

# SUPERPOWERS OF MONTAGE: A DESIGN-DRIVEN RESEARCH EXPERIMENT

## A B S T R A C T

This paper presents one segment of a multi-part essay that investigates the ‘superpowers’ of montage. The main goal of the essay is to thoroughly examine the uncharted territories in the interspace between various disciplines - mainly architecture, but also film and other visual arts, in which montage as a technique has taken remarkably diverse forms. The aim of this particular paper is to present an interdisciplinary design-driven research experiment, which used montage technique as a design research tool. In this experiment, montage was not only used as a representation technique, rather it was employed as a main compositional and logical principle in the creative process. Therefore, this paper aims to define and describe in detail seven fairly distinct phases of design-driven research experiment. This interdisciplinary research attempts to contribute to the ongoing discussion on montage in architectural design and research, as well as to the recently established design-driven research field, which focuses on valuation of design thinking, design research methodologies and knowledge contributions made possible by design.

**MONTAGE,  
IMAGES,  
DESIGN-DRIVEN RESEARCH,  
RESEARCH BY DESIGN,  
ARCHITECTURAL RESEARCH METHODS,  
DESIGN RESEARCH TOOLS**

## INTRODUCTION

This interdisciplinary research was conducted during an elective course *Architecture and Visual Language* led by professor Branko Pavić at the University of Belgrade, Faculty of Architecture. The aim of this manuscript is to present a design-driven research experiment that was developed during the course. As the very name of the course suggests, this research did not build its position exclusively from the architecture discipline, just as the results of this research are not solely architectural. Rather, this research built its position from the interdisciplinary framework that consists of film theories and practices of artistic production from the beginning of the 20th century, and contemporary architectural historiography.

As it can be seen from the number of publications and exhibitions,<sup>1</sup> montage is an omnipresent topic in contemporary architecture. In architectural historiography, montage first appeared in the late 1960s and early 1970s in the work of Italian historian and theoretician - Manfredo Tafuri.<sup>2</sup> As Buckley notes: ‘A concern for montage was key to Tafuri’s influential critique of the historical avant-garde, initially advanced in his 1969 essay [...] where he asserted that a “law of montage” was essential to the avant-gardes.’<sup>3</sup> From then onwards, a vast number of articles, essays and books have been published about this topic within the architectural discipline.<sup>4</sup> In 2018, art and architecture historian Martino Stierli published a book ‘Montage and the Metropolis: Architecture, Modernity, and the Representation of Space’ in which he demonstrates the application of this interdisciplinary technique in architectural theory and practice. Stierli concentrates on the history of photomontage practices in visual arts and architecture, Sergei Eisenstein’s essential montage theory, spatial experiments of Mies van der Rohe and Rem Koolhaas’s use of literary montage in his well-known book ‘Delirious New York.’

Another remarkable book on this topic was published in 2019 by Craig Buckley, assistant professor at the Department of the History of Art, Yale University. Unlike Stierli, Buckley concentrates on experimental architecture practices from the 1950s through the early 1970s that include montage as a form of producing architecture. Besides Stierli and Buckley, numerous essays, book chapters, articles and papers about montage were published by distinguished scholars like Georges Didi-Huberman, Beatriz Colomina, Neil Levine, Luca Galofaro and others that considerably enhance this theoretical framework. However, even though ‘montage has been widely employed and theorised along with practices of artistic production (both visual and nonvisual) that compose works from

heterogeneous elements, yet the use of montage in architecture and architectural representation has been given relatively little attention.<sup>5</sup>

Therefore, this research aims to contribute to the ongoing discussion on montage in architectural design and research. More precisely, this research attempts to share new insights about montage thinking in the architecture discipline, which are slightly different from the ones that are established in the previously mentioned literature. This research aims to show that montage is not merely a representational technique, rather it can be used as a main compositional and logical principle in the creative process.

## 1. DESIGN-DRIVEN RESEARCH

The relationship between design and research is a lively debate in our discipline. Design has been considered as separate and different from research since the beginning of time. However, from the middle of the 20th century, we can identify various attempts to unify the two fields within the architecture discipline. One of those attempts is design-driven research.

Design-driven research is a newly formed field of study in research by design community, which focuses on the research strategies that are based on design procedures. Currently, this field is a focal point of *CA<sup>2</sup>RE* or *Community for Artistic and Architectural Research* - a joint platform for research of architecture, design and arts. *CA<sup>2</sup>RE* in which number two stands for the two A's of 'architectural' and "artistic" research, has been in development since 2017 through several international conferences, that have been organised by partner institutions – nine outstanding European Universities.<sup>6</sup> With the support of *ARENA* (*Architectural Research European Network Association*), *EAAE* (*European Association for Architectural Education*) and *ELIA* (*European League of Institutes of the Arts*), *CA<sup>2</sup>RE* and *CA<sup>2</sup>RE+* projects aim to support early-career researchers and PhD students in the fields of architecture and the arts to improve the quality of their research. Furthermore, this community tends to build a design-driven research framework that will present a foundation for future investigations in this field.

The conception of design-driven research is similar to Linda Candy's practice-based research definitions. Candy distinguishes two types of practice related research: practice-led, which is research that primarily produces new knowledge about practice, and practice-based, which always has a creative artefact as a

basis of the contribution to knowledge. Practice-based research is defined as ‘an original investigation undertaken in order to gain new knowledge partly by means of practice and the outcomes of that practice.’<sup>7</sup> Moreover the ‘claims of originality and contribution to knowledge may be demonstrated through creative outcomes which may include artefacts such as images, music, designs, models, digital media or other outcomes such as performances and exhibitions, while the significance and context of the claims are described in words, a full understanding can only be obtained with direct reference to those outcomes.’<sup>8</sup>

Design-driven research teaches us how to value design thinking and design methodology as research and represents the combination of intuition and science, as Kieran underlines: ‘Research brings science to our art [. . .]. To move the art of architecture forward, however, we need to supplement intuition with science.’<sup>9</sup> Furthermore, the biggest advantage that newly formed design-driven research field offers is the synthesis of generative processes with analytical and systematic processes.

As already mentioned in this paper, this manuscript aims to present a design-driven research experiment which employs montage technique as a research tool. Montage is used to deliver answers in the same way as any classical analytical method would. This research could not be conducted without two equally significant parts – an experiential design process, which included artefacts – images, and substantial contextualisation of that creative process through text – this paper. Therefore, this research produces new knowledge by employing two different media – text and drawings. As Alessandro Rocca states, ‘We can find the research’s true architectural essence and quality in the tension between the two different media: the text and the drawing.’<sup>10</sup>

## 2. HEGEMONY OF THE IMAGE AND THE DOMINANCE OF THE VISUAL WORLD

This interdisciplinary research deals with the question of images in the architecture discipline and contemporary culture in general. In today’s world of mass consumerism and globalisation, images represent a fundamental and extremely influential aspect of our culture. According to Mark Linder: ‘Today, the status of images is greater, and different, than ever before. If ever there was a subject in need of theorisation and application, images are it. Now is the time for images.’<sup>11</sup> We are constantly producing images for purposes of information, education, entertainment and all other segments of everyday life. The rapidly



developing imaging technologies and image industries have made images ubiquitous in contemporary culture and available to anyone. Therefore, our post-modern, mass-media culture, or as Rolan Barthes calls it 'the civilization of the image,' has to react and evolve in relation to this phenomenon.

Images are an intricate and rapidly evolving phenomenon of modern society and they have a perpetual influence on the evolution of human cognitive capacity. In his widely acclaimed essay, Walter Benjamin notes: 'During long periods of history, the mode of human sense perception changes with humanity's entire mode of existence. The manner in which human sense perception is organised, the medium in which it is accomplished, is determined not only by nature but by historical circumstances as well.'<sup>12</sup> Although all of our senses have an impact on perception of the world around us, remarkably 80% of our perception is based on the information we receive from the sense of sight. Much like the hegemony of the word and language that unconsciously emerged from the traditions of Western culture and thought, since the ancient Greeks, the hegemony of vision has been dominating the realms of our senses.<sup>13</sup>

The democratisation of photography, which started at the beginning of the 20th century as a consequence of various emerging technologies that were used to create and reproduce images, completely changed the way we experience the world. Instead of being representations of reality, images today create a new reality that is often more 'real' than the existing physical and human worlds.<sup>14</sup> In these new 'realities', the images we are surrounded by and the ones we encounter in our daily activities, manipulate our perception and our understanding of the world around us. Therefore, it is necessary to conceive new ways and new methodologies that will take advantage of this situation.

### 3. CONFLICTS AND COLLISIONS - EISENSTEIN'S MONTAGE THEORY

This research follows up on the montage theory that was mainly developed by one of the key figures of this discourse, the renowned Soviet film director and film theorist, the pioneer of modern cinema, Sergei Mikhailovich Eisenstein. Eisenstein considered montage as a process that operates according to the dialectical materialism, a theory which was developed upon the Hegel's dialectics by Karl Marx and Friedrich Engels. The theory of dialectical materialism or Marxist dialectics is a way of looking at human history and experience as a perpetual conflict between two forces - thesis and antithesis, which in collision

produce a completely new phenomenon, that is not the sum of these two, but something greater and different from both of them - synthesis.<sup>15</sup> Furthermore, Eisenstein argues that in cinema, the meaning is never a product of one element, rather it arises from collision or conflict of two or more heterogeneous elements. Therefore, the main argument of Eisenstein's montage theory is that the conflict is the fundamental principle of every work of art and every art form.<sup>16</sup>

In 1923, Eisenstein published his first theoretical manifesto entitled *Montage of Attractions* in the avant-garde literary journal LEF (ЛЕФ, "Левый фронт искусств" – 'Levy Front Iskusstv'), which was edited by his colleague from Proletcult Theatre, Vladimir Mayakovski. Under the significant influence of his mentor Vsevolod Meyerhold and his method called 'bio-mechanics',<sup>17</sup> in this article Eisenstein examines the psychological effects of combined aesthetic experiences on the viewer and therefore marks the beginning of his lifelong theoretical concern - the question of which combination of aesthetic stimuli will produce which responses in the perceiver under which conditions.<sup>18</sup>

In his theoretical work, Eisenstein defined five distinct types of montage: metric, rhythmic, tonal, overtone, and the one that is particularly important for this research - intellectual montage. Eisenstein defined intellectual montage as 'montage not of generally physiological overtone sounds, but of sounds and overtones of an intellectual sort: i.e., conflict-juxtaposition of accompanying intellectual affects.'<sup>19</sup> Additionally, intellectual montage is the most sophisticated kind of this technique, and it is not only strongly connected to the cinema and cinematography like other types of montage, but it also has a special relationship with architecture discipline.

Unlike other forms, which encourage physiological and emotional reactions in the viewer, intellectual montage excites the psychological reaction and directly stimulates the viewer to create visual meanings by connecting, at first glance, unrelated sequences into one concept. Consequently, the emphasis in the intellectual montage is not in the characteristics of the sequence as such, but in the intellectual process that happens within the viewer, which means that the meaning of the sequence depends on the viewer's experience. As Manfredo Tafuri underlines: 'The principle of montage had always been linked to the theme of activating the public.'<sup>20</sup>

## 4. RESEARCH METHODOLOGY - CONTEXTUALISATION OF THE DESIGN PROCESS

This design-driven research experiment was conducted through seven interdisciplinary phases which altogether formed a creative process that is the subject matter of this paper. The presented research would not be accurately described by the images alone. Therefore, all seven phases of this research are constructed out of text and images and presented as separate parts. The process of creating by employing different operations are parallel with the process of writing this research. By doing these procedures simultaneously, the substantial conversation between the text and the images was maintained.

### 4.1. Atlas

The aim of the first phase of this research was to collect as many images as possible that were in any way related to the research topic. It included images from different disciplines, different periods, different sources, authors and formats, images in colour or monochrome, images of images, images of drawings, diagrams, buildings, cities and landscapes, images with different meanings. All these images put together formed an atlas – an atlas of the research (Figure 1, p. 210-11). Building an atlas is a creation process. The process of archiving images goes parallel with the process of creating images – the process of producing new meanings. Therefore, the constructed digital atlas of the research was then printed in black and white in various formats, and prepared for the second phase of this research – photomontage.

### 4.2. Photomontage

Because of its mathematical reasoning, perspective played an important role in establishing architecture as an exact science. Architecture could be scientific only to the extent that it was mathematical.<sup>21</sup> However, at the beginning of the 20th century, revolutionary artists wanted to go beyond perspective's fixed point of view, which they considered scientific but also limiting. These artists wanted to surpass art's traditional role of interpreting the world to imagine an art capable of constructing new worlds.

The second phase of this research included the process of creating a composite image (Figure 2, p. 212) by employing the technique of montage. Although montage is considered a film technique nowadays, it emerged out of the avant-garde artistic practices in the first decades of the 20th century. After the end

of the World War I, a group of young artists Richard Huelsenbeck, Raoul Hausmann, Hannah Höch, George Grosz, John Heartfield, and Johannes Baader - Oberdada, gathered in Berlin and formed a group later known as the Berlin Dada. Radical in their idea to change the bourgeois society and the inherited, traditional, established art forms of that society, torn between the communist East and the capitalist West, the Berlin Dadaists developed a new aesthetics based on dialectics, fragmentation and juxtaposition, in which techniques such as montage and collage played a fundamental role. Besides Berlin Dada, another avant-garde practice operated with montage – Constructivism in the USSR. Montage experiments of El Lissitzky, Alexander Rodchenko, Gustav Klutis and other constructivists attempted to merge the formal discoveries of Constructivism with the great potential of photography and cinema to reach a mass audience in order to fulfil the political imperatives of an industrialised society.<sup>22</sup>

The main goal of this phase was to construct the new composite image out of the collected images. In atlas, the images are static, they are not opening a debate – they are not able to produce knowledge or new meanings. Therefore, by working on images through the technique of montage – by resizing, erasing, cutting, tearing, glueing and superimposing these images – the new composite image was created. The montage process can hardly be better explained than by Dziga Vertov in his renowned work ‘Kino-Eye’: ‘I am kino-eye, I created a man more perfect than Adam, I create thousands of different people in accordance with preliminary blue-prints and diagrams of different kinds. I am kino-eye. From one person I take the hands, the strongest and most dexterous; from another I take the legs, the swiftest and most shapely; from a third, the most beautiful and expressive head – and through montage I create a new, perfect man.’<sup>23</sup> It is important to underline that the technique of montage produces meaning by combination and juxtaposition, or in other words, in the process of montage, meaning resides in the way the elements are brought into relation with each other.<sup>24</sup> In addition, all operations in this process were completely intuitive, which recalls the idea of Luca Galofaro who underscores that the images we choose or extract from an archive or atlas, are nothing more than the screens on which we project our identity and memory, things we are made up of.<sup>25</sup>

### 4.3. Zooming and Framing

In his renowned and what would later become his most influential essay ‘The Work of Art in the Age of Mechanical Reproduction,’ Walter Benjamin examines the impact of mass production and mechanical reproduction on the

work of art. In this essay, Benjamin introduces the concept of aura – ‘the unique phenomenon of a distance, however close it may be,’ which withers in the age of mechanical reproduction.<sup>26</sup> However, Benjamin is not only interested in what is lost as a result of this phenomenon, but also in what we get as a society. Firstly, Benjamin underlines that the cinema has revolutionary functions because it presents the common ground for science and art. Secondly, he points out that the mechanical reproduction of the work of art has not only changed the way art was developed or distributed, but also the very definition of what art was. Finally, with the mechanical reproduction of the work of art, we have started to focus on how things are framed and rearranged, on montage, on cut, on text, on image, and how things are manipulated, which is of great importance for this research.

The third and the fourth phase of this research also included the process of creating images. In the third phase 40, and in the fourth phase 48 new images were created only by zooming and framing the existing composite image (Figure 3 and 4, p. 213, 214-215). Although the processes in these phases were based on the same methods – zooming and framing - the obtained results are significantly different. These procedures were one of the most valuable experiences that emerged out of this research, because they highlighted the power of the frame. Also, it turned out that it is crucial for these procedures to be done by hand, not digitally. In that way, intuition plays an important role again directly affecting several elements of every image.

However, in comparison to the previous step of this experiment which employed a technique that is similar to photomontage, these phases were based on the principles of cinematic montage. According to Stierli, who defines montage as heterogeneity or plurality of the image, montage can be either spatial – when this plurality applies to work on a single sheet, like in photomontage, or temporal – when this plurality applies to a sequential work, as we can see in film.<sup>27</sup> Therefore, at the end of the third phase of this research, under the major influence of Eisenstein’s montage theory, produced images were placed in continuity and hence formed a representation of a film sequence (Figure 5, p. 216-217).

#### **4.4. Hand-colouring / Overpainting**

The fifth phase of this research was in many ways different from the others. Unlike the previous phases, especially second and third, which are, according to the methods that were employed and the nature of certain procedures, typical

for the period in which montage as form of production emerged, this phase is totally displaced from that theoretical and practical framework. This phase recalls earlier period in history – the mid- to late 19th century when hand-coloured photographs appeared. Hand-colouring or overpainting is a method which was developed before the invention of colour photography, with the aim to heighten the realism of the black and white photographs.

Therefore, in the fifth phase of this research, 20 images were selected and hand-coloured in the process similar to overpainting (Figure 6, p. 218-219). By introducing colour into this research, this phase tried to evoke several latent layers of the material - those layers that were hidden deep in the diversified elements of these images. As it is mentioned before, hand-colouring, when it emerged, was a method which aimed to heighten the realism of the monochrome photographs. On the contrary, this research used this technique to blur and obfuscate the meanings which reside in these images. Also, as the colouring was done by hand, with a brush and watercolours, this phase was completely analogous as well.

#### 4.5. Collage

The penultimate phase of this research was quite similar to the second phase. However, even though the design process in these phases included the same methods - cutting, tearing, glueing, superimposing and so on, there is a substantial difference between the two processes and the two phases, as it can be seen from obtained results. The first one is defined as montage while the second one is collage. In general, as Stierli highlights, many fail to make a clear distinction between montage and collage, although the terms signify two different things.<sup>28</sup> As it is already mentioned in this paper, montage originates from the circle of Berlin Dadaists after World War I, while collage emerged around 1910 with *papier collé* and is closely linked to painters such as Pablo Picasso and Georges Braque. Although both of these techniques operate with heterogeneous elements, the dialectical juxtaposition is typical only for montage.<sup>29</sup> Moreover, Buckley argues that the main difference between montage and collage is in the elements they are composed of. Montages are composed out of ‘photomechanical elements of diverse origins’ and collages are composed from ‘nonphotographic elements such as coloured paper, printed matter, or wallpaper, and were conceived as unique works concerned with composition, texture and form.’<sup>30</sup>

Following the research of Buckley and Stierli, the result of the second phase of this research can clearly be defined as montage because the composite image was created out of photographic representations – images that were collected during the first phase. On the other hand, the result from this phase of research (Figure 7 and 8, p. 220,221) is defined as collage because it is composed primarily from the images that were considerably altered – they were framed, zoomed twice and coloured during the previous phases, and therefore their old meaning is lost - they became abstract compositions.

#### 4.6. Spatiotemporal Montage

In comparison to the other phases, the last phase of this research was quite simple. In this phase, two composite images that were created through the process of montage in the second phase, and the process of collage in the sixth phase were superimposed digitally. By digitally overlapping these images, new hidden layers emerged. Therefore, these images represent the final phase of this interdisciplinary research experiment and the example of spatiotemporal montage, a montage that addresses both spatial and temporal qualities of the image and is able to present depth, transience and other intangible layers of an image. Furthermore, as it can be seen from figures 7 and 8, spatiotemporal montage aims to present one topic or research framework in a single multi-layered image (Figure 9 and 10 p. 222-223). All of the elements represented in these images are depicted as individual objects seen from their respective points of view - the ones that will create new meanings and knowledge in juxtaposition with other elements, and thus contribute the most to the research. As already mentioned in this paper and as Georges-Didi Huberman emphasises: ‘Imagination is not a withdrawal to the mirages of a single reflection, as is too often thought. It is instead a construction and a montage of various forms placed in correspondence with one another.’<sup>31</sup>

## CONCLUSION

This paper aimed to present a design-driven research experiment, which was developed through the interdisciplinary research on the elective course Architecture and Visual Language at the University of Belgrade Faculty of Architecture. More precisely, this paper aimed to define, and describe in detail seven fairly distinct phases of design-driven research experiment. In order to produce new knowledge, seven phases were systematically analysed and illustrated in this paper. These phases, altogether, present a creative process that

thoroughly works with images and establishes montage as a main compositional and logical principle.

Additionally, the goal of this manuscript was to introduce a new seeing of the montage technique, in architectural design and research, which is based on an interdisciplinary framework - mainly architecture, but also film and other visual arts. As already highlighted in this paper, in contemporary architectural historiography there are two types of montage. Photomontage, which deals with space and is increasingly common in architecture, and cinematic montage, which deals with time and is typical for film and cinematography. By experimenting with several different techniques and methods, this research proposed an altered reading of the montage technique – spatiotemporal montage. Spatiotemporal montage is a montage that addresses both spatial and temporal qualities of the image and is able to present depth, transience and other intangible layers of an image. Consequently, spatiotemporal montage is able to present one topic or research framework in a single multi-layered image, which allows extensive reading of that topic.

In this research, montage has played a role of an analytical method. This research approach was based on the design-driven research field - a recently established field of study, which aims to strengthen the confidence in using design as a research methodology. However, in order to produce new knowledge and new meanings, this research had to focus on dialectics between two media – text and drawings. Therefore, the conducted design-driven research experiment only represented the first part of this research. The second, equally important part of this research is this manuscript, which includes a substantial textual contextualisation of the experiment’s creative process. In order to fully understand the significance of the creative process outcomes, this text had to constantly make references to the specific parts of that process. However, as the aim of this research was not to create meaningful images, but to conduct a design-driven research experiment, this manuscript along with images presents the final output of this research.

In conclusion, the significance of this research does not lie in the valuation of the last image created in this design-driven research experiment. Its significance does not lie in the proposed innovative reading of spatiotemporal montage. Rather, the true significance of this research is in the presented process - architectural and experiential creative process which was motivated by the idea of employing the montage technique as a design research tool. Continuously coquetting between two fields, architectural montage has proven that the newly formed field of study – design-driven research calls for reconceptualisation and redefinition of both design and research tools.



## NOTES

- 1 See: Martino Stierli, *Montage and the Metropolis: Architecture, Modernity, and the Representation of Space*; Craig Buckley, *Graphic Assembly: Montage, Media, and Experimental Architecture in the 1960s*; Anthony Vidler, *The Eisenstein Effect Architecture and Narrative Montage in Sergei Eisenstein and Le Corbusier*, Luca Galofaro, *On the Idea of Montage as Form of Architecture Production, Inside: A Grammar of the Image*; Charlotte Bundgaard, *Montage Revisited: Rethinking Industrialised Architecture*; Cruz Garcia & Nathalie Frankowski, *Narrative Architecture: A Kynical Manifesto*; Stan Allen, *Practice: Architecture, Technique + Representation*.
- 2 See: Manfredo Tafuri, *Teorie e storia dell'architettura* (Theories and History of Architecture) and *La sfera e il labirinto: Avanguardie e architettura da Piranesi agli anni '70* (The Sphere and the Labyrinth: Avant-Gardes and Architecture from Piranesi to the 1970s).
- 3 Craig Buckley, *Graphic Assembly: Montage, Media, and Experimental Architecture in the 1960s*. (Minneapolis: University of Minnesota Press, 2019), 10.
- 4 See: Stierli, Buckley, Galofaro, Garcia and Frankowski, Bundgaard, Vidler, Beatriz, Pallasmaa, Allen, Levine, Tschumi, Bruno, Rowe and Koetter, Didi Huberman.
- 5 Martino Stierli, *Montage and the Metropolis: Architecture, Modernity, and the Representation of Space* (New Haven & London: Yale University Press, 2018), 4.
- 6 University of Ljubljana (Ljubljana), Aarhus School of Architecture (Aarhus), KU Leuven (Ghent), Politecnico di Milano (Milano), TU Berlin (Berlin), COFAC - Lusofona University (Porto), HafenCity University Hamburg (Hamburg), Norwegian University of Science and Technology (Trondheim), and TU Delft (Delft).
- 7 Linda Candy, *Practice Based Research: A Guide*, CCS Report: 2006-V1.0 November, University of Technology, Sydney, 2006, 1.
- 8 Linda Candy, 3.
- 9 Stephen Kieran, 'Research in Design: Planning Doing Monitoring Learning,' *Journal of Architectural Education* (61) 1 (September 2007), 31.
- 10 Alessandro Rocca, 'Research vs. Design: A Favorable Conflict' in *CA2 RE | CA2 RE+* Online Conference for Artistic and Architectural Research Book of Proceedings, 28th-30th October 2020, Milano.
- 11 Mark Linder, 'Images and Other Stuff,' *Journal of Architectural Education*, Vol. 66, No.1 (2012), 3.
- 12 Walter Benjamin, *The Work of Art in the Age of Mechanical Reproduction* (New York: Schocken Books, 1968), 5.
- 13 Juhani Pallasmaa, *The Embodied Image: Imagination and Imagery in Architecture* (West Sussex: John Wiley & Sons Ltd, 2011), 10.
- 14 Pallasmaa, 16.
- 15 David A. Cook, *A History of Narrative Film* (New York: W. W. Norton & Company, 2016), 105.

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- 16 Sergei M. Eisenstein, 'A Dialectic Approach to Film Form,' in *Film Form, Essays in Film Theory*, edited and translated by Jay Leyda (New York and London: Harcourt, 1949), 46.
- 17 Vsevolod Meyerhold was a Soviet theatre director and actor who developed a specific acting method throughout his career, which he called bio-mechanics. This method synthesises two seemingly contradictory artistic approaches - rigorous systematisation and spontaneous improvisation and aims to systematically condition spontaneity.
- 18 Cook, 101.
- 19 Sergei M. Eisenstein, 'Methods of Montage,' in *Film Form, Essays in Film Theory*, edited and translated by Jay Leyda (New York and London: Harcourt, 1949), 82.
- 20 Manfredo Tafuri, 'The Historicity of the Avant-Garde,' in *The Sphere And The Labyrinth* (Cambridge, Massachusetts: The MIT Press, 1987), 59.
- 21 Stan Allen, *Practice: Architecture, Technique + Representation* (Abingdon: Routledge, 2009), 9.
- 22 Matthew Teitelbaum, *Montage and Modern Life: 1919-1942* (Cambridge, Massachusetts: The MIT Press, 1992), 28.
- 23 Dziga Vertov, *Kino-Eye: The Writings of Dziga Vertov*, ed. Annette Michelson (Berkeley: University of California Press, 1984), 17.
- 24 Stierli, 5.
- 25 Luca Galofaro, 'Inside: A Grammar of the Image,' *Villardjournal* 02 (2020), 65-70, 67.
- 26 Benjamin, 5.
- 27 Stierli, 4.
- 28 Ibid., 18.
- 29 Ibid.
- 30 Buckley, 6.
- 31 Georges-Didi Huberman, *Images in Spite of All: Four Photographs from Auschwitz* (Chicago: The University of Chicago Press, 120).

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## SUPERMOĆI MONTAŽE: ISTRAŽIVAČKI EKSPERIMENT VOĐEN DIZAJNOM

**Đorđe Bulajić**

Ovaj rad predstavlja jedan segment višedelnog eseja koji istražuje „supermoći” montaže. Glavni cilj eseja je da se temeljno ispituju neotkrivene teritorije u međuprostoru između različitih disciplina – uglavnom arhitekture, ali i filma i drugih vizuelnih umetnosti, u kojima je montaža kao tehnika dobila izuzetno različite oblike. Cilj ovog rada je da predstavi interdisciplinarni istraživački eksperiment vođen dizajnom, koji je koristio tehniku montaže kao alat za istraživanje dizajna. U ovom eksperimentu montaža nije korišćena samo kao tehnika reprezentacije, već je korišćena kao glavni kompozicioni i logički princip u kreativnom procesu. Stoga, ovaj rad ima za cilj da definiše i detaljno opiše sedam prilično različitih faza istraživačkog eksperimenta vođenog dizajnom. Ovo interdisciplinarno istraživanje pokušava da doprinese tekućoj diskusiji o montaži u arhitektonskom projektovanju i istraživanju, kao i nedavno uspostavljenom istraživačkom polju vođenom dizajnom, koje se fokusira na vrednovanje razmišljanja o dizajnu, metodologije istraživanja dizajna i doprinosa znanju koje je omogućio dizajn.

KLJUČNE REČI: MONTAŽA, SLIKE, ISTRAŽIVANJE ZASNOVANO NA DIZAJNU, ISTRAŽIVANJE DIZAJNOM, METODE ARHITEKTONSKOG ISTRAŽIVANJA, ALATI ZA ISTRAŽIVANJE DIZAJNA

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# SUPERPOWERS OF MONTAGE: A DESIGN-DRIVEN RESEARCH EXPERIMENT

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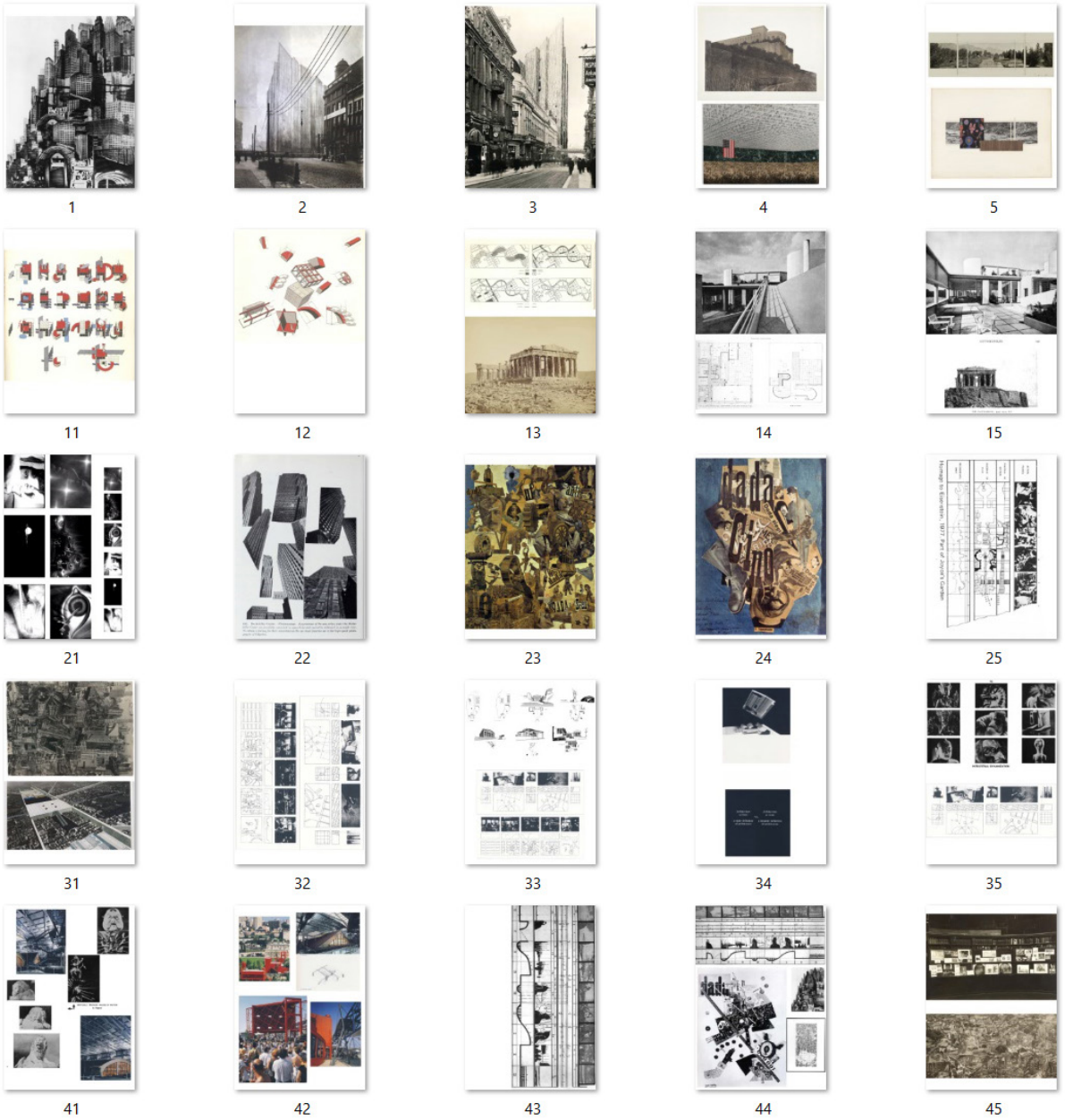
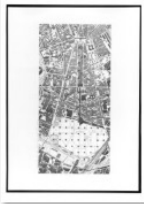


Fig. 1. Phase 1 - The Atlas of the Research.



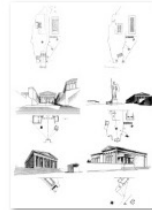
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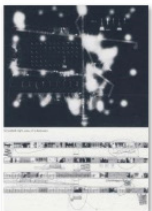
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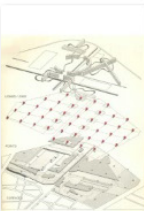
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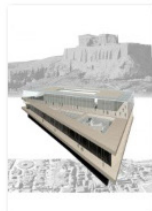
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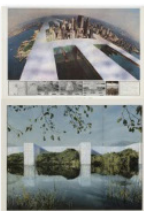
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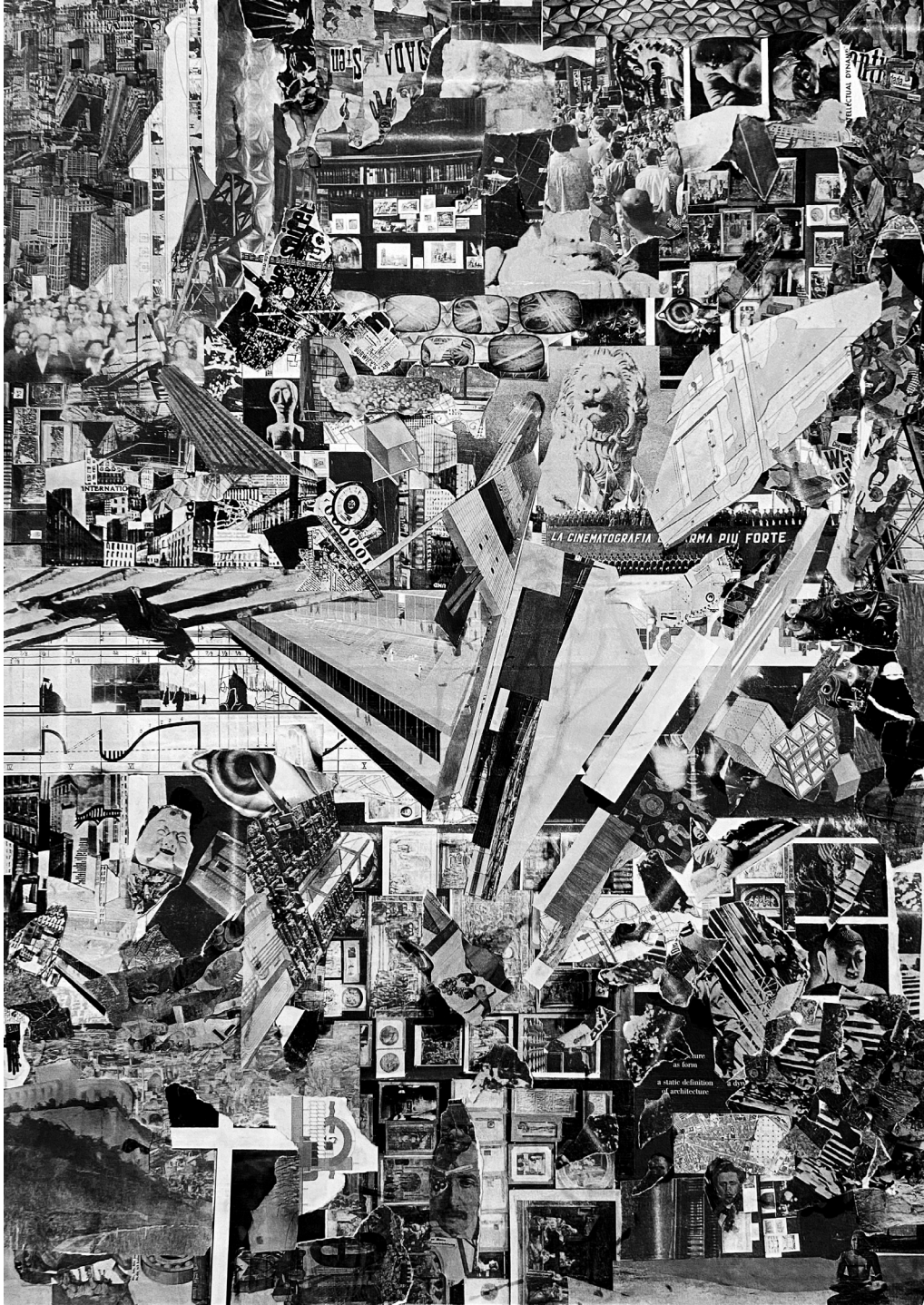


Fig. 2. Phase 2 - Photomontage.





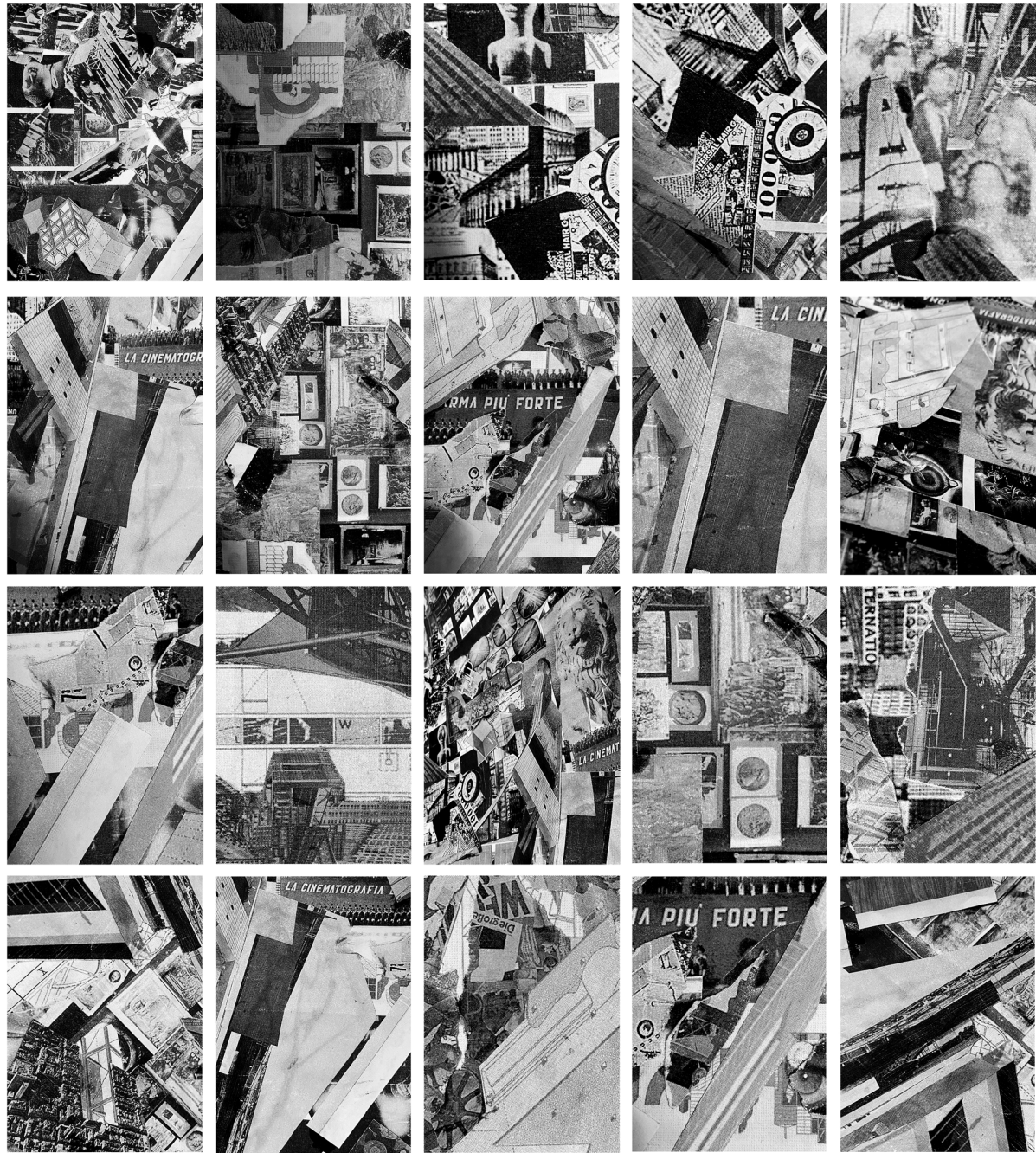
Fig. 3. Phase 3 - Zooming and Framing.





Fig. 4. Phase 4 - Zooming and framing 2







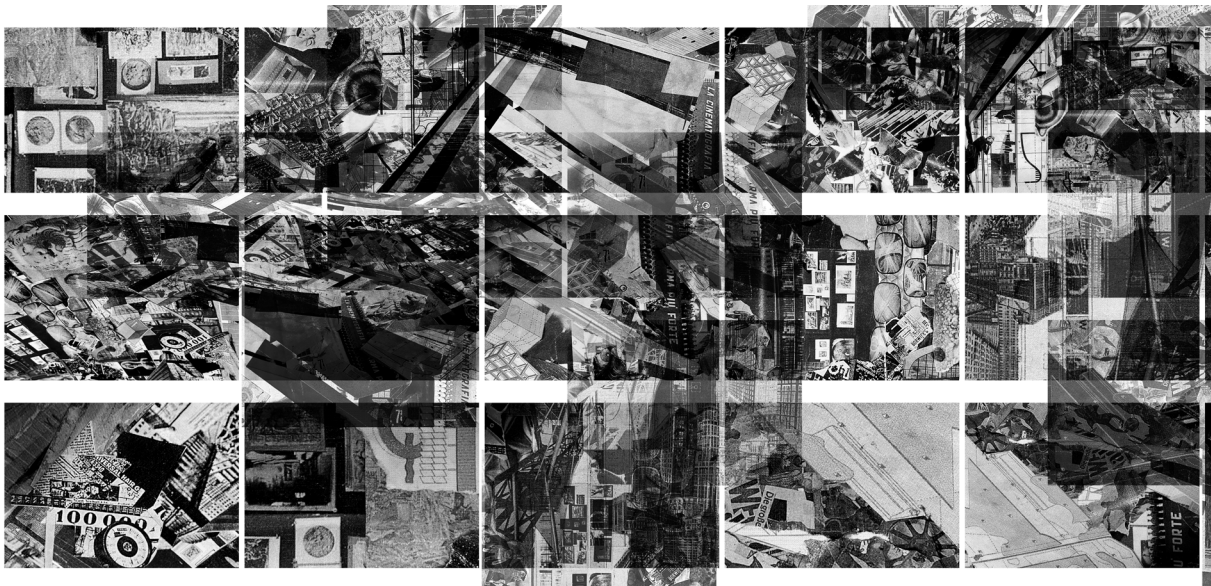
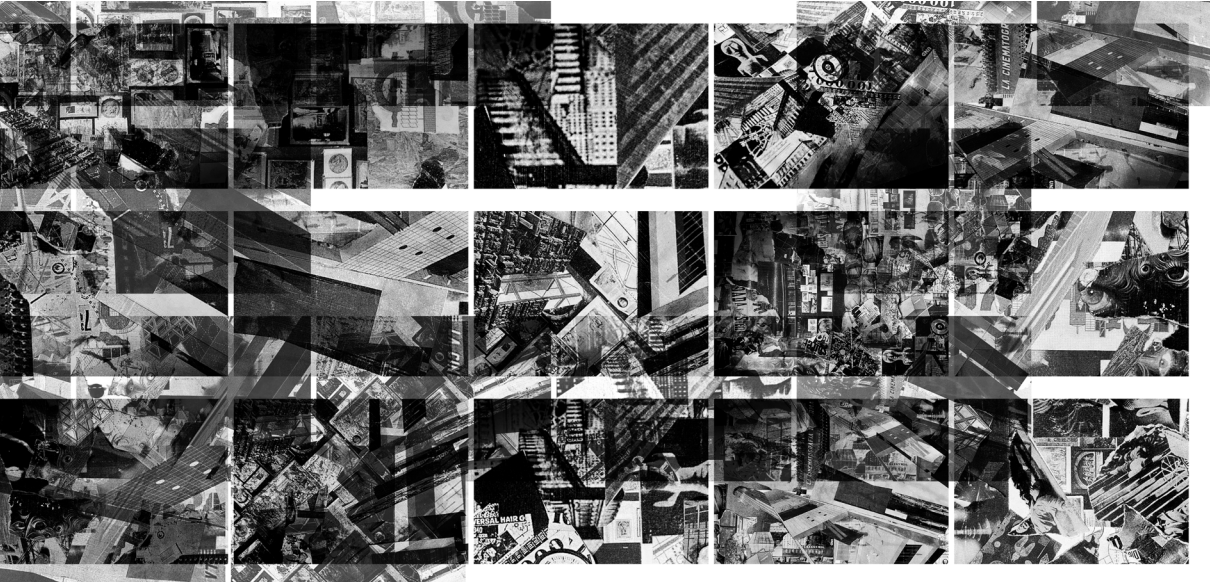


Fig. 5. Phase 4 - Cinematic Montage..





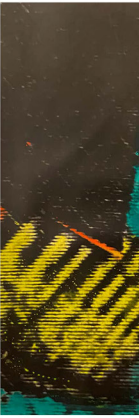
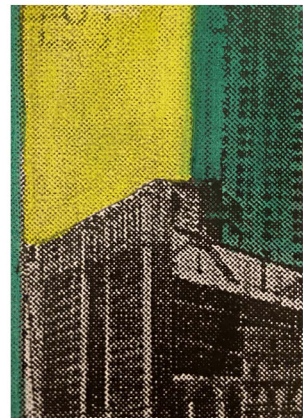
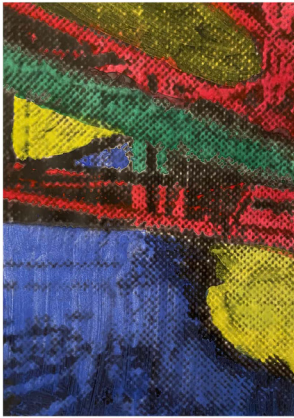
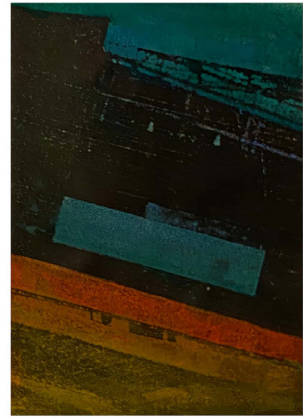
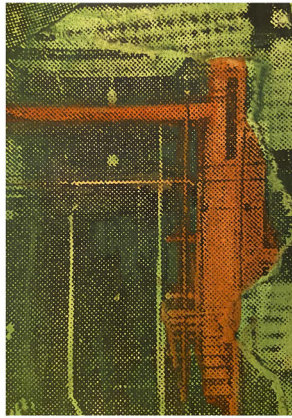
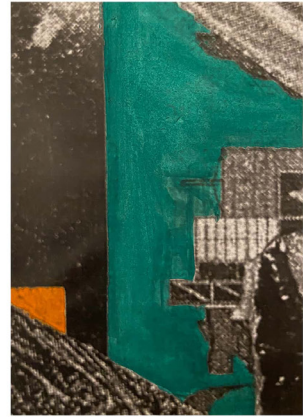
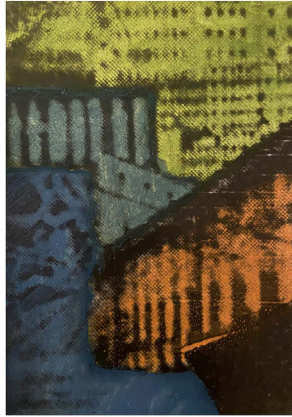
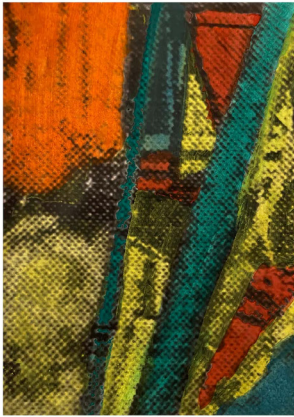


Fig. 6. Phase 5 - Hand-colouring Overpainting.



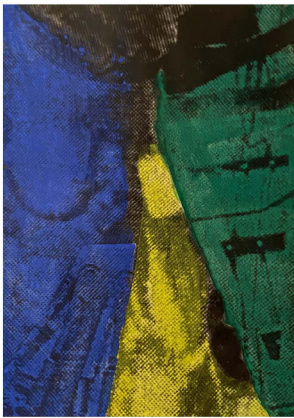
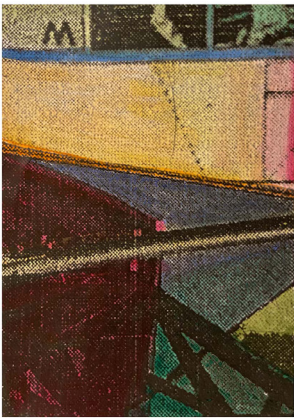
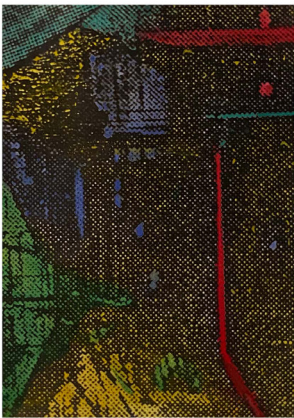
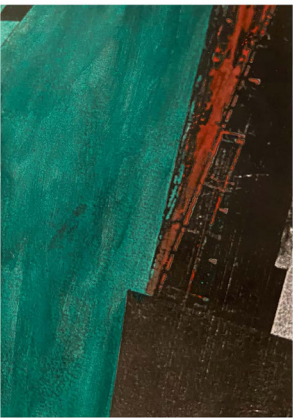
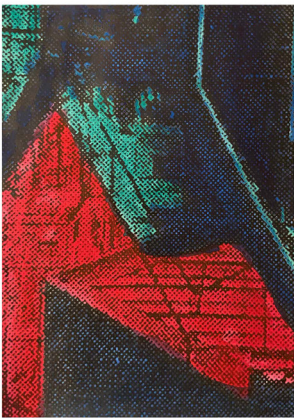
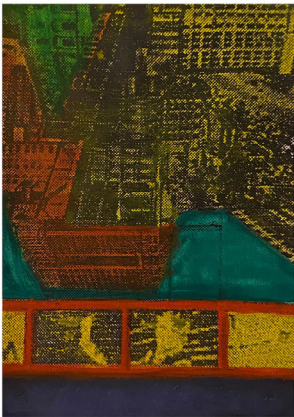
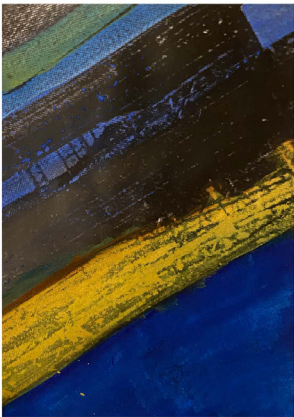






Fig. 7. Phase 6 - Collage.





Fig. 8. Phase 6 - Collage.





Fig. 9. Phase 7 - Spatiotemporal Montage.



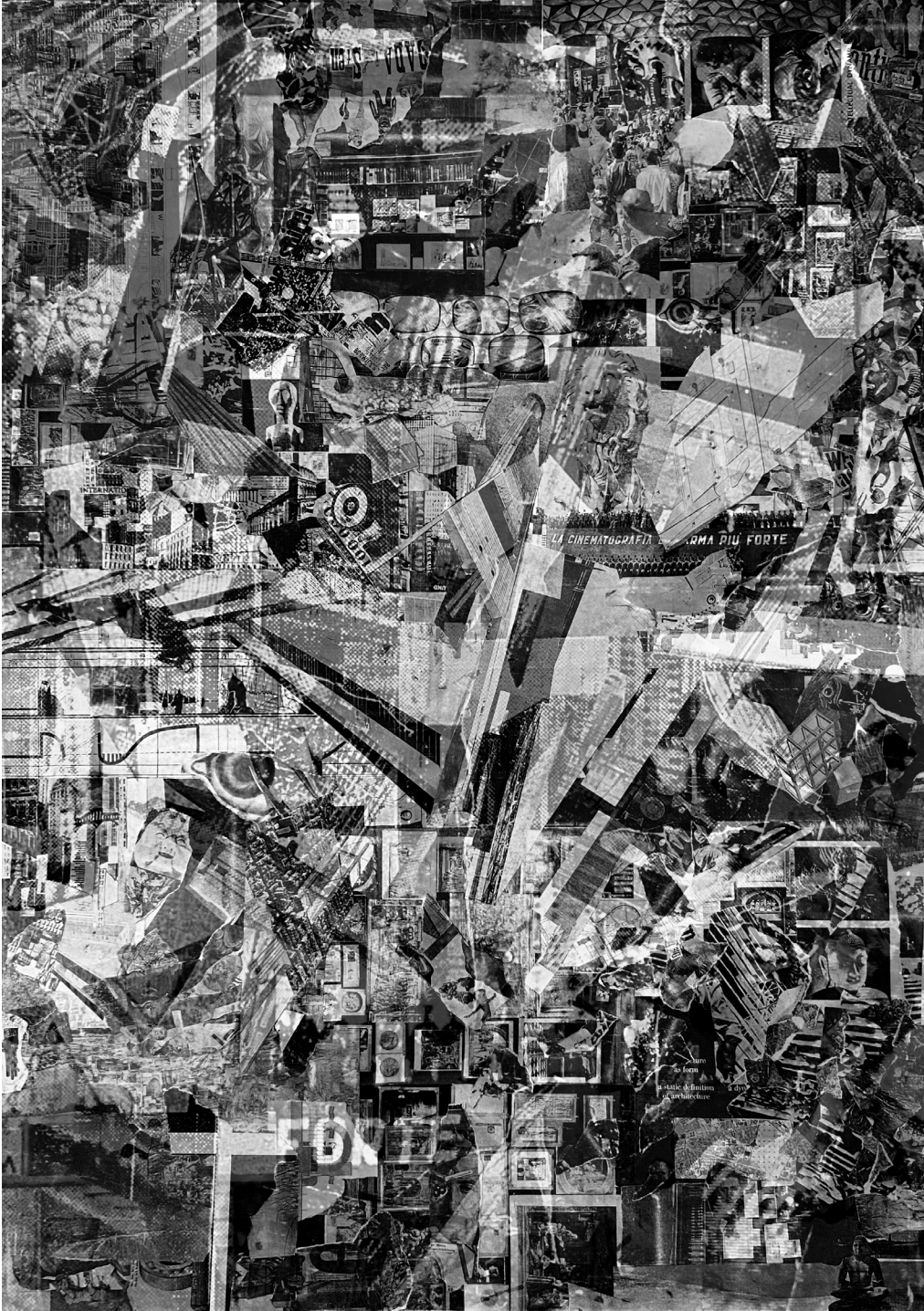


Fig. 10. Phase 7 - Spatiotemporal Montage



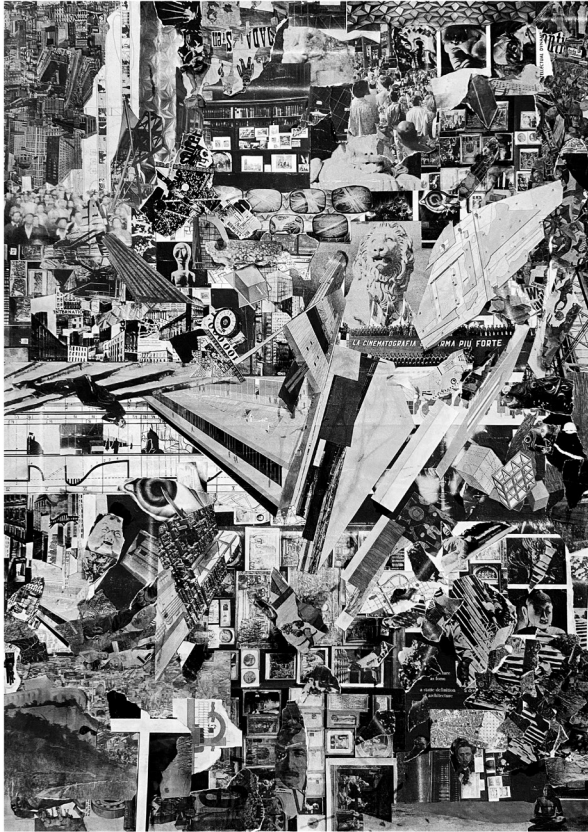


Fig. 11. Phase 7 - Superpowers of Montage.



