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PLUS RATIO QUAM... INTUITIO

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Abstract

The creation of surprising, unobvious architectural forms – is in principle a matter of intuition and talent; it is wonderful, insofar as we understand architecture as something that is drawn. However, when we look at architecture through the prism of the structure of the architectural form, in order to transform this form from drawn architecture into actual architecture: one that is physically tangible, instead of a virtual illusion, an architecture on whose wall we can lean on when we are tired or rest within its shadow, the matter becomes much more complicated. It is serious enough that it requires the involvement of something more than intuition – that which we call reason and experience. For is it not creative when an intuitive sketch turns into a three-dimensional and sometimes timeless form, to which we can sometimes travel great distances in order to verify its obvious non-obviousness in person?

Keywords: rationality, intuition, architecture, legislation

Streszczenie

Kreowanie zaskakujących, nieoczywistych form architektonicznych to w zasadzie kwestia intuicji i talentu. Jest to wspaniałe, o ile rozumiemy architekturę jako rzecz narysowaną. Jednak, gdy patrzymy na architekturę przez pryzmat rozumienia konstrukcji formy architektonicznej w tym celu, aby ją (tę formę) przetworzyć z architektury narysowanej na architekturę realną: fizycznie namacalną, a nie wirtualną uludę, architekturę, o której ścianę możemy się zmęczyć oprzeć lub odpocząć w jej cieniu, sprawa staje się bardziej skomplikowana. Na tyle poważna, że wymaga zaangażowania czegoś więcej niż intuicji – tego, co nazywamy wiedzą i doświadczeniem. Bo czyż nie jest to twórcze, gdy intuicyjny szkic zamienia się w trójwymiarową, a niekiedy ponadczasową formę, do której jedzie się niekiedy bardzo daleko, aby naocznie sprawdzić jej rzeczywiście nieoczywistość?

Słowa kluczowe: racjonalność, intuicja, architektura, prawo

¹ Latin.: *More reason than intuition.*

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1. Introduction

Discussion on the (slightly paraphrased) subject of whether drawn architecture is actual architecture or just a drawing was already engaged in as a part of a conference organised as a part of the „Defining Architectural Space” cycle. However, there exists a certain doubt concerning whether this problem was ultimately solved at that conference. We can refer here to the comparison between a work that is entirely complete and a work that is in the process of being completed. Every architect, insofar as we can assume, takes greater joy in this stage of work: the drawing, creating and developing a conceptual design, creating an architectural form, rather than the stage of the arduous preparation of a technical design, not to mention „obtaining a construction permit”.

Construction itself is an entirely separate chapter, one that is often highly demanding and stressful to the designer, particularly so under the conditions of a building being built using a tender procurement procedure, during which practically every contractor purposefully depreciates the costs of construction in order to „get the job” at all, attempting to cheapen everything that is humanly possible or impossible afterwards. The architect, if he does not have the ability to protest through refusing to sign a contractor’s invoice (like he can in Germany), is practically all but defenceless. This is compounded because an absurd legal regulation² makes it possible for him to be divested of performing an author’s supervision and be replaced by a different person, selected as a part of another tender procedure (for a price that is lower than what common sense would dictate, of course).

This regulation is sometimes used by the contracting party, usually an institution represented by construction companies, who are the general contractors of a project that is usually being carried out through a procedure of public tender procurement (following the “design and build” procedure less often), not necessarily in accordance with the spirit of the law, for it actually applies to a situation in which the lead designer is replaced. We will not find an answer to the question as to why the lead designer is being replaced; however, in practice this usually happens for one of the two following reasons: natural causes, such as a serious illness incapacitating the author of the design or its terminal consequences, and economic causes – the lack of the original designer’s agreement to the introduction of changes into the design, leading to the cheapening of the project accompanied by the simultaneous loss of the integrity of a work or the lowering of its architectural, aesthetic and sometimes even utilitarian qualities. In this situation the next person to take up the performance of the author’s supervision, while not being the actual author of the building that is being constructed, places themselves on a collision course with copyright and authorship laws³ in light of the

² Article 44 of the Construction law act of the 7th of July 1994, Dz. U. 1994 No. 89 pos. 414 with later amendments: The developer’s duties concerning the disclosure of information: In the case of the replacement of: 1) the construction site or construction work director, 2) the developer’s supervision inspector, 3) the designer performing author’s supervision – the developer is to attach statements concerning the transfer of duties to the persons mentioned in points 1–3.

³ Act on copyright, authorship laws and other related laws of the 4th of February 1994, <http://prawo.sejm.gov.pl/isap.nsf/download.xsp/WDU20170000880/U/D20170880Lj.pdf>, particularly Article 16.: If the Act does not state otherwise, personal authorship rights protect the link between an author and their work that is not limited by time and is not subjected to transfer or selling, in particular the right to: 1) claim authorship of a work, 2) sign a work with their name or pseudonym or to make it available

lack of written permission by the author for being “replaced”, which is a direct consequence of Article 16 point 5) of the copyright and authorship law act.

When reading reports in the press⁴ about obvious design or construction mistakes we can merely ask the questions: where were the author of the design and the construction site director, and a second one – who gave them their licences?

As we can see, the design and construction of real, “tangible” architecture can bring suffering and fear, which is why the well-known words of N. Foster about the character and body traits an architect needs to possess perfectly correspond to the Polish reality of an architect’s participation in the development process. Reading colourful magazines for architects, in which completed projects with undetermined construction costs are shown – in other words, the developer had enough money to satisfy all of their whims and did not impose any constraints on the architect’s work – can really make one smile. Such a developer is a true treasure to any architect, as he can make them a “starchitect” and perhaps there is also a “black ray” in the light of the stars of architecture. The developer is perfect when he has enough of a good mood to agree to every fantasy of a designer and can be convinced that slanted walls and ceilings provide good conditions for living and working in.

However, is this true? It is enough to look at the testimonials of people who quit working in such spaces due to seasickness and labyrinth disorders⁵. But there is not a single word of it in the colourful architectural magazines. All is well if no courtroom is involved. It should come as no surprise then that visual architecture—regardless whether it is three or five-dimensional – is much more pleasant and is overall easier, as it does not bring with it any actual physical threat, it can be easily modified, it can have its form, colour, perspective and lighting changed – in other words, we can do everything with and in it – save work or live. Does virtual architecture fully meet Vitruvius’ definition? Does architecture as a “drawn object” exist as architecture?

2. Song of rationalism in architecture

*Look! There he stands behind our wall, gazing through the windows, peering through the lattice*⁶. Three architectural elements in one verse of the Song of Songs: a wall, windows and a lattice – they are both highly symbolic and rational at the same time. The wall, which physically separates the interior from the exterior; the window, which makes contact between the exterior-interior-exterior possible; the lattice, which limits the manners of this contact – is a structure that is very simple and rational in every respect. Such a partition, through appropriate modifications, makes it possible to create practically any architectural form, for a roof is but a variant of a partition, and can (in a certain sense) be also a wall, one that is different from a vertical one. The answer to the question: why has a reference to one of the most

anonymously; 3) the inviolability of the content and form of a work and its fair use; 4) to decide on the first instance of sharing the work with the public; 5) supervise the manner of the use of a work.

⁴ <http://nieruchomosci.dziennik.pl/news/artykuly/577630,mieszkanie-plus-polityka-nieruchomosci-deweloper-siedlemin.html>

⁵ According to testimonials of the users of some buildings designed by a late “starchitect”.

⁶ The Bible, Song of Songs 2:9, New International Version.



beautiful works of poetry been made, is simple – because the most beautiful architecture also contains a certain poetic load, it (architectural form) can also be simple in its essence, yet physically built out of completely rational partitions.

The rationalism of architecture expresses itself not only through its architectural form. It must be present in all of its elements, constituting the final result in the form of a work of architecture, insofar as it is to have not only a form, but a function as well. It is for the function and its requirements that the designer undertakes all possible efforts so that his work will meet the requirement of the user, the technical and economic assumptions made by the developer, as well as various other criteria: from material ones to those arising from the necessity of adhering to the many legal regulations and standards. In a completely utilitarian approach to architecture the problems of architectural form become unimportant, with the most important elements being economic criteria, referred to the time and cost of the planned occupancy of a building, as well as criteria of functionality. Rationality leads to modularity, standardisation and repetitiveness of the components of works of architecture.

The standardisation of designs is nothing but a manifestation of rational thinking and of the minimisation of production costs. Although the factory-based, “production line” approach cannot be directly implemented here as the conditions of the site on which standardised structures are being built are different each time, the increasing popularity of factories of single-family houses that produce prefabricated elements that make it possible to build such a home over a short period of time must exert a strong influence on their architectural form. We are currently observing attempts at making a breakthrough in the method of constructing houses, as the first buildings “printed” by machines, called construction 3D printers, have already been completed. This technology has made it possible – so far – to quickly construct the structure of a building, while its finishes and adaptation to the needs of normal, typical, everyday use takes much longer than the building of this “envelope” of the residential function⁷.

The architectural form of such a building must, in a sense, take into consideration the limitations of the capabilities of the tool (in this case a construction printer) with which it is to be built, as well as the physical and chemical properties of the material used in the “printing” itself. So far there are no available research results nor a lot of information on the influence of the materials used to “print” houses on the health of the residents of such structures, while we must adopt the assumption that they need to conform to current design principles and

⁷ The first printed house: <http://apis-cor.com/en/about/news/first-house>

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- III. 1. Public space with a playground near the MAXXI building, Rome, Italy, Designer: Z. Hadid. Original photograph
 - III. 2. Public space with small eating establishments near office buildings during working hours. After the working day ends, the employees sit in large groups on the artificial grass late into the night. Seoul, South Korea, Original photograph
 - III. 3. The interior of the Institute for Public Policy and International Affairs of the American University of Beirut, Lebanon, devoid of any vertical elements. Designer: Z. Hadid. Original photograph
 - III. 4. The gated, ghetto-like fragment of the Żabiniec housing estate in Krakow, Poland, Original photograph

legal conditions, meet the conditions necessary for approval of their use in construction – they need to have appropriate certificates. The subject itself is interesting, as this technology brings with it a certain hope of quickly meeting the increasing housing demand in the context of the dynamically changing demographic situation across the globe. The vision of the possibility of using local construction materials in an unprocessed state to build homes using the printing method lies in the form of various types of clay and other materials thanks to which we can obtain an appropriate degree of plasticity necessary in order to be used to “print” the buildings on the site of their future use.

A rational economic balance will, in this case, indicate that the cost of the transport of the machine itself (the construction printer) to the site of the construction of a series of structures will be many times lower than that of the transport of a finished structure from the place of its production to the site of assembly and even greater than in the case of a higher number of them. Depending on the manner of increasing the plasticity of local materials (it would be the most feasible to use ordinary water to do so, provided that it would be available on-site), we can point to the existence of buildings built out of local materials, without the use of “printing” methods, but traditional ones⁸, whose effects in terms of architectural form, interior microclimate and material and colour cohesion with their environment are very good. Furthermore, in countries with very high demand for housing and with little financial means possessed by residents, attempts can be made to use these types of technological solutions in order to obtain an improvement in this field. The deciding factors in this case will be the possibility of rapidly obtaining a visible effect in the form of a housing estate “printed” on-site, performed after the prior preparation of the necessary technical and social infrastructure, of course. It is the problem of the preparation of the underground infrastructure for future development that can constitute a considerable challenge, one that is much more serious than the construction of housing itself.

3. Or perhaps... more intuition?

It is intuition that tells us that solutions to problems pertaining to rapidly changing trends in construction should not be sought exclusively in the field of technology and materials. The increasing interest in contemporary fashion trends – and along with it – in the arts, design and architecture, causes an increase in the number of developers who search for new, atypical solutions and designs. Narrowing down the scope of our search solely to that of residential architecture, it becomes visible that there is an increasing number of both single and multi-family residential buildings of various sizes and forms that are interesting because of their non-standard functional solutions and whose photographs – sometimes with floor plans and elevation drawings – are being published in professional magazines.

The changing of trends can be most clearly observed in interior decoration, as it is this field that usually constitutes the first experimental “field of operation” for design and construction for the youngest generation of architects of both sexes who are still students of various universities or their graduates. It seems that intuitive and emotional designs developed by women – whose intuition in matters of the aesthetics of interiors is being heavily relied on

⁸ K. Barnaś, O. Kania, *Earthen Temples*, WMCAUS, Praha 2018.

by their female clients, who are the majority among those who commission interior designs for their homes⁹ – has a significant advantage over cold rationality and the appropriateness of standard solutions. This trend has recently become broader and more popular and is present not only in Warsaw and the major Polish cities, but also in smaller centres around the country in which the real estate development market is being developed.

Exhibitions¹⁰ organised by branches of the SARP, including its Krakow branch, that promote interesting solutions in terms of single-family housing in Poland, as well as in neighbouring countries and which attract interest not only within the community of designers, but also among potential clients, have shown that the demand for individual designs does exist, as well as to the fact that not every potential developer is interested solely in the lowest possible price of a “standard” design, which is selected not from the perspective of the quality of its spatial solutions and the aesthetic of its architectural form, with the deciding factor instead being the lowest possible cost of its completion (usually calculated on the basis of parameters for the best possible placement in the easiest possible soil and climatic conditions). The ongoing trend of building single-family and terraced houses in suburban areas is slowly appearing to change in favour of living in the city.

The trend of returning to the city has been clearly observable in German cities, in which commuting time between places of work and residence has considerably increased despite a better transport infrastructure and a well-developed park and ride system. New generations treat time differently, they do not want to irrevocably waste it on spending it in traffic for 4 hours every day. The public cost of this wasted time is significant – drivers do not “work” per se during traffic jams on highways or roads, but they also do not rest.

This causes the average employee who commutes to work using a car every day and spend a lot of time in traffic jams to not only gain nothing from this, but also to become less productive. In reference to women, who could spend the time wasted in cars to better raise their children at home, its loss is even worse from a social point of view. Intuition suggests that in such a situation it is more rational to live within the range of effective mass transport, which makes it possible to considerably conserve commuting time to and from work, without omitting the positive additional effect of decreasing the pollution of the environment with engine exhaust and noise generated by private vehicular traffic.

The metropolisation of cities is also accompanied by a change in the use of cities by their residents. Hence the role of public spaces, whose quality is being assigned an increasing amount of attention, as well as countering the intensification of the built environment by pushing for the construction of new park layouts within cities, the protection of greenery either in the form of forest parks on the outskirts of cities or the structuring of existing ecological corridors along waterways. Pro-environmental urban movements have become strong enough that their actions are starting to significantly affect the development policies of municipal governments, pointing to the need to regenerate areas that are being freed up by relocating industrial plants and convert them not only into new housing estates, but directing them towards the creation of new areas of public greenery or public spaces.

In the field of transport there is an increasingly visible acceptance of modes of transport other than the car. The traditional and electric bicycle are becoming increasingly popular

⁹ Information obtained through interviews with interior design firms operated by graduates of the CUT FoA.

¹⁰ For example: V4 Family Houses and others www.sarp.krakow.pl

methods of traversing both short and medium distances within cities. The expansion of bicycle paths and granting cyclists increasing amounts of privileges in the form of the possibility to use counterflows or even to go the other way on otherwise one way streets causes changes in the behaviour of both drivers and the remaining participants of street traffic, including pedestrians. Of course, intuition suggests that the overall level of the safety of all participants in road traffic during the period of everyone's adaptation to the altered behaviours on streets will temporarily drop, while entering the stage of a greater diversification of individual modes of transport employed by society within cities will not be instantaneous and free of conflict. The development of technologies and the mass production of miniature modes of individual transport other than the bicycle while being based on electric capacitors, as well as increasingly popular car sharing and the circular economy will force changes in the technical infrastructure and appearance of cities in the near future.

Hence, there will also appear forms of parking facilities, rentals and spaces for the charging of these various transport devices – elements that are currently not present in the public spaces of cities. Along with the increasing amount of free time that will also be caused by the ongoing digitalisation and increasing mobility of societies, the currently observed change in the forms of residence within downtown areas – from apartments occupied by families to apartments rented to tourists – will cause further functional transformations. They will initially appear in fragments of cities with the greatest tourist traffic and then spread to the outer regions. All of these changes can, but do not necessarily have to, lead to changes in the manner of using not only public spaces by residents, but also to the creation of new types of space within cities.

4. Ghettoisation of urban space¹¹

In the social sphere of public space we can observe a trend that is characteristic of cities located in countries with a very low level of security, namely, the trend to appropriate or – to use a more appropriate term – refuse to accept the joint use of private space by other residents – insofar as the space occupied by real estate can be considered as such – and of which other residents are co-owners. We are talking about the fencing off of the space of housing estates created by multi-family residential buildings, which, contrary to the views of urbanists of the CIAM period, do not serve the purpose of common use by residents of the entire estate, but only (and purely theoretically, for who actually uses this space – narrow and walled off with a fence) to the residents of each building, which constitute separate homeowner's associations.

We can also discuss yet another aspect of the ghettoisation of urban space, one that applies mainly to drivers instead of pedestrians. From the point of view of the residents of the downtown areas of metropolises, in which there are traffic restriction zones, forcing their residents, provided they own a vehicle (and pay the same road tax as everyone else) the necessity to agree to very complex access routes to their property, ones that are justified by so-called "traffic calming", as well as the placement of various inconvenient limitations of various types without compensating for them in any way, is a certain "hidden" ghettoisation.

¹¹ (as a reaction to the lack of a fence and one's own fido who guards from others).

The fragmentation of that for which the modernists fought for – common space – using fences, which leads to absurdly delineated pedestrian paths the width of a single slim person and in a manner that is illogical from the point of view of the purposes of walkability – along the borders of properties – goes against not only any intuitive form of travel by pedestrians, but the rational conduct of educated people. Telling residents that they will be safer in fenced-off housing blocks, whose fences can be overcome by any two-bit criminal in a childishly easy manner, is proof of the exceptional victory won by social engineering used by developers on their clients.

In a period of growing electronic crime and the possibility of insuring any type of property whatsoever, the building of fenced off mini-ghettoes – using our own money – that make our life harder and which are guarded almost like prisons by unarmed “bodyguards” looks like a bad joke. After going “outside the gate” every resident of such a “ghetto” becomes equal to every other resident of the city that does not live in a gated community in terms of being under threat, which, paradoxically, increases as we go nearer less-frequented areas. So far we have not made much effort to combat this phenomenon, accepting the prioritising of private property over the common ownership of urban space. Does this situation affect the architectural form of buildings that are being designed? Of course not, the architectural form of buildings is far more influenced by current construction law, particularly the technical conditions concerning view obstruction and the shading of buildings, which, along with the pursuit of the intensification of built-up areas, have caused a visible increase in the height-related formal complexity of residential buildings. The resident intuitively feels that something is on.

5. Conclusion

The author was not able to prove the thesis laid out in the title: *plus ratio quam... intuitio*. Reason, in some cases, can become subjected to instinct, but unfortunately not to intuition.

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