

Radical Contingency. Strategy and Tactics in Architectural Design

Original

Radical Contingency. Strategy and Tactics in Architectural Design / Deregibus, Carlo. - In: ARDETH. - ISSN 2532-6457. - ELETTRONICO. - 6:(2020), pp. 205-218. [10.17454/ARDETH06.15]

Availability:

This version is available at: 11583/2851240 since: 2020-11-05T23:02:49Z

Publisher:

Rosenberg & Sellier

Published

DOI:10.17454/ARDETH06.15

Terms of use:

This article is made available under terms and conditions as specified in the corresponding bibliographic description in the repository

Publisher copyright

(Article begins on next page)



#06 Spring 2020

Guest-curated by Dana Cuff and Will Davis

Rosenberg & Seliger

Radical Contingency. Strategy and Tactics in Architectural Design

Carlo Deregibus

Abstract

While narratives tend to show architectures as coherent results of a plot in which the abilities of involved people are far more relevant than the fate, actual projects are more like the conjuncture of various trajectories: involving actors, factors, aims, preferences, good (and bad) intentions, most of which will remain unknown. Tracing all these elements is indeed impossible but, for the architect, sailing through them all along the process is mandatory. The paper investigates how architectural design can exploit the so-called potential intrinsic to the radical contingency of all processes, instead of suffering their (apparent) haphazardness. By changing architectural design into a floating sequence of strategies and tactics, it is possible to overcome the facticity of the process, thus successfully promoting the project as an aim. Such an attitude may be enhanced in projects of all scales and in any moment of the process, for architects to gain a creative and purposeful role.

Affiliation

Politecnico
di Torino,
Dipartimento di
Architettura e
Design

Contacts:

carlo [dot]
deregibus [at] polito
[dot] it

Received:

02 August 2019

Accepted:

21 March 2020

DOI:

10.17454/ARDETH06.15

ARDETH#06

Reports on how projects fail to generate a “good” architecture, share the same characteristics of more celebratory tales.

Heroes & Villains

Architectural narratives tend to tell stories of strong-willed, creative geniuses who, quite invariably, successfully design masterworks (or, at least, valuable buildings). Rarely do we learn about all the subtle or major changes that occur between a first proposal and the actual building: indeed, projects are presented as the result of a coherent story, able to incorporate every possible deviation from the desired, prophetic original vision. This perspective is obviously favoured by architects themselves, as it shows off their foresight and ability to control the whole process, as long and hard as it may be. Some exceptions are welcome, obviously: that is, all the changes that are radical enough to become interesting for the tale itself. Nonetheless, also in those cases, the deviations from the original design rarely are considered accidental. When Jørn Utzon finally invents the way of building the sail-shaped shells of the Sydney Opera House, overcoming the long-awaited but unsuccessful proposals by ARUP, he becomes the hero of the tale, even more than before (Fromonot, 2000). The fact that he designed the project without having the faintest idea on how to build it even allows him to gain a bit of a true prophetic aura. In the same way, as ARUP finally solved how to build the Centre Pompidou’s exceptionally large free floors, we pretend to remember their genius more than the numerous failures they went through (Dal Co, 2016). In such cases, designers were able to find a solution: and that is why they are the heroes of those tales. Their role is to bravely go beyond any accident and contingency, so much that contingencies even appear to be part of the original plot. However, as they say, “the one thing people love more than a hero is to see a hero fail”. Therefore, the opposite of those tales are the narratives of architectural failures. Equally passionate and recurring, reports on how projects fail to generate a “good” architecture (whatever it may be), share indeed the same characteristics of more celebratory tales. Reports about the constructive problems of, for example, Ray and Maria Stata Center by Frank Gehry (Lubell, 2007) or several projects by Santiago Calatrava (see Thefullcalatrava, 2013) highlight the lawsuits involving the architects: but also the fact that those problems were originated by an uncompromising design. This means that chang-

ing the design would have avoided any problem, but that the architect refused to compromise the original concept. Just like the villain of a plot, or rather an anti-hero. The most famous example of this attitude is the House VI by Peter Eisenman, whose clients were so disappointed to publish a book against the project (Frank, 1994), thus making it even more famous and debated. In all those narratives, we see again the same sense: the architect is like a hero, fighting for his concept and project, up to the point of risking some flaws to maintain it pure.

Contingencies are not *really* part of the plot: because the plot is about heroes and villains, otherwise it would not be so fascinating. However, being an architect means being *inside* the plot, actually writing it all along its development: in that sense, understanding the value of contingencies and the way of facing them is essential.

Mapping Out the Project

What are the boundaries of a project? How many people, norms, places, or any other thing, do have a role in the design process? In the narratives we hinted about, it is quite simple to recognize the traditional trio composed by an architect, a client and a construction company: a scheme that persists in all narratives, as it summarizes the most evident actors in the plot. But the *actors* and *factors* actually influencing a project are far more.

Let's consider a very simple project of a house: there will be regulations and norms influencing its dimensions, its height and so on. With different regulations (or a different application of the same rules) the shape of the building would change: even the value of the plot would be somehow different. Thus, the town planners who defined those rules, as well as the technical department of the City that manages their application, actually *have* a role in the project. And what about the lot itself? Either it was bought, or it has "always" been the property of the client. In the first case, its price may be influenced by the will or the need of the seller to sell it: buying the lot could have been a bargain or, on the contrary, could have reduced the present resources of the client, thus indirectly influencing the project. In the second case, indeed, it means that the lot was inherited (or given

Contingencies do have an (indirect) effect on the project, as their consequences will influence the present resources.

to the client): this means that somebody besides the client bought it in the past, this purchase depending on many contingencies we cannot be aware of. But even those contingencies *do have* an (indirect) effect on the project, as their consequences will influence the present resources of the client: and these will surely affect the design. Then, like in the case of real estate developments, the client could be different from the final users which, however unknown, should be included in the map, as their preferences, or rather the supposed ones, will orient the process. Furthermore, in all plots there are many part players, whose importance may be revealed at any moment. Neighbours, for example, could play a negligible role, or rather they could strongly oppose the project for any reason (from the change in the view to personal dislike), eventually whipping up a committee against it: in 2011, a group of citizens was able to halt the construction of a building near the Mole Antonelliana – the main monument of Torino – even if all rules were observed, to make an example. Quite the opposite, neighbours could also be particularly friendly, thus freeing the project from some limits, like the setback between buildings: in this case, too, they will play a significant role. In more important cases, the debate could involve the whole city impacting the shape of the building – like for Intesa Sanpaolo’s new headquarters in Torino, whose height was forcefully reduced (see Riccardi, 2008: 70) – or the process – like for Herzog & de Meuron’s Tour Triangle in Paris, whose construction was halted for four years (Ravenscroft, 2019). Part players may even force the status of the main characters. Actually, who is the “architect”? The name of the author may not coincide with the actual designer, especially in the case of big firms: here, the label may even replace the identities of real designers, like in the case of Zaha Hadid’s firm, which survived to its founder. So the project will depend on the actual designers, project managers etc. who will define the concept, and then evolve the project: so who should be the hero/villain of the plot, in those cases? The same goes for the “contractor”, obviously: the actual maker of a building is often a subcontractor, but sometimes we should include in the plot even the single workers, whose individual importance could be capital. Think about the incredible skills required to

builders of Carlo Scarpa's projects, or the *Takumi* masters working on the formwork of Toyo Ito's Meiso No Mori, in Gifu. Those artisans, as individuals, should have a place of some kind in the map, given how they actually influence the result.

Admittedly, we cannot even imagine how some actors, or factors, will influence the process, no matter how many of them we will be able to include in the map, for there will be endless opportunities for destiny to change everything. In 2008 (in Italy, 2011) the economic crisis jeopardized the real estate market and the whole building industry, spreading across all fields and causing a wave of layoffs. The clients of the hypothetical house mentioned above could have their resources reduced, or simply change their minds about the future. A typical consequence of a financial crisis was indeed a massive increase in property taxation (Geerolf and Grjebine, 2018: 80), and this could have a direct effect on the project: favouring smaller houses, for instance. On a different scale, the Nakheel Tower in Dubai was put on hold due to the same international crisis, one of a long list of buildings. Even voting in an election could influence the projects of others: for example, in the last decades, simplified building sanction procedures were often included in the electoral programs in Italy.

Blurred Lines

It should be clear now that mapping out all the actors and factors influencing a process, and a project, is unrealistic: at most, we will be able to list one the most evident "actants", as Algirdas Julien Greimas (1987) called them before Bruno Latour reused the term in his Actor-Network-Theory. Actants may be heroes, villains, objects, helpers and so on: thus, for being part of the plot, they must have a somehow *determined* role. All narratives of architecture define actants (explicitly or not) for rationalizing the irreducible, uncontrollable reality in a limited number of clear roles, easy to point out – and map out. But the role of an actant may change, shifting from one role to another: just like in a plot twist, a villain may be revealed to be a hero and vice versa. These shifts may produce unexpected discontinuities: new roles and new actants may emerge while others may disappear, and, above all, they may be *less determined*. Think of the famous controversy

Mapping out all the actors and factors influencing a process, and a project, is unrealistic.

about the face material of Kaufmann House, “by” Frank Lloyd Wright: the architect wanted it to be golden-clad, while the client imposed a soberer, pale ochre plaster (Hoffmann, 1978: 52-53). Should we say that the client was indeed the author of (a part of) the project, and his role shifted from “the client” to “the architect” – at last for a moment? The roles become, somehow, *blurred*. And the role of actors will become even more blurred due to their aims, intentions, preferences, omissions, and beliefs. For example, we could imagine that the aim of all actors in an architectural process is building a building; but this is only a *relative* aim. Depending on whether the client is the final user or not, his main aim may be to conclude the building as soon as possible with the best possible result; or rather, to sell the house earning as much as possible. The architect could have the aim of building a masterwork, but also that of being paid by the client, whoever it is. The construction company, aside from earning from the work, could desire to introduce itself with the client and/or the architect as a future reference for other works. And if we look at other actors in the map, aims will spread even more. The aim of the town planners is (hopefully, but again, we could only suppose it) improving urban quality according to a corresponding political view; but the Act also has the aim of distributing rights among the citizens. The aim of neighbours, depending on their character, could be obstructing the building for any reason, or rather becoming friends with the newcomer. And so on: there will be many different aims influencing the project, the majority of which will remain completely or partially unknown to the other actors while influencing them. The same could be said about preferences and tastes. Again using the example of House VI, the clients gave full discretionary power to Peter Eisenman (and maybe they regretted it): thus, the building is the result of their open-mindedness combined with the preferences of the architect. In a more common example, the architect will have to deal with tastes that may be very limiting for the design, arriving at the point of imposing a style. The company could prefer a more traditional technique to a more unconventional one, even if there could be an advantage in terms of timing and costs. And so on.

It has been speculated that, being all the relations between actants regulated by documents like con-

tracts, roles and relations should be somehow clear (Ferraris, 2009). But no document will ever clarify the reason behind a choice of a subject, nor itemise all possible interpretations of a norm (see Derrida, 2003). No document can truly explain the attitude of the individuals, which will mainly rely on personal relations, nor the way they will act during the process, which will depend on their personal (relative) aim. Moreover, everything will be even more blurred in a diachronic process, as all those unknown factors could become relevant, or totally irrelevant, in any moment. So, from the point of view of the architect (or any other actor), the map looks more like a blurred series of variable lines and signs than a clear scheme of the project. Usually, all involved individuals intuitively deal with others: but the point is everything and everybody *could be different or act differently*. This is the *radical contingency* of the map:

a constellation of processes rather than a thing. This is place as open and as internally multiple. Not capturable as a slice through time in the sense of an essential section. Not intrinsically coherent. [...] It is simply a coming together of trajectories. (Massey, 2015: 141)

Clearly, *at the end* of the plot, the role of all actors and factors somehow will crystallise, and they will change into proper actant: that's why we're safe in saying that, concerning the finishing of the Kaufmann house, the actant-architect, Wright, was partially influenced by the actant-client, m. Kaufmann. But the architect is *inside* the plot (hopefully).

It may appear that, to deal with this complexity and taking on the project, the architect should somehow *manage* the process, for example shifting from being involved within the design process to stepping out of it, so as to get a critical distance. But this is an illusion. Indeed, the main point of radical contingency, as the system-theory clearly states, is that it is impossible to step out: the neutral observer, or the interpretant, is an "excluded third" (Luhmann, 2017: 63). This is also the main problem of many contemporary design theories (see Bachman, 2012): while they recognize that problems and accidents generally emerge from (unexpected) interactions between actants, they also tend to assume that the architect can get a critical

No document can truly explain the attitude of the individuals, nor the way they will act during the process.

The only possible way of dealing with this radical contingency is an equally radical questioning of the concept itself of architectural design.

distance, consequently adjusting the original plan. In the same way, thinking that it is possible to give room to stakeholder without influencing them, for creating a level of genuine participation (see Kempenaar and Van den Brink, 2018) simply is impossible. The architect, as well as any other actor in the map, is ontologically tendentious. Indeed, the only possible way of dealing with this radical contingency is an equally radical questioning of the concept itself of architectural design.

Radical Contingency and the “Potential”

The radical contingency of the map could discourage anyone. How could architects take on a project in such a blurred conjuncture of contingencies? One possibility could be abdicating the traditional, creative role of the architect, shifting to a more connective role, according to a general post-modern tendency (Bauman, 1987): as long as it can push the process ahead, the project will be deprived of any “architectural” attention to the form (Armando, Durbiano, 2019). The problem of such perspective is that a process can never justify a result, exactly because everything *could* be different – indeed, this recalls the famous “is-ought problem” defined by David Hume (1739: 335). Using the process to legitimatise the result means trying to be neutral: but, as the actor is inside the plot, this attitude will influence the others just as well as *any other* attitude. The final shape could not be truly justified on the base of the process because nobody will truly know the *whole* process. In such perspective, moreover, the critique would be as impossible as useless, because *any* result will be nothing more than one of the (endless) possible results of the process (Deregibus and Giustiniano, 2019).

Another possibility, indeed, is considering contingency from another point of view, looking at it as the “pure possibility” (Meillassoux, 2008: 62) of being everything: a space-time of endless possibilities whose development cannot be *controlled*, but can be *oriented*. The basic idea of “orienting the process” is exploiting what François Jullien (2004: VII) has called *potential*: “not ‘a potential for’ but an absolute potential”, that is, the propensity resulting in the map, at any point, at any moment. Sensing this propensity and orienting it means acting indirectly (see Chia and Holt, 2009), changing every act in a project action, so

that the whole contingency tends toward the project, and the project exploits this “natural” inclination. Clearly, in this perspective, the idea of validating the future on the base of its consistency with the original project – an attitude reflecting the application of a provisional model to the process – is senseless. In the situation we described, trying to make a project with the idea of predicting everything, will lead to failure (Deregibus and Giustiniano, 2019): too many actors and factors, even unconsciously, will influence the project all along the process. Either trying to control them or ignoring them means falling into what Claude Meillassoux (2008: 39) has called *facticity*, that is, “not knowing why the correlational structure has to be thus”. Indeed, for exploiting the potential and steering the process toward the project, we must look at the backside of facticity:

The idea of validating the future on the base of its consistency with the original project is senseless.

instead of construing the absence of reason inherent in everything as a limit that thought encounters in its search for the ultimate reason, we must understand that this absence of reason *is*, and can *only* be the *ultimate* property of the entity. We must convert facticity into the real property whereby everything and every world is without reason, and is thereby *capable of actually becoming otherwise without reason*. We must grasp how the ultimate absence of reason, which we will refer to as ‘unreason’, is an absolute ontological property, and not the mark of the finitude of our knowledge. [...]

Consequently, this dia-chronic referent may be considered *to be contingent while simultaneously being considered to be absolute*: it can be construed as an event, an object, or a processual stability, that need not be shown to be unconditionally necessary, since this would be contrary to our ontology (Meillassoux, 2008: 53, 117).

Thus, justifying the result on the sole base of the process means indeed praising *facticity*, while ignoring its *radical contingency*. On the other hand, taking advantage of contingencies means letting the project to find *its* way into the map by exploiting the *propensity* (Julien, 2004: 15) of the contingency itself: that is, its most promising direction. Therefore, *wayfinding* (Chia and Holt, 2009), or *sailing* (Shrivastava and Persson, 2014), should become one of the most important sides of architectural design: because it is the only way to take

Justifying the result
on the base of
the pure process,
means legitimising
the building on the
base of the facticity
of the map.

on a project in present complexity, without suffering contingencies.

However, for influencing contingency, it is clear that the architect should go *toward a direction*, the direction of the project, even if no predictive plan can be truly set at the beginning. With a preliminary project in the traditional sense, we would fight against the contingency, trying to forcibly adapt it to the project, instead of exploiting its potential (Jullien, 2004). Conversely, acting without any direction would mean abdicating the creative role for becoming (at most) a Baumanian interpreter. Instead, we are proposing a third way, that is, to deal with the potential of contingencies all along the process: a matter of architectural strategy and tactics.

Strategy and Tactics in Architectural Design

“Strategy without tactics is the slowest route to victory. Tactics without strategy is the noise before defeat”, according to a famous, yet probably apocryphal, quotation of Sun-Tzu (2008). *Strategy* defines a long-term goal and how to achieve it, whereas *tactics* are actual, short-term actions, oriented toward more limited purposes (Jullien, 2004: 46). A typical example would be the Pyrrhic victory: winning a battle with such loss that the war will be lost means having a successful tactics (winning the battle) but a disastrous strategy (losing the war). Quite the opposite, sacrificing a military unit for a diversion means losing a battle to win the war: a good strategy that implies a ruinous tactic. Or rather, a tactic which *appears* to be ruinous: for the validity of tactics must be evaluated on the base of the success of the strategy, as well as the validity of strategy must be evaluated on the base of the achievement of the original aim. Concerning architecture, justifying the result (that is, the building) on the base of the pure process, means developing tactics without a strategy, thus legitimising the building on the base of the facticity of the map. Conversely, exploiting the potential means having a strategy – which may be a general idea of the project – and developing tactics to achieve that project, *evolving* it – not *generating* it – through the process: in other words, it means setting an “inception of potential” (Jullien, 2004: 66) which may develop in a plan, instead of the plan itself. The difference may be dramatic.

Using the example of the house above mentioned, let's imagine the client and the architect in a preliminary phase. The architect proposes a project, whose degree of precision is obviously limited, the client appreciates the proposal and the process begins: the map starts to appear (even if there are a lot of older, yet partially unknown, signs all over it, like those which put in connection the client and the architect, those concerning the lot and so on). Then, some of the traits of the project may turn out to be impossible for some reason. Indeed, there are endless possible problems that may interfere with the architectural form: structural, acoustic, energy, safety, technological, normative, economic ones. There is no way to control all those factors since the very beginning, so there's the risk that the first project proves to be impossible to achieve. This would mean that the first project designed a bad strategy. Does it mean that it is wrong to propose radical buildings without a preliminary check of all those factors? Obviously not, for two main reasons: the first is that a preliminary project has the aim of providing suggestions of the result, not to determine it; the second is that it would be simply impossible to foresee all possible problems, due to the radical contingency of the process.

Quite the opposite, a good strategy could be to highlight the *qualities* of the *potential* experience of the project: which depends on the *consequences* of its form, more than the form itself. That is, proposing an *inception of a project*, more than a project. This means, in the above example, not to aspire to that precise internal distribution, but to *any possible internal distribution which may realize the experience the project aims to provide*. That is the power of contingency: anything could be different! Then, a good tactic for the case could be producing drawings that enhance the final aim (the way the building is lived) more than the means employed to achieve it (the internal distribution). Conversely, a bad tactic would be stressing about the mean, thus binding the achievement of the project to the practicability of that precise internal distribution: in that case, facticity would win.

Clearly, in large-scale projects strategies and tactics will be somehow layered. Improving soft mobility in a city (the aim) may require a complex strategy including the improvement of cycle lanes and subways, a

Exploiting the potential intrinsic in radical contingency means considering the project of a building as a continuous shifting between means and ends.

series of actions for reducing private cars in favour of car-sharing and so on. Any of these strategic actions will require different tactics to be achieved, like changing roads in pedestrian areas, separating cars and bikes, having cycle lanes all along the roads or in a separate place, choosing the best new subway's layout and stops etcetera. The strategy must be tailored on the base of all actors and factors acting in the city (and on a national scale, like in the case of state incentives), to most dramatically influence them. But also the effectiveness of tactics in relation to the general strategy depends by the whole map: for example, the city may approve a cycle path, but the neighbourhood in which it rests on may not, thus organizing a protest which could spread in the city, turning public opinion against any cycle path: a ruinous tactic ending in a ruinous strategy. We could imagine that a good tactic would be to improve participation and communication in the first phases of the strategy (the construction of the first paths): but we cannot be sure about that, exactly because of the *radical contingency* of the map: we cannot rely on the *facticity* of tactics. It could be best, for example, to keep a low-profile in the first phases, so to show the effectiveness of the solution, thus anticipating any protest. Looking at the process in this way means improving the power of the project, changing it into a layered combination of tactical and strategic actions, aimed to achieve architecture and its experience.

Of Means and Ends

All projects have to survive a long process, to be achieved. The quality of the outcome of the process may be more or less fortuitous, depending on how the architect – as well as any involved actor – acts. For architecture, exploiting the potential intrinsic in radical contingency means considering the project of a building as a continuous shifting between means and ends. It is worth noting that strategic design is often related to sustainable design (see Bachman, 2012), but a proper strategic and tactical design may work regardless of the goodness of intentions: the quality of the *aim*, in other words, is an ethical question that cannot be avoided (Deregibus, 2016), but that does not directly influence the efficacy of the means. At the same time, for the project to be achieved and for the design to

be effective, it should be now clear that choosing the aims and the means is of utmost importance. Neither architects can realistically impose a design, nor must they suffer the apparent casualty of others' behaviour: instead, they have to exploit the radical contingency of the process, seeking its potential, and using the project to maximise it.

References

- Armando, A., Durbiano, G. (2019), *Disegnare oggetti, disegnare architetture. Due forme dello schema per il progetto*, in V. Cavedagna, A. A. Dutto (eds), *Schema. Verso un dizionario filosofico-architettonico*, Torino, Philosophy Kitchen, pp. 23-36.
- Bachman, L. R. (2012), *Two Spheres: physical and strategic design in Architecture*, London - New York, Routledge.
- Bauman, Z. (1987), *Legislators and interpreters. On modernity, post-modernity, and intellectuals*, Cambridge (UK), Polity Press.
- Chia, R. C. H., Holt, R. (2009), *Strategy Without Design. The Silent Efficacy of Indirect Action*, Cambridge (UK), Cambridge University Press.
- Dal Co, F. (2016), *Centre Pompidou: Renzo Piano, Richard Rogers, and the Making of a Modern Monument*, London, Yale University Press.
- Deregibus, C. (2016), *Intention and Responsibility. Ethical Consistency in Contemporary Architecture*, Milano, IPOC.
- Deregibus, C., Giustiniano, A. (2019), *Il filo e la marionetta. Verso un progettare strategico*, "Rivista di Estetica", vol. 71, n. 2, pp. 187-203.
- Derrida, J. (2003), *Forza di legge. Il «fondamento mistico dell'autorità»*, Torino, Bollati Boringhieri.
- Ferraris, M. (2009), *Documentalità. Perché è necessario lasciar tracce*, Roma-Bari, Laterza.
- Frank, S. (1994), *Peter Eisenman's House VI: The Client's Response*, New York, Watson-Guption Publications.
- Fromonot, F. (2000), *Jørn Utzon: architect of the Sydney Opera House*, Milano, Electa.
- Geerolf, F., Grjebine, T. (2018), *Property Tax Shocks and Macroeconomics*, "CEPII Working Paper", n. 3, CEPII.
- Greimas, A. J. (1987), *Actants, actors, and figures*, in A. Greimas, *On Meaning: Selected Writings in Semiotic Theory*, Minneapolis, University of Minnesota Press, pp. 106-120.
- Hoffmann, D. (1978), *Frank Lloyd Wright's Fallingwater: The House and Its History*, New York, Dover.
- Hume, D. (1739), *A Treatise of Human Nature*, London, John Noon.
- Jullien, F. (2004), *A Treatise on Efficacy: Between Western and Chinese Thinking*, Honolulu, University of Hawai'i Press.
- Kempenaar, A., Van den Brink, A. (2018), *Regional designing: A strategic design approach in landscape architecture*, "Design Studies", n. 54, pp. 80-95.

- Lubell, S. (2007), *Gehry, Skanska Point Fingers over MIT Lawsuit*, "Architectural Record", vol. 195, n. 12, p. 27.
- Luhmann, N. (2017), *L'arte della società*, Milano-Udine, Mimesis.
- Massey, D. B. (2015), *For space*, London, Sage.
- Meillassoux, Q. (2008), *After Finitude. An Essay on the Necessity of Contingency*, trans. R. Brassier, London - New York, Continuum.
- Ravenscroft, T. (May 2019), *Herzog & de Meuron's Tour Triangle set to be built in Paris after passing final legal hurdle*, "Dezeen" [Online]. Available at: <https://www.dezeen.com/2019/05/22/tour-triangle-paris-skyscraper-herzog-de-meuron/> [Accessed: 23 May 2019].
- Riccardi, M. (2008), *Il museo dei miracoli*, Milano, Apogeo.
- Shrivastava, P., Persson, S. (2014), *A Theory of Strategy. Learning From China From walking to sailing*, "Management", vol. 17, pp. 38-61.
- Sun-Tzu (2008), *The Art of Warfare*, trans. R. T. Ames, New York, Ballantine Books.
- Thefullcalatrava (2013) [Online]. Available at: <https://thefullcalatrava.wordpress.com/> and <https://www.facebook.com/thefullcalatrava/>.