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Forms of Utopia

The Social and Spatial Forms of *We* and *Metropolisarchitecture*

Jana Culek

> *To form great masses by supressing rampant multiplicity according to a general law is Nietzsche's definition of style: the general case, the law is respected and emphasized; the exception, however, is put aside, nuance is swept away, measure becomes master, chaos is forced to become form: logical, unambiguous, mathematics, law.*[1]

The quoted sentence is the end of the *Metropolisarchitecture*,[2] a book on architecture and urban theory written by German architect Ludwig Hilberseimer in 1927. It is also a sentence that could perfectly describe the ideology of the One State, a fictional totalitarian, all-encompassing country described in the dystopian novel *We*,[3] written by Russian author Yevgeny Zamyatin in 1921.

Zamyatin's *We* and Hilberseimer's *Metropolisarchitecture,* a literary dystopia and a utopian architectural project, were both created in Europe within the same decade and respond to a similar historical condition. Both take on the topic of the development of urban society and its metropolis – a newly

created urban form that appears as a result of industrialization and as the beginning of the capitalist economic system. Both works examine the implications of mass industrial production, the use of new materials and structural systems, and the development of modern urban planning as the basis of their narratives and their creative proposals.

While *We* is one of the first dystopian novels of the twentieth century, and is considered to have had major influence on some of the more famous dystopias to follow, such as Orwell's *1984*,[4] *Metropolisarchitecture* it is an example of what could be considered a utopian architectural project. Although it is not the most famous example of that period like, for example, Swiss-French architect Le Corbusier's *Ville Contemporaine*,[5] it is relevant because the project's author, Ludwig Hilberseimer, openly states that his intentions for it, unlike those of other architects, were not to build according to his proposed plan, but rather to use it as a theoretical model and exercise.

Examining Social and Spatial Forms

All utopian and dystopian works propose alternative realities that are based on slight or significant changes in the social and/or spatial environment. The aim of these changes is to either propose a better version of reality (utopias) or to play out the worst-case scenario through exaggerating one or several negative aspects of the present (dystopias). This is done by taking some of the basic building blocks of society and the built environment and changing them, questioning them and bringing them into connection with each other. In other words, utopias use various types of social and spatial forms and modify them in order to produce different results, which in turn reflect on the context they were created in. Sometimes the forms themselves are changed, and in some cases the way they relate to each other changes.

The aim of this text is twofold. While it examines the various social and spatial forms that are used in both examples in order to create and describe

the imagined worlds, it also explores the fact that, even though the two examples of Zamyatin and Hilberseimer are sometimes based on the same spatial forms, one author views his project as utopian while the other proposes a dystopian future. While Hilberseimer, a modernist architect, obvious follower of the functionalist school of thought, sees order, control, mathematics and industrial production as positive and extremely productive conditions for his work and for the development of society, giving his text a utopian note, Zamyatin views these same things as troubling and, in the long run, problematic. Zamyatin's main character, Δ-503, an engineer himself, who views the world through the structure of mathematical rules and equations, would probably be the first to congratulate Hilberseimer on his clearly structured and logical propositions. But Zamyatin questions this agenda. The dystopian form of *We* can almost be said to portray what would actually happen if the utopian project of *Metropolisarchitecture* would, indeed, become the only manifestation of the built environment, bringing along with itself the political ideology where the needs of the many outweigh the needs of the individual. While, in the case of these two examples, literature looks on concepts such as control, order, industrial production and standardization as oppressive when applied to the human population, architecture views the same concepts as productive methods of creating the urban environment.

Within the text I will perform a comparative formal analysis on both Zamyatin's *We* and Hilberseimer's *Metropolisarchitecture*, in order to recognize some of the differences and similarities in the futures these texts propose and how they propose them. In an attempt to avoid a traditional formal analysis of the texts, which, in the field of comparative literature, uses the method of close reading to interpret 'all of the formal techniques of a text as contributing to an overarching artistic whole',[6] I use a modification of the method proposed by Caroline Levine in her book *Forms: Whole, Rhythm, Hierarchy, Network*. Levine proposes to expand 'our usual definition of form in literary studies to include patterns of sociopolitical experience',[7]

namely, to include the various bounded wholes, rhythms, hierarchies and networks that are described in the narrative and that are used to construct the fictional world. While examining forms in the way that Levine proposes[8] may be a non-traditional method in the field of comparative literature, this type of formal analysis is quite common in architectural research and can be identified as various contextual, typological and morphological studies. What I propose is a comparative method that brings together Levine's method with standard architectural typological research by also examining forms and patterns of the spatial experience that are described and used in the texts. Through this new, adapted method, I perform a comparative analysis that can examine utopian works from both fields (architecture and literature) on a social and spatial level with the same tools.

I use two types of forms identified by Levine – bounded wholes and rhythms – as a way of structuring the comparison both on the level of the individual texts and as a way of correlating them. By looking at these two types of forms I was able to distil common threads, investigate how the texts propose and generate a built environment, and how this environment is ideologically and critically charged.

The One State and the Metropolis: A Short Introduction

We, Yevgeny Zamyatin, 1921

We is a dystopian novel set in an undefined future, presumably on planet Earth.[9] Following a 'Two Hundred Years' War', the technocratic 'One State' is formed, representing the only civilized human society left on the planet. All the people of the 'One State' live in a single city enclosed by the 'Green Wall' – a glass wall combined with an electric current – meant to keep out the wilderness that has taken over the rest of the planet. The inhabitants – 'numbers' – live their extremely structured lives according to 'The Tablet of Hours' – a precise daily structure that is followed to the minute, day in day out and presented on individual 'Tablets' placed in every personal room. Indoctrinated from early childhood through various methods of propaganda

through the use of poetry and daily news, the 'numbers' are educated in the ways of the 'One State'. The ones that in some way disobey or object to this system are brought to 'The Benefactor', an eternal leader figure, who then subjects them either to torture through the use of the 'Gas Bell', or to direct death by 'The Machine'.

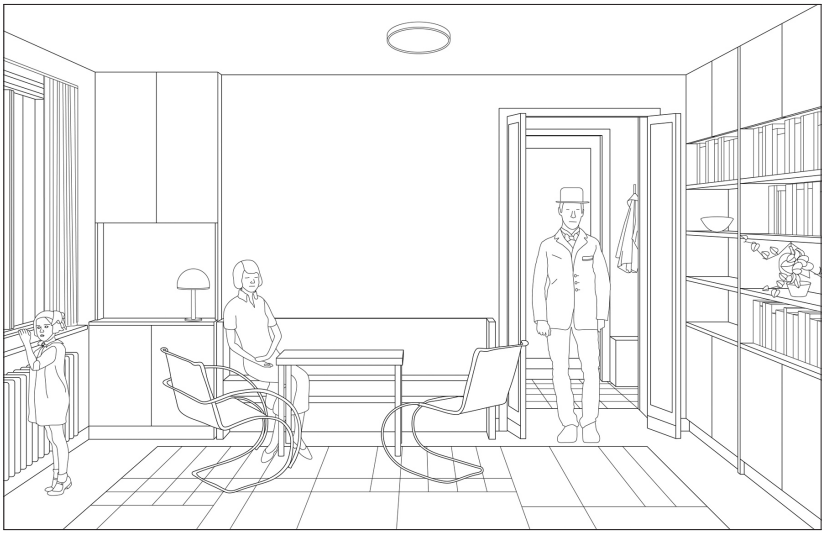
Even though the book provides various cultural and historical references, due to the author's origin and when the book was written, the strongest critique is that of the repressive regime of Soviet Russia. The book condemns the Russian communist political system through exaggerating it into a dystopian narrative set in an undefined future, and by bringing the political ideology to its extreme.

Metropolisarchitecture, Ludwig Hilberseimer, 1927

Metropolisarchitecture[10] is a proposal for a new approach to city planning and architecture that was created as a direct response to and critique of the negative effects that housing speculation and the capitalist system in general had on the development of metropolitan cities. It is a combination of architectural text and drawings that gives an overview of the conditions of the metropolis and proposes solutions that aim to better it. It is, however, as explained in the introduction by Richard Anderson:

> *. . . neither a manual on urban planning nor an outline of modern architecture's origin. Rather, it is a meditation on the relationship between the two terms of its compound title: 'metropolis' and 'architecture'. It is as much an analysis of the conditions for architecture in the metropolis as it is a prescriptive theory of form.*[11]

Hilberseimer outlines in great detail the issues concerning today's metropolis such as uneven growth, the issue of growing traffic, the poor conditions in residential neighbourhoods, buildings and units. By looking at both the level of the city and the individual housing unit, Hilberseimer proposes a set



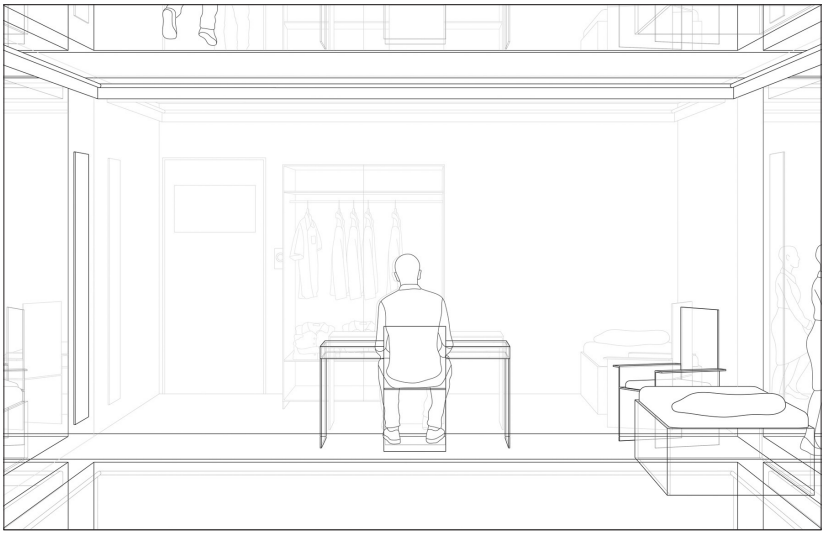


Fig. 1. Hilberseimer's individual unit – Digital drawing – Interior interpretation of Hilberseimer's Metropolisarchitecture apartment based on existing drawings and descriptions.

Fig. 2. Zamyatin's individual unit – Digital drawing – Interior interpretation of Zamyatin's One State room based on descriptions from the book.

Drawings by Jana Culek.

of approaches to overcome the issues he identifies with the aim of creating a better architecture and better city for the future. In his own words:

> *The chaos of the contemporary metropolis can only be confronted with experiments in theoretical demonstrations. Their task is to develop, in the abstract, the fundamental principles of urban planning according to contemporary requirements. This will produce general rules that enable the solution of certain concrete problems. Only abstraction from the specific case is capable of revealing how the disparate elements that combine the metropolis can be brought into an order of dense relationships.*[12]

Bounded Wholes

Although bounded wholes can exist in literature as both social and spatial forms, in the context of these two works, I will predominantly examine the spatial forms that are used to create and structure the imagined utopian worlds. They exist in various scales in both works and contain mostly the same elements imagined in different ways, namely the individual (as the only purely non-architectural bounded whole), the individual dwelling unit, the collective housing building, the city and its enclosure, and the city in regard to its surroundings. However, while the bounded wholes that appear in Hilberseimer's *Metropolisarchitecture* are all conducive to the utopian world he is creating, some of Zamyatin's bounded wholes are created to work directly against the totalitarian system of the One State.

The Numbers, the Rooms, the City, the Green Wall, the One State

The world of *We* is structured by multiple levels of bounded wholes that serve to control each aspect of life of the individual inhabitants and unify them in the collective of the One State. On most levels, these wholes coexist, multiplying each other's effects.

The inhabitants of *We*'s One State – the numbers – are stripped of any individuality. Continuously living as single units, dressed in standardized

uniforms, they perform their daily routines according to a unified and constant schedule. Named as a combination of a letter and number, the inhabitants are seen as parts of a larger whole – the One State – a glass city that is separated from the rest of the planet by the means of the Green Wall. The main character and narrator, Δ-503, explains to the imaginary future readers of his memoir that:

> *Man ceased to be a savage animal only when he built his first wall. Man ceased to be a savage man only when he built the Green Wall, when with that wall we isolated our mechanical, prefect world from the irrational, shapeless world of trees, birds and animals.*[13]

The Green Wall – an electrified glass dome – is used as a separation of the natural and artificial world. It keeps the wilderness out while containing the people within.

Like the Green Wall, all buildings within the One State are built of glass, and all construction is repetitive and standardized. Each room, the personal housing unit of each number, is the same as every other room. Bounded with glass walls, floors and ceilings, the rooms contain the Tablet (with the time schedule for each day), glass chairs, a desk, a cupboard, an armchair, a bed, a mirror. 'Sunshine is coming through the ceiling, the walls; sunshine from above, from the sides, reflected from below.'[14] The glass structure of the rooms creates a multiplying effect since one constantly sees all the surrounding rooms. In the same manner that multiple rooms form a larger housing unit, these housing units are also distributed uniformly throughout the city: 'I saw everything: the immutable straight streets, the glass of the roadways spurting out rays, the divine parallelepipeds of the transparent dwellings . . .'[15]

The Blinds and the Ancient House

There are only two instances where the bounded wholes of the One State provide for a more enclosed, private and intimate function: the Ancient House and the individual room when the blinds are closed during a planned sexual encounter. Consequently, these two bounded wholes are also used in a disruptive manner towards the totalitarian system of the One State, since the privacy that they afford allows for insurgence.

The Ancient House is a relic from the times before the One State. It is the only building in the book described to have walls that are not made of glass, but of solid materials. However, as Δ-503 explains to us: 'The whole of this strange, fragile, blind structure is clothed all around in a glass shell: otherwise it would, of course, already have collapsed long ago.'[16] 'Our present-day glass – beautiful, transparent, eternal – was only there in the form of pitiful, fragile little square windows.'[17] The Ancient House is positioned on the very edge of the city, right next to the Green Wall. Bounded in non-transparent walls, it can also be seen as a metaphor for hiding and secrets, which was indeed also its purpose. In the basement levels of the house, inside hidden tunnels, the members of the resistance plot the uprising. The lack of interest in the house, due to its 'out-of-placeness' in the glass, transparent city and its non-transparent enclosure, allows for activities to go unnoticed. Interestingly, the Ancient House, which can also be seen as a point where the forgotten past and the newly constructed future briefly touch, is also the exact location where they again reconnect. Through a hole in the Green Wall, some members of the One State manage to exit to the world outside where they encounter what seem to be remains of the human population, but that have developed in a very different way to their own.

The Apartment, the Tenement Building, the City Block, the Metropolis

Giorgio Grassi claims that Hilberseimer produced not just types of architecture 'but archetypes: the slab, the block, the high-rise building'.[18] Hilberseimer provides a model – a bounded whole – for various elements of the

city that can then be multiplied and distributed according to need. Hilberseimer explains how '*Metropolisarchitecture* is considerably dependant on solving two factors: the individual cell of the room and the collective urban organism'.[19] While the cell provides for the individual, the urban organism provides for the society. He continues:

> *Individual apartments should be made more comfortable through technological means and are to be fully equipped in such a way that tables and chairs are the only moveable furniture an occupant requires. When moving to a new apartment, one no longer has to pack a moving van, but only one's suitcase.*[20]

Furthermore, the designs of the apartments themselves should be standardized. Hilberseimer proposes a plan for an apartment that has variations for 'three, four, five, six and seven inhabitants' and are, he explains, 'each based on identical spatial elements and satisfy the corresponding spatial requirements'.[21]

Aside from providing repetitive enclosures that can then be inhabited in a variety of different ways and can also be modified according to the needs of the potential users, the individual units also become a structuring element of the whole. Through applying methods of standardization at this minimal level, Hilberseimer proposes the multiplication of that method at the level of the entire city. Instead of kitchens, bathrooms and bedrooms, one multiplies and arranges housing units, commercial buildings, office buildings, production buildings and various kinds of public buildings, which can all be adapted in scale and number according to the needs of the metropolis. Here, aside from the obvious bounded wholes of the architectural elements themselves, the architectural and urban system proposed by Hilberseimer also becomes a bounded whole that, when combined with the repetitional rhythms of structuring the metropolis, allows for variations and modifications within the system.

> *Rational thinking, accuracy, precision and economy – until now the characteristics of the engineer – must become the basis of the new architecture. All objects must be complete in themselves, reduced to their ultimate, essential forms, organized reasonably, and led to their ultimate consummation.*[22]

Rhythms

After identifying the elements which form Zamyatin's and Hilberseimer's utopian cities, I examine how rhythms are used in order to enforce these new spatial forms and how they lead to changes in the social functioning of these imaginary worlds. In juxtaposing how rhythms are used in these two works we notice the first major difference between architectural and literary utopias. While Hilberseimer's use of rhythm effects predominantly the spatial elements of his work, Zamyatin's use of rhythms also influences the narratives of his fictional inhabitants. However, even though *Metropolisarchitecture*, being an urban plan, lacks a narrative component focusing on the effects of the urban environment on specific members of its population, we cannot deny that the proposed rhythmic repetitions of its bounded wholes would not, indeed, produce such effects.

The Tablet of Hours, Day of Unanimity, the Uprising, Infinity

The daily lives of the numbers in the One State are structured through the Tablet of Hours. A timetable that each holds in their room and to which they live their lives in a repetitive rhythm of sleeping, eating, working, walking, going to the auditorium. This constant rhythm is only interrupted by exceptions such as illness, or in the case of the main character Δ-503, by his initially involuntary participation in the planning of an uprising.

The uprising, as one of the main focuses of the book's story, is a long-lasting event that leads to a disruption in all the rhythms of the narrative. The main events of the uprising commence by the disruption of one of the yearly rhythms – the Day of Unanimity – when all the inhabitants of the One

State gather to vote for the Benefactor as their leader. Even though all are expected to vote in the same way, on that occasion, thousands of inhabitants dare to vote against him. However, since the narrative and the main character are based on mathematical logic, all these disruptions turn out to be only temporary, a mere part in a cyclic process of history. Δ-503 explains to us again:

> *Human history goes upwards in cycles – like an aero [flying car-like machine]. The circles are different – golden, bloody, but all of them are identically divided into 360 degrees. And so moving forward from zero: 10, 20, 200, 360 degrees – and zero again. Yes, we've returned to zero – yes. But for my mathematically thinking mind it is clear that the zero is completely different, new.*[23]

The cyclical rhythm of time comes into play in a number of points in the book, where the concept of repetitiveness and infinity is always adjusted by the characters to be able to grasp and explain to themselves the events surrounding them. Within the process of the revolution, Δ-503 is confused, believing that 'their revolution', meaning the one of the One State, was the final one. I-330 explains to him otherwise: 'And whatever is this final revolution you are wanting? There is no final one, revolutions are infinite.'[24] The resolution of the narrative and its rhythmic return to the cyclical zero begins when Δ-503 is confronted by his neighbour, who claims that he has discovered that there is no such thing as infinity, that the universe is finite. This event shocks the story back to its original, structured rhythm. Δ-503 confesses his involvement, gives up his accomplices, subjects himself to a voluntary Great Operation and the One State starts returning to its status quo. The book ends with Δ-503's last entry in his memoir, where he describes how 'on the traverse, the 40th avenue, it's proved possible to construct a temporary wall of high voltage waves. And I hope we shall prevail. More than that: I'm certain we shall prevail. Because reason must prevail.'[25] Through his use of rhythm and by focusing on the cyclical and repetitive

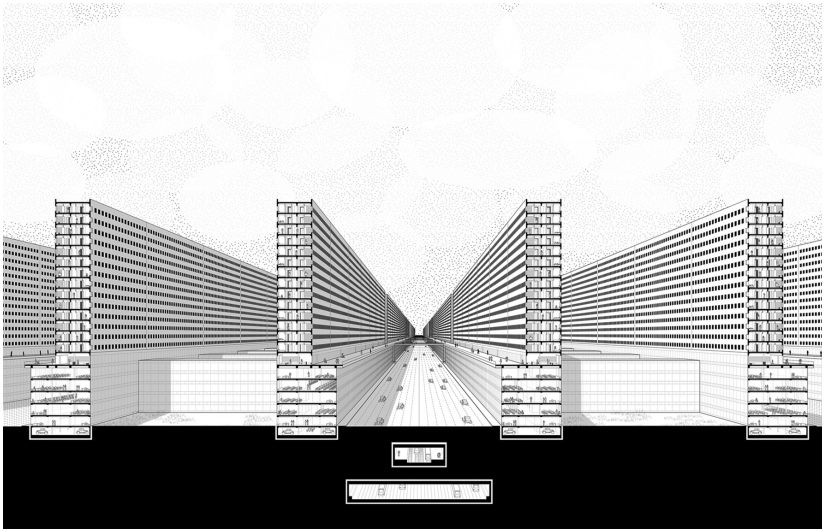
aspects of time and history, Zamyatin achieves several things. First, through the rhythmical repetition of bounded wholes he forms his imaginary world and makes it imaginable and therefore plausible. Second, through the rhythmic repetition of events in the lives of his characters, he depicts the rules that govern the imaginary One State and proposes the effects these rules could have on the population. And finally, by focusing on the cyclical and repetitive nature of rhythms and time itself, he challenges the reader to imagine both a grim future that is to come, a potential way to avoid it, and the inevitability of both.

The Drawings, Repetition of Forms, Designing the System, Utopia

Critically reflecting on the way that capitalist speculation has, in his opinion, destroyed the metropolis, Hilberseimer proposes a return of 'new awareness of life that is not subjective – individual, but rather objective – collective'.[26] To apply that he works both on the level of the individual unit and on the level of the city – but, unlike his predecessors, he treats these scales with the same level of importance. In his opinion the role of the architect is to bring order and clarity to the chaos of the metropolis. And he does this by disrupting the causes of this chaos through applying consistent and repetitive rhythms.

> Hilberseimer elaborates:
> *It has yet to be made clear that in the construction of the metropolis one is faced with the organization of a new form with its own dynamics, which not only quantitatively but above all qualitatively differentiates itself from the city of the past.*[27]

To face this new city and approach it productively, Hilberseimer proposes a set of measures and approaches. The main issue to solve is the traffic network. This is solved by regulating and separating traffic according to types, he explains, 'so that each sort of transportation is allocated its own respective level'.[28] Pedestrian traffic is thus placed at the highest level, fol-



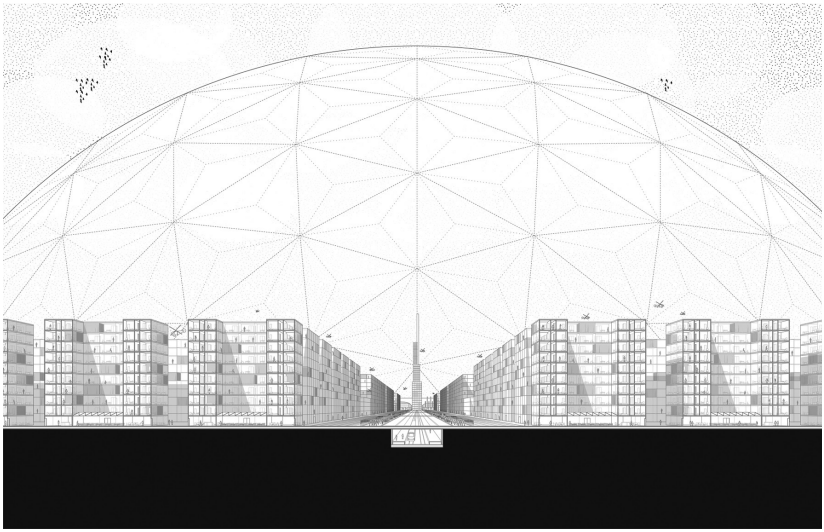


Fig. 3. Hilberseimer's street section – Digital drawing – Streetscape interpretation of Hilberseimer's Metropolisarchitecture apartment based on existing drawings and descriptions.

Fig. 4. Zamyatin's street section – Digital drawing –Streetscape interpretation of Zamyatin's One State room based on descriptions from the book.

Drawings by Jana Culek.

lowed by car traffic directly below, with city and long-distance trains placed in the underground. The second issue is the division of the city according to use. Hilberseimer proposes a division into residential, commercial and industrial quarters. In the city centre, the commercial and residential functions are stacked vertically on top of each other. He proposes that 'through vertical stacking of commercial and residential cities, paths between them will no longer be travelled horizontally but for the most part vertically – taking place indeed even within the building itself, eliminating the need to ever step onto the street'.[29] The third element in the cities is the placement of parks, green areas and water surfaces.

> *The reduction of developed area achieved by building and population concentration also enhances the benefits provided to urban dwellers by increasing the open and park spaces. All schools, hospitals, and sanatoriums, as well as sports and leisure areas, are to be embedded within these green spaces.*[30]

In order to depict his proposal, Hilberseimer used drawings that accompanied his text. These drawings also played an important role in enforcing and visualizing the rhythms of his utopian proposal. 'The urban atmosphere evoked by his drawings for the High-Rise City is neither futuristic, nor dramatic, nor dystopian. Hilberseimer's images, especially in his early work, describe an urban atmosphere that is detached, harsh, precise, and subtly disquieting.'[31] It can be argued that this is due precisely to the rhythmic repetitions found on all levels of representation as well as the logic of application of his theory. On the drawings themselves, there is a lack of specificity. The only thing that is visible in the forms of the buildings is the rhythmic repetition of vertical levels, of identical square openings, of multiplied slabs, of repeating blocks. In most of his urban-scale drawings, these rhythmic forms are contextless. Their repetition either extends outside of the boundaries of the paper space, or they are presented without a drawn context, surrounded only by the white of the paper. This is, of course,

done intentionally. Viewing *Metropolisarchitecture* not as a manual but as a theorization of the development of both architecture and the metropolis, the drawings work to further confirm that Hilberseimer's idea was not to apply his designs to the development of the city, but rather his logic. The repetition of identical forms is a way of removing all focus from the buildings themselves and shifting it to the design of the system. As Manfredo Tafuri explains: 'Hilberseimer did not offer "models" for designing, but rather established, at the most abstract and therefore most general level possible, the coordinates and dimensions of design itself.'[32] And in these coordinates, rhythm is used as a structuring form that shapes Hilberseimer's utopian proposal.

Conclusion

Standardization and Repetition as a Way to Structure Society

Mathematical logic, rationalization, standardization and repetition of forms through rhythms on various levels structure the worlds of both Zamyatin and Hilberseimer. The world, the methods of work and the approach to design that Hilberseimer proposes in *Metropolisarchitecture*, in a way results in the world created by Zamyatin in *We*. Hilberseimer explains: 'The industrialization of production, the standardization of production processes, the typification of the products of production, and generalization to the point of universality are today the tasks of every industrial firm.'[33] And this is exactly what occurs in the One State:

> *I [Δ-503] could see: in accordance with Taylor, with rhythmic speed, in time, like the levers of one enormous machine, people down below were bending, straightening, turning. Pipes were sparkling in their hands: with fire they cut, with fire they welded the glass walls, angles, ribs, brackets. I saw transparent glass monster-cranes rolling slowly along glass rails, and just like the people they obediently turned, bent and thrust their loads inside, into the belly of the 'Integral'. And this was all one: humanized, perfected people. This was supreme, stunning beauty, harmony, music . . .*[34]

And in *We*, this method produced what could be a city similar to Hilberseimer's :

> *I [Δ-503] saw everything: the immutable straight streets, the glass of the roadways spurting out rays, the divine parallelepipeds of the transparent dwellings, the quadratic harmony of the pale blue ranks. . . . the convex ice-blue technical drawing of the city, the round bubbles of domes, the solitary leaden figure of the accumulation tower.*[35]

At the time of its creation, *Metropolisarchitecture* was considered to be a positive, utopian approach to city planning, but today we can pose the question of whether this level of control is productive for the metropolis, which changes and fluctuates on all hierarchical levels, within all bounded wholes and according to various different rhythms. The attempts to control both architecture and society through strict hierarchical structures has proven impossible and harmful in many attempts throughout history. Hilberseimer's *Metropolisarchitecutre* can in some ways also be seen as an architecture and urban planning manual on which the city of *We* was built. Controlled from the cupboard in the individual room, through the repetitive design of the city, to the strict definition and delineation of the One State and its natural surroundings.

Even though *Metropolisarchitecture* was positively referenced throughout the twentieth century, Hilberseimer consequently condemned his own project by calling it 'more a necropolis than a metropolis' and a 'sterile landscape of asphalt and cement, inhuman in every respect'.[36] What we can conclude from these two texts is that it is very difficult to precisely define whether a novel or an architectural project is purely utopian or purely dystopian, especially from our current perspective. Both texts respond to their historical situations, in this case in different ways, but the way we read these responses today is also very much conditioned by our own cultural,

political, geographical and urban context. So instead of looking at these works as negative examples of the historical period between the two World Wars, we can look at them as productive experiments on how spatial and social forms of architecture, politics, culture and production affect society. Utopian and dystopian works in architecture and literature are both manifestations of an imaginary world and society that are informed by their historical realities and are created as a critique and response to the real world. They both propose an alternative to the status quo with the aim of rethinking, changing and, perhaps, bettering our futures.

1 Ludwig Hilberseimer, ‘Metropolisarchitecture’, in: Richard Anderson (ed.), *Metropolisarchitecture and Selected Essays* (New York: GSAPP Books, 2012).
2 Ibid.
3 Yevgeny Zamyatin, *We*, translated by Hugh Aplin (Richmond: Alma Books Ltd, 2009).
4 George Orwell, *1984* (London: Vintage Classics, 2018).
5 Le Corbusier’s *Ville Contemporaine* is a city plan for 3 million inhabitants, the logic and plan of which Hilberseimer debunks in the text of his proposal by pointing out a mathematical error that Le Corbusier made in calculating the square metres of space needed for pedestrian and car traffic. If calculated correctly, this would significantly lessen the amount of open and green spaces in the city, for which the project is best known.
6 Caroline Levine, ‘Introduction: The Affordances of Form’, in: Caroline Levine, *Forms: Whole, Rhythm, Hierarchy, Network* (Princeton: Princeton University Press, 2015), 14-35.
7 Ibid.
8 Levine sees forms as ‘political structures that have most concerned literary and cultural studies scholars: bounded *wholes*, from domestic walls to national boundaries; temporal *rhythms*, from the repetitions of industrial labor to the enduring patterns of institutions over time; powerful *hierarchies*, including gender, race, class, and bureaucracy; and *networks* that link people and objects, including multinational trade, terrorism, and transportation.’
9 Zamyatin, *We*, op. cit. (note 3).
10 Hilberseimer, ‘Metropolisarchitecture’, op. cit. (note 1).
11 Richard Anderson, ‘An End to Speculation’, in: Anderson, *Metropolisarchitecture and Selected Essays*, op. cit. (note 1), 24.
12 Hilberseimer, ‘Metropolisarchitecture’, op. cit. (note 1), 112.
13 Zamyatin, *We*, op. cit. (note 3), 91.
14 Ibid., 42.
15 Ibid., 7.
16 Ibid., 26.
17 Ibid., 28.
18 Pier Vittorio Aureli, ‘In Hilberseimer’s Footsteps’, in: Richard Anderson (ed.), *Metropolisarchitecture and Selected Essays* (New York: GSAPP Books, 2012)
19 Hilberseimer, ‘Metropolisarchitecture’, op. cit. (note 1), 270.
20 Ibid., 125.
21 Ibid., 155.
22 Ibid., 268.

23 Zamyatin, *We*, op. cit. (note 3), 113.
24 Ibid., 169.
25 Ibid., 227.
26 Hilberseimer, ‘Metropolisarchitecture’, op. cit. (note 1), 265.
27 Ibid., 110.
28 Ibid., 112.
29 Ibid., 123.
30 Ibid., 130.
31 Aureli, ‘In Hilberseimer’s Footsteps’, (op. cit. note 18), 335.
32 Manfredo Tafuri, *Architecture and Utopia,* quoted in: Anderson, ‘An End to Speculation’, op. cit. (note 11), 62.
33 Hilberseimer, ‘Metropolisarchitecture’, op. cit. (note 1), 262.
34 Zamyatin, *We*, op. cit. (note 3), 81.
35 Ibid., 7.
36 Anderson, ‘An End to Speculation’, op. cit. (note 11), quoting Ludwig Hilberseimer, *Enfaltung unf Planungsidee* (Berlin: Ullstein, 1963), 20.