neil Spiller (Chichester: Wiley, 2013), pp 20–28.

36 Daniel M. Abramson, Obsolescence: An Architectural History (Chicago and London: The University of Chicago Press, 2016).

37 Here we are referring to Piranesi’s Ichnographia Campi Marti antiquae urbis, 1762. It maintains a strong influence in contemporary architectural discourse, leading to multiple drawing exercises and variations. The original map is used as a conceptual guide for the reconstruction of the missing archeological information according to the architect’s imagination. It is also cited as the project that deliberately connects several eras of the development of the city, through the apparent continuity of the architectural artefacts and urban complexes. Stan Allen, ‘Piranesi’s “Campo Marzio”: An Experimental Design’, Assemblage, 10 (1989), 70–109.

38 Common Ground, 1, Ed (presented at the International Architectural Exhibition, Venice, Italy: Marsilio, 2012).

39 Peter Eisenman, Diagram Diaries (New York: Universe Pub, 1999).

40 Celebrating the Marvellous: Surrealism in Architecture, ed. by Neil Spiller, Architectural Design Profile (Chichester: Wiley, 2018).

41 Neil Leach, Architecture in the Age of Artificial Intelligence: An Introduction to AI for Architects (London: Bloomsbury, 2022).