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VISION AND DESPONDENCY. TECHNOLOGY AS A **TACTICAL TOOL FOR** ARCHITECTURAL DESIGN.

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VISION AND DESPONDENCY. TECHNOLOGY AS A TACTICAL TOOL FOR ARCHITECTURAL DESIGN.

1. Architecture happens

In all discussions about architecture, there is just one thing that is never defined. That is, architecture. This is the last consequence of the long evolution of a hundred years of gradual separation between Architecture and Design. Indeed, since the Modern revolution and the adoption of a rational, industrial organisation of workflows, architectural design has been characterised by the same processual approach that concerns any other activity. The pursuit of a scientific approach led to a greater focus on the requirements – what we now call pre-design – and a greater attention to the constructive world. Still, architecture was there, in a controlled world full of norms – although alternative to the traditional ones. Then, after post-modernism, the dimension of architecture faded off. Defining architecture, now, is challenging or even impossible. Style is no longer discussed, as any style can be suitable for a global market, and aesthetics have shifted toward a deep, yet ephemeral and individual dimension related to experiencing spaces. Design and Architecture: theories and discussions maintain these two strong points, attempting to define their trends and evolutions. Yet, their link is always haphazard.

On the one hand, the narratives stress the inception of a design as a moment of epiphany. The inspiration is confirmed by the sketch, made as it came from a sudden, inexorable enlightenment of the lead architect. This intuition has a fatalistic character and is said to resist any storm – in figurative terms (Tait, 2024). As a designer, I have experienced many times the subtle, exciting moment when one grasps the key element, and often, it is precisely an intuition that reveals it. Still, the nature of this intuition stays hidden, nourishing its mythical dimension. As it was a *vision*. On the other hand, the organisation of firms, even more than ethnological studies, shows that the definition of the process direction occurs differently: just like an internal competition, many drafts and proposals are discussed and brainstormed within the design team, and the team leader chooses the most promising one. In this sense, the inception of a design is indeed the better alternative among all the attempted ones, and the architect is the one who makes this choice (Tosarello, 2024).

These two sides are typical of any creative, organised work – the team leaders take the honours, valorising and exploiting the work of their collaborators or subordinates. It happened in the past, when Canova or Cimabue had their school – we would call them firms, now – with many unknown sculptors and painters doing preliminary stuff. Still, the ontological and sociological nature of the *results* remains unclear. What is the result of this tentative work? Perhaps the design – an architectural design, in the case of a building. Maybe the building itself, considering the entire construction and assuming that the designer's will was perfectly executed. In any case, *not* an architecture. Not for sure, at least.

This is evident when looking at an architectural competition. Many competitors, just one winner, and the selection can be

blatantly wrong or questionable. In the 1950s, Pier Luigi Nervi – already a superstar, praised by engineers and architects – won the competition for the *Palazzo del Lavoro* in Torino with a very famous structure featuring 16 umbrella-like pillars. Well, the competition required a completely free space, with no pillars inside – similar to the one proposed by the second-place winner. Still, he won, and a great architecture was built. However, the building was then abandoned precisely because of the difficulty of using the space. Hence, a not-so-good project was celebrated as a masterwork of the sixties, becoming an iconic piece of architecture, while others, perhaps better ones, will never see the light of day. Sometimes, things go better. Sometimes, there are reasons beyond the design. Sometimes, more time and resources were at disposal. Sometimes, a design was particularly loved by a critic, as was the case with Alvar Aalto and Siegfried Giedion (Bonta, 1979), or a judge, as in the famous case of the *Sydney Opera House* (Fromonot, 1998). Sometimes, simply, the attempted solutions were less convincing. Impossible as it is to give a rule, we must accept that the relation between Design and Architecture is far from being obvious, and that the ontological nature of Architecture – that is, what makes architecture such, instead of a mere building – is questionable.

Hence, considering these premises, I will intend architecture as something that may occur or not, depending on many external factors and conditions. Something that *happens*, not something that *is* (Gregotti, 2011, p. 31). Nevertheless, its happening can be pursued, sought, and hunted. We will investigate how and when, with a particular focus on the potential role of technology.

2. The place(s) of the architect

The progressive definition of the design process has undergone enormous development in the last few decades. Various stages have been defined and entered into the norms and the procedures. For instance, following the RIBA Plan of Work, the whole process of a standard work includes the Strategic Definition (Stage 0), Preparation and Briefing (Stage 1), Concept Design (Stage 2, also known as Preliminary Design), Spatial Coordination (Stage 3, also called Definitive Design), Technical Design (Stage 4, otherwise called Construction Design), Manufacturing and Construction (Stage 5), Handover (Stage 6) and Use (Stage 7) (Royal Institute of British Architects, 2020). The stages change depending on place and time. For instance, they are sometimes named Strategic Design (Stage 0), Pre-Design (Stage 1), Preliminary Design (Stage 2), Definitive Design (Stage 3), and Constructive Design (Stage 4), with Stages 5 and 6 unchanged. The stages can differ for public and private buildings, with varying procedures – for instance, the Constructive Design can be developed by the constructor instead of the designer, or the Preliminary Design and Definitive Design can be merged into a single stage. And plainly, in the case of a competition, the stages also include that part. Still, although with minor differences, the same phases can be found quite frequently with slight variations (see Melhado et al., 2011; Bobbe, Krzywinski, & Woelfel, 2016; Schneider-Marin & Abualdenien, 2019).

Hard as it is to understand where *architecture* is in this process, let's start by understanding where does the *architect* appear. Typically, not in Stage 0, where just the client is involved. In this sense, an innovative and unique practice was established at

Politecnico di Torino, Italy, specifically to give architects a leading role in defining the strategic phase, utilising the tactical potential of design to interact with governance – the *Masterplan project* (De Rossi et al., 2020). A possibility for designers is in Stage 1, where an architect may develop a feasibility study. In this sense, the Masterplan focuses on pre-design as the crux stage, where strategic issues are explored circularly before proceeding to the subsequent stages. This could also conclude with a competition brief that clarifies the expectations and project conditions, highlighting their spatial nature, which is very helpful (Maspoli, 2025). For sure, Stage 2 is the realm of architects. There, the concept of the building is developed, and architecture should find its inception. In fact, in Stage 3, the architect coordinates the design with structural and MEP designers, defining the budget and setting several fixed elements and strategies. These two phases are the most commonly associated with the work of architects: here, architecture originates – potentially. In Stage 4, after the approval of the client, the professionals, including the (leading) architect, develop the design, producing all the reports, technical details and assessments for the construction. In the past, the in-house development of Stage 4 was obvious for architects: designing details, defining technologies, and inventing constructive solutions was part of the work – think of the marvellous concrete blocks and tiles that Frank Lloyd Wright created with patterned moulds or the impressive details by Carlo Scarpa. Yet nowadays, this phase is mainly developed by technical, specialised firms, and architects remain as consultants to ensure design consistency (Jolliffe & Crosby, 2023). This change is due to the tremendous increase in the normative dimension and the consequent need for increasingly specialised technicians.

Consequently, successive stages see the architect play a role in controlling quality and artistic consistency. The point is to maintain the concept, confirming it through the various phases. Not causally, the same RIBA report urges architects to maintain their leading role in the project, at least from Stage 2 to Stage 3, being involved as much as possible in Stage 4, and retaining quality control (only) in Stage 5.

This arid framework is indeed consistent with the ideal role of the architect at all times. We are accustomed to giving for granted the presence of the architect from the very beginning – where their bright ideas provide the concept for the whole development – to the very end, as constructors were tools in their hands. A heroic vision (seemingly) confirmed by many historical and contemporary examples, from Michelangelo to Eero Saarinen, from Renzo Piano to Glenn Murcutt. Or, at least, by their representations. Or rather, *almost* consistent.

What did change is precisely the distance between the conceptual and the constructive dimensions. When Filippo Brunelleschi designed *Santa Maria del Fiore's* cupola, his design *was* the technological solution. There was no distance: concept and construction, aesthetic and building were merged. The same can be said for Antoni Gaudí – he even died near the building yard where he lived. Or for Pierluigi Nervi – who owned a construction company and patented many solutions. Then, things became too complex. Technology conquered its independence.

3. The linear conception of design

The complex structure of architectural jobs relies on a typically contemporary linear conception of time and activity. The scientific approach applied to production shaped the idea that everything can be processed, atomised and, hence, optimised. The conventional division between analysis and design, with the former preceding the latter, stems from this conception (Hettithanthri, Hansen & Munasinghe, 2023). This tendency is deeply entrenched in Western culture, particularly in Europe (Jullien, 2011), which is why we attach value to the concept of *vision*.

The fascination for genial, visionary designers – as in any other field – does come from the idea that they can set without relying on analysis, just as their vision could anticipate and overcome all possible incidents and accidents. Indeed, we have seen that, in the design stages, the "what" much precedes the "how". The vision is established in Stage 2 and consolidated in Stage 3, while the steps to make it concrete are defined in Stage 4. The history of architecture provides many examples of this articulation, sometimes with a happy ending, sometimes not.

For instance, when Renzo Piano, Richard Rogers and Gianfranco Franchini joined ARUP in the competition for the *Centre Pompidou*, their proposal set a clear vision. A pure, radical gesture that fascinated the jury. Quite the opposite, there was no clear idea about the construction of a 45-meter span, free-plan building, with a maximum height of 7 meters only for each level. And this proved to be hardly challenging. The final solution, envisioned by Peter Rice, included the famous 8-meter-long *gerberettes*, which could only be built by two factories worldwide (Dal Co, 2016). A

happy ending indeed, and the first great success for two starchitects whose successive projects will have always shown a strong technical tendency. Still, the separation between vision and technology is unmistakable.

Less lucky was Jørn Utzon, at least after stage 3. Indeed, the competition's victory for the *Sidney Opera House* was bewildering. No drawings showed the iconic shape, yet the vision was so strong that Saarinen himself drew it down, convincing the jury to praise Utzon. However, the problem was then how to build the shells. Arup again proposed many possible solutions, but all proved impossible or too tricky. Finally, an intuition by Utzon (the genial, visionary designer!) saved the situation, and the spherical domes were built. Still, the designer was imputed for the monstrous delay – the construction took fourteen years – and was fired (Fromonot, 1998). Ironically, after Utzon's departure, the costs rose enormously. Thus, the vision proved correct, yet the ending is not *that* happy…

However, other cases show much more definitive consequences. For instance, in two famous cases, visionary projects by Herzog et De Meuron were stopped. The case of *the Vancouver Art Gallery* is renowned, as it involves a major institution and spans nearly twenty years. In any case, after a significant increase in costs, the plans were cancelled, and a new design was to be selected (Schillaci, 2025). They indeed already had a bad experience with the super-cool project for *Flinders Street Station* in Melbourne. Again, after a triumphal win in the competition, the project proceeded to Stages 2 and 3; however, in Stage 4, rising costs led to a halt (Frearson, 2015). Were the visions unconvincing? Or did they not have the strength to resist the accidents on the road to the construction?

Nevertheless, things can get worse. After winning a competition

in 1993, Peter Zumthor almost arrived to build the *Topography of Terror* documentation centre in Berlin – on the site which housed the Gestapo and SS headquarters. The uncompromising design for a three-story framework of concrete rods proved so complex that the contractor went bankrupt in 1999, during Stage 5, and no one else accepted to complete the building. Hence, after five years of abandonment and despite the 14 million euros already spent, the centre was finally demolished in 2004 (Leoni, 2014; Rozas-Krause, 2024). Following a new competition, it was redesigned in 2005 by Ursula Wilms and Heinz Hallmann and successfully opened in 2010. A different vision, or just a different chance?

However, even when Stage 5 goes right, things can go wrong. In 2005, Massimiliano and Doriana Fuksas opened the variously named *PalaFuksas* in Torino, following a competition they had won ten years prior. The project progressed through Stages 2, 3, and 4, and was even showcased at the *Biennale di Architettura* in Venezia, successfully completing Stages 5 and 6 (Molinari, 2005, pp. 116-123). Then, Stage 7 "failed spectacularly" (La Cecla, 2008, p. 24). The building was unsuitable for the market it was intended to host. It was changed into an expositive space without success. It hosted a food district that went bankrupt in a short time. Only in 2020, after years of abandonment and € 6.5 million in additional investment, the building became a commercial centre (Levi, 2018). Fifteen years for a vision to find its reason in the world.

Hence, as architecture happens, so does despondency, at least in the linear conception of design, because any accident can invalidate the original vision (Figure 1).

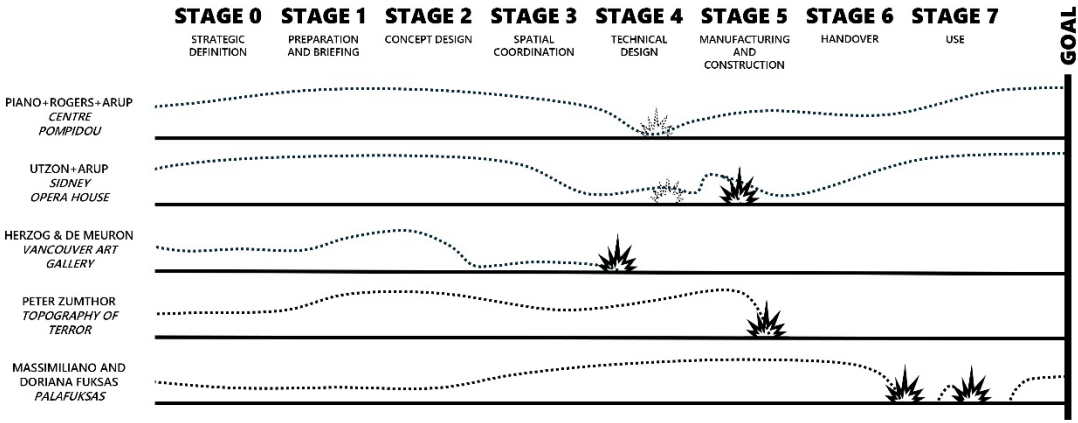

Figure 1: Accidents happen. Still, despondency stems from unmet expectations rather than accidents. Diagram by the author.

4. The systemic conception of design

The described cases are the most famous; still, the betrayal of vision and the consequent despondency are much more typical than we could think. The so-called starchitects wield the power of their signature: for many clients, having a project "by" is so important that they can overlook cost increases, waivers to norms, delays, and even disregard the client's requirements. And often, they succeed. Ordinary architects, on the other hand, don't have the same facilitations. Hence, *despondency quickly substitutes visions*, as these can be changed relatively easily.

Still, this difference is only illusory. Any project undergoes a series of deep changes. Confronting the renderings of a winning proposal in a competition and the final buildings reveals not only the deceptive power of images but also that the original vision was

actually altered. It's the final narration that attempts to convince us that the vision remained unchanged, resisting all changes. The competition drawings for *the Jean-Marie Tjibaou Cultural Centre*, designed by Renzo Piano, depict a spindly-shaped cluster of buildings connected by flowing roofs. It is a jolly different design from the final building, featuring an irregular series of fringeless twig half-baskets that end with freely disposed wooden boards. Nevertheless, the signature sketch – produced at the very end of the design process, likely during Stages 6 or 7 – shows the final solution as it was the initial vision.

Therefore, between Stage 2 and Stage 7, *something* happened. Something that will stay hidden, buried in the depth of the design process, masked by the necessity of vision that architects need to foster. Sometimes, the changes are minor modifications, subtle changes that even improve the initial concept – as in the case of the *Jean-Marie Tjibaou Cultural Centre*. Still, they can have disruptive effects, leading to unexpected and inevitably deceiving results – like in the recent *Olympic Village* in Milano by SOM. We don't know when the changes occurred; moreover, it is ontologically impossible to understand the changes as they happen within the process (Figure 2). And any change will be fully justified only by and within the local conditions – local in the sense of the process.

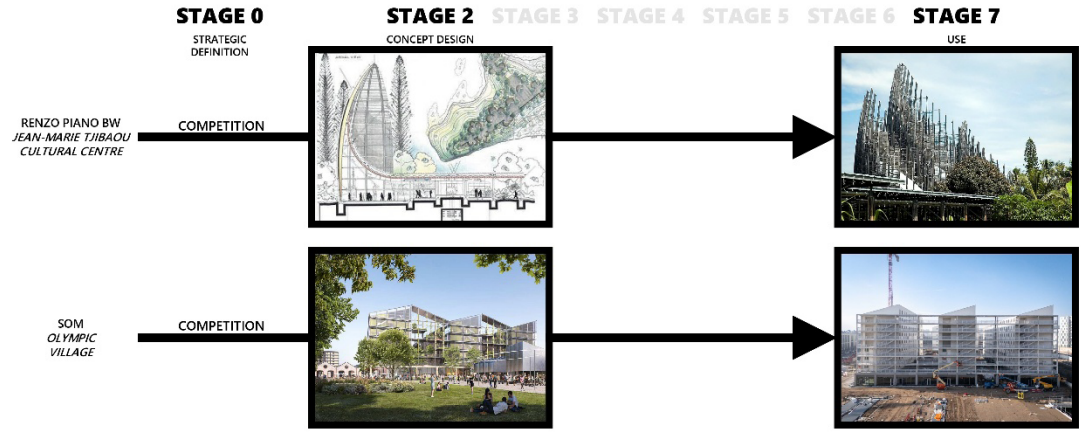

Figure 2: how to measure deviations from the concept to the result? Diagram by the author.

Now, in a linear vision, design happens in a seemingly inescapable concatenation of events: a causal sequence dependent on the strict relationships between the previous and the next event. More than forty years ago, Massimo Cacciari (1982) defined the project (or "pro-ject") as the anticipation of a potential future. A self-realising prediction that tries to foresee what will be, thus fixating it. A mechanical sequence that goes from the general to the particular, from the urban scale to the detail, consistently with the successive stages. In this conception, the results are always justified *as the outcome of the process that sets the rules for success*. Thus, the final building is presented as the concretisation of a vision, blaming the process for the possible despondency (Figure 3).

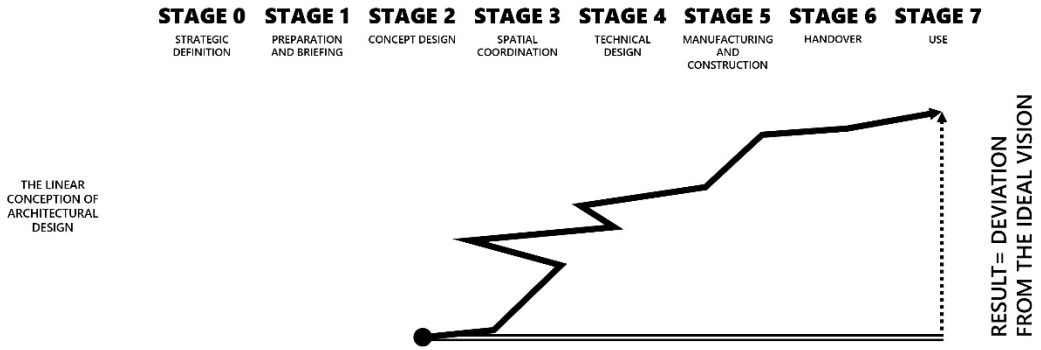

Figure 3: The devation is the measure of despondency. Diagram by the author.

However, imagining a different conception of design is not only possible but also paramount to grasp the ontological dimension of design. The epiphanic nature of vision comes from narratives, not from reality. The aforementioned stages demonstrate this: the strategic goals and pre-design (Stages 1, 2) establish a series of critical boundaries for the project, which is far from being a free artistic expression. With different premises, the vision would change, too, and this means that the vision is *never* absolute and *always* ontologically heteronomous. The idea that architects envision spaces and shapes as if they were free of any constraint also comes from narratives: constraints are present and change according to space and time. The same vision can be possible in one place but not in another, due to local norms, physical conditions, or technological feasibility; and the same project can undergo normative evolutions, macroeconomic changes, and clients' afterthoughts that render the vision obsolete. Hence, in any case, design grows from a vision *embedded* within the condition of possibility or, rather, *outside the conditions of impossibility* (Deregibus & Giustiniano, 2021).

This is why, in systems theory terms, the vision of the architect is narrated as it was the present-of-the-future, able to foresee all possible accidents, while it is, indeed, a future-of-the-present (Luhmann, 1996, p. 51). One of all the possible ones, indeed. Constraints, problems, and accidents will render some futures impossible; yet, design continues to have, throughout the process, the potential to pursue all the other ones, that is, all the configurations of the system that do not invalidate the local fields of impossibility (Figure 4).

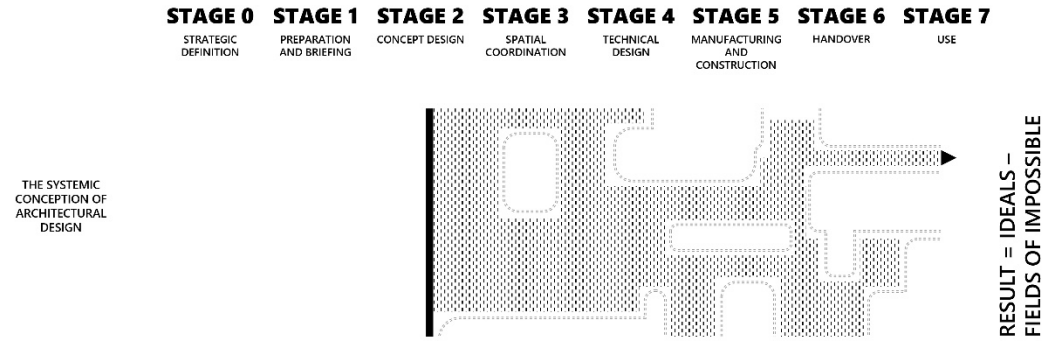

Figure 4: Everything but the impossible *can* be an ideal. Diagram by the author.

4. The linear vs the systemic

The two highlighted conceptions have numerous consequences, each profoundly influencing architectural design.

4.1 Deviating from the vision

The first is the relation between the vision and the result. In a linear conception, the vision must be reconstructed at the end,

corrected and amended by all the accidents that have occurred. This means that the success or the failure of the vision will depend on the deviation from the initial point. Evaluating this deviation is not easy, yet it is primarily measured by the audience's reaction (either the client or a broader public, depending on the type of architect and the nature of the work). The process is essential to validate the vision: if successful, it will confirm the prophetic nature of the vision; if unsuccessful, it will be blamed for not having supported the vision – whose result would have been fantastic.

Contrariwise, in the systemic conception, the process has no linear direction. Hence, the vision is not a fixed point in the future. Instead, it is gradually defined, following a morphogenetic path where a non-linear process can validate results independently by their being more or less promising at the beginning (after all, accidents can affect accidents too), but for their better capability to balance the whole system. Hence, there is no deviation from the initial vision, whose function has sense within the initial state of the system only. Instead, its paramount feature will be the flexibility to exploit the ongoing propensity of the system (Jullien, 2004, p. 15).

4.2 One ideal vs endless ideals

This means that the linear vision defines an *ideal* design. Like in the Platonian model, however, the distance between the eidetic and the actual world sets the aforementioned deviation. The idealism applied to architecture is strongly linked to the concept of vision, yet it also produces the conditions for despondency.

Contrariwise, in the systemic conception, there are as many ideals as there are possible design options, given that the possible ones are all those that are not impossible (for any reason). Hence,

design would deal with a field of *ideals*, based on the awareness that any possible changes in the condition can enhance a different ideal (Deregibus, 2020). Indeed, this is obvious. Any designer conceives a design relying on a set of conditions. Should the conditions be different, the design will be different. Then, sometimes, the design itself modifies some of these conditions, proving them wrong or forcing them to change, while at other times, the initial design must be modified to accommodate them and the accidental ones. So why, if the system changes, should the ideal stay the same? It better be moveable, flexible; always *ideal*, yet not unique.

4.3 Morphogenetic success

This distance between the ideal design and a design of multiple ideals is profoundly linked to our romantic conception of the vision. Success, in the linear approach, is measured following the deviation from the vision – minimised through narratives. Hence, it is always relative and related to the expected ideal. Plainly, the ideal initial design will not be wholly defined and detailed. Thus, the final result can stay within the tolerance of the ideal. Still, as blurred as it may be, the conditions are set at the moment of the concept.

Conversely, in the systemic conception, success emerges in a formative manner, as something that defines its own rules during the process until it reaches its final configuration (Pareyson, 1954, p. 18). Then, the final configuration validates its evolution only if it assumes a dimension of *necessity*. This aesthetic tension, which is independent of the final result, is valued by a systemic approach as it enhances its morphogenetic search for form. Therefore, here, the ability to master the system encompasses the practical dimension of architectural design.

4.4 Ethics behind actions

Rarely is ethics applied to design; instead, most discussions on ethics focus on the object of design – designing sustainable buildings and pursuing inclusive practices – or remain at a very general level. Indeed, a linear conception of architecture implies what is traditionally defined as "ethics of principles", also known as "ethics of intentions" (Deregibus, 2016). Such an ethics implies that actions are grounded on confirming a set of principles, as they were absolute. Ideal, we could say. Therefore, a design based on the ethics of principles fights obstacles as they were opponents, and valorises means consistent with principles.

Contrariwise, in the systemic conception, ethics is the construction of a system of values that interact in the system of design. Given for granted the fields of impossibility, their importance depends on their reciprocal relations, toward a responsive cohesion (Radford, 2009) where the ends are far more important than the means (like in any "ethics of responsibility"). There is no absolute right and wrong, good and bad, since they are defined in the system: any project is good and right as long as it is a formative success able to grant responsive cohesion among all the elements of the system.

4.5 Heroic or tactical design

The last difference is that the linear conception of design is straightforward. Hence, it requires reckless action against the process, a fight where any element or accident that could produce a deviation from the initial ideal is an enemy to fight. This heroic attitude could be fascinating: only, it requires a strong role for the architect. Like in any social interaction, the capability to convince depends much more on the social role than on actual arguments

(Habermas, 1983). Unfortunately, as we mentioned, this could work for starchitects, much less for ordinary designers.

Contrariwise, in the systemic conception, a tactical dimension of design emerges. The architect aims to find a formative cohesive balance in the system, so as to produce an architecture – and not just a building – through the exploitation of the contingencies. The aim is the architectural will, and the design is the mean. Understanding the state of the system, it is possible to design things or solutions with the precise aim of doing something *else* more suitable to the system, as seen in the formative cohesive view. Hence, the project can (and that is what happens in Stages 1 and 2) influence the process toward one of the ideals instead of trying to force it toward the only possible one.

5. The place(s) of technology

The systemic conception of design does not affect the aforementioned stages of work, as they come from an external system – the system of building procedures. It is indeed a conception, a mindset to adopt and adapt to the potential place(s) of the architect. Yet, how to adapt it? What are the tactical means that designers can use to orient the process and exploit it? Our thesis is that anything can become a means, and we are here investigating how to transform technology into a tactical weapon *for* design.

The aforementioned stages are interesting, considering the misadventures we examined. The place of technology is usually Stage 4. That is, pretty late. Ostensibly, during Stages 2 and 3, a kind of technology is involved: proposing a massive building or a

transparent one implies at least a vague indication of the materials used. Still, the level of investigation is so generic that its actual performativity cannot be but low. We stated that the designer was once so directly involved in the construction that the designing *meant* indicating a constructive solution; and that technology has now achieved its independence. However, the opposite is also true. Devoid of its technological dimension, design has too often become the graphical expression of a *vision*, far from any constructive dimension. There, in those technology-less visions, despondency originates. In fact, architectural details are now viewed as the translation of an architectural vision into technology (see Bobbe, Krzywinski, & Woelfel, 2016; Rebecchini, 2019). Something that happens *after* the conception of architecture in Stage 2 and relies on a supreme confidence in technological power. Everything is possible, so let the vision be free. The linear conception originates here, in this blind faith.

Exceptions are always possible, and the characteristics of a systemic vision emerge in the work of several architects. For instance, Luis Kahn merged technological possibilities with a monumental aesthetic, working on the consistency between the vision and how to realise it. His buildings exploit this convergence, implying that technology was not applied after the vision but was integral to it, to the point that it can be considered a monumentalisation of technology (Leupen et al., 1997, p. 120). The same can be said for brutalists like Marcel Breuer or experimental architects like Kishō Kurokawa and Moshe Safdie: here, the modular design, utilising the technological unit as a brick, reached its maximum level. Sometimes, technology even became the architectural vision, as was the case with the Archigram group, whose aesthetic was precisely a

new kind of technology – innovative yet impossible – but grounded in a new consistency between vision and construction, dramatising technology (Leupen et al., 1997, p. 125). The typical Stages of design cannot be applied here due to the nature of the work. However, we can say that in any case, technology entered the process in Stage 2.

5.1 Defence

This anticipation occurs, indeed, wherever the core of the vision is strongly technological rather than merely formal. For instance, at the *Institut du Monde Arabe* in Paris, designed by Jean Nouvel, the most striking feature is a façade made of 240 "Moucharabieh" – a traditional Arabian element – composed of openable metal elements powered by solar cells. One of the first examples of an active façade that controls solar light and radiation, subtly variating its appearance during daytime. Here, the technological level is very demanding, and the detail is so unique and characteristic that it had to be studied from Stage 2. In fact, without the detail, there would not be a building at all. At the same time, the vision was not only formalistic: the façade design depended on a set of rules, but then it emerged in endless configurations, depending on the elements – endless, yet all ideals (Figure 5).



Figure 5: Jean Nouvel, *Institut du Monde Arabe*, Paris 1987. Photo by August Fischer via https://www.flickr.com/photos/augustfischer/

Conceptually, this example is similar to Renzo Piano's *Maison Hermès* in Tokyo, where the whole building's appearance depends on a single element, a glass block designed and engineered for the occasion. Here again, the technological level is very high – for instance, conforming the continuous façade to seismic requirements proved challenging and required a precise study of a peculiar assembly system – and it needs to tune the whole building depending on the modules to have them repeated in all levels. Again, there were many possible ideals, depending on the feasibility of the modules. And again, vision and construction

were strictly related from the very beginning. Another fascinating, less starchitect-level case is the *2050 M STREET* building by REX architects. Here, the entire design revolves around a crafted, curved glass element that was studied and refined from the outset, in Stages 2 and 3. This anticipation has the consequence that all variations – which in a linear process would have meant "deviations" from the initial ideal – did not affect the paramount feature of the building: the unique façade. This means that anticipating the key feature makes it possible to adapt the project to various (endless, indeed) configurations, absorbing variations and unforeseen events.

It is worth noticing that technology can refer to the traditional definition of constructive methods and details, yet its meaning has more and more extended in the last forty years (Bijker, Parke Hughes & Pinch, 1987). Hence, if we consider the technicality of any fields, also other subject enters this convergent relation between architectural design and other sectors. For instance, the main concept for the *Vancouver House* skyscrapers, by BIG, comes from the interpretation and exploitation of the limits imposed by urban norms – a distance to the nearest road: again, instead of looking at what the norms set, the design looked at what they left out of the impossible, finding endless possible alternatives to the architect.

5.2 Control

Then, this anticipation could evolve into a real convergence between the vision and the construction.

A striking example is *Meiso no Mori* in the prefecture of Gifu, Japan, designed by Toyo Ito in collaboration with Mutsuro Sasaki. In this case, the building's conception aims to create a free-form, continuous white roof that appears to be almost flying over an open

space. Acting like a funeral veil – the white is the noblest colour of mourning in Japan – it is strongly related to the function of the building – a crematorium. The challenge was changing an irregular concrete surface into a vibrant, thin, flying object. The solution was to equalise the tensile stress of the roof at any point to obtain a constant thickness of less than 20 cm, and this required that the shape was not predetermined at the beginning but was the best possible (and buildable) evolution of a plane. Hence, the *vision* here disregards the formal definition of the shape but serves as a conceptual reference, allowing the shape to emerge as the result of the convergence between different fields of action – constructive, structural, and technological. In other words, *the vision did not set an ideal*. Instead, it defined the condition for an ideal, opening a field of endless possible solutions. Indeed, by setting some limits (e.g., the total height, the dimensions of inner spaces), the vision excluded the impossible solutions, leaving the final one as the most promising among all the others: the one that offered the best formative cohesion between vision and construction (Figure 6).



Figure 6: Toyo Ito, Meiso no Mori, Kakamigahara 2006. Photo by Carlo Deregibus.

A similar example of this systemic approach is the *Bruder Klaus Field Chapel* by Peter Zumthor. In this case, the peculiar inner shape and appearance result from firing the wooden frame used to build the concrete shell. Hence, the shape was not actually defined, but rather emerged as a result of an action. Before, there was no space, but a wigwam made of 112 tree trunks covered in concrete. After, a blackened cavity, enclosed by charred walls, emerged, becoming the space. Again, the vision concerns the conception of the space more than its *ideal* definition (Figure 7).

The necessity of overcoming the concept of the singular ideal is, in this case, absolute, as the process cannot be repeated: any result will be ideal, as it does not rely on perfection but on surpassing the division between shape and construction (Zumthor, 1999, p. 32).



Figure 7: Peter Zumthor, *Bruder Klaus Field Chapel*, Mechernich 2007. Photo by August Fischer via https://www.flickr.com/photos/augustfischer/

5.3 Attack

This systemic approach to design gives the technological detail a potential tactical edge. By leveraging all the systemic characteristics we have enumerated, the design can anticipate elements that are useful throughout the process, even in unexpected ways.

A quite extreme and funny example is a low-budget public office building in Collegno, Italy, by Frlan & Jansen. The vision was about a regular series of bold masses, partially suspended to stand up in the fields nearby. No particular technology was anticipated during Stage 2. While deepening Stage 3, concerns about what could have happened later inspired the architects to study the façade system in detail. They purposefully choose to apply a very peculiar – and expensive – constructive system, knowing that it would be fairly tricky to find and too complex to manage. Then, they developed Stage 4 and used that detail as a contract document, subtly (and slyly – in a good sense). When, in Stage 5, the contractor tried to modify the design to earn more money, proposing "equivalent solutions", the designers traded the contractual fulfilment of the façade detail with compliance with all other design elements. It was a win-win solution that granted the final result precisely thanks to the "deviation" from the (irrelevant) original detail, maximising its tactical role (Figure 8).

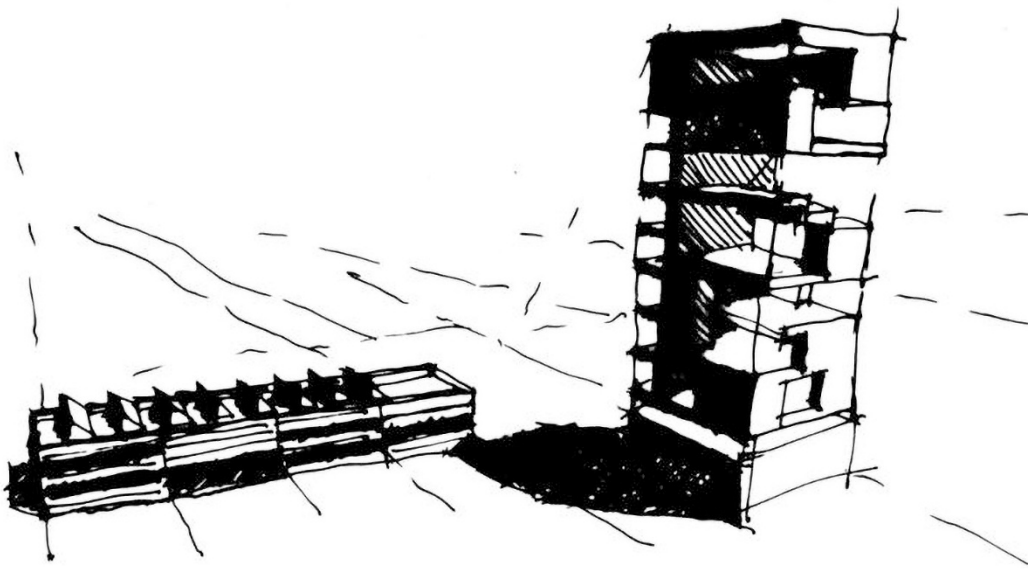

Figure 8: in the original concept, the façade was absolutely unrelevant: its broad field of variations was masked and used as a tactical tool. https://www.frlan-jansen.com/

In the recent renovation, designed by Antonio De Rossi and me, of *Torino Esposizioni* (one of the most significant modernist buildings in Torino, designed by Ettore Sottsass and later by Pierluigi Nervi and Biscaretti di Ruffia), this tactical potential was already exploited in Stage 2. The new pavilion we'll build near the historical ones has been designed as a neat, simple volume with a clean façade, exploiting a cross plan and the reflection of the park outside. In Stage 2, without a precise survey nor a completely defined plan, we started deepening the façade detail in three different ways. The first uses tailored-made double glass blocks, the second concave glass modules, and the third a flat, corner-curved glass screen with horizontal modules and digital printing. We made each of

them work by levelling the floor and tuning the axes to have three different "ideal" alternatives instead of just one. Again, one vision but multiple ideals, each of which influences the whole system in terms of space. In the end, the third one was confirmed in Stages 3 and 4 and is now being built (Figure 9). Here again, more than just being the constructive translation of the vision, technology became a means of setting priorities and organising different values while valorising the vision through various ideal constructive alternatives (Figure 10).

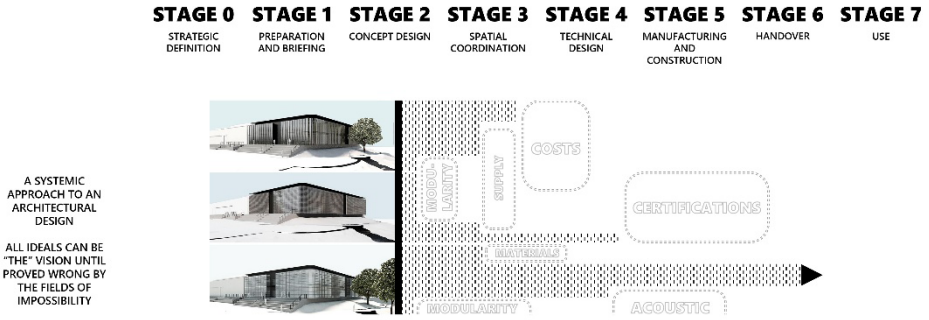

Figure 9: multiple ideals shape the propensity through the fields of impossible. Diagram by the author.

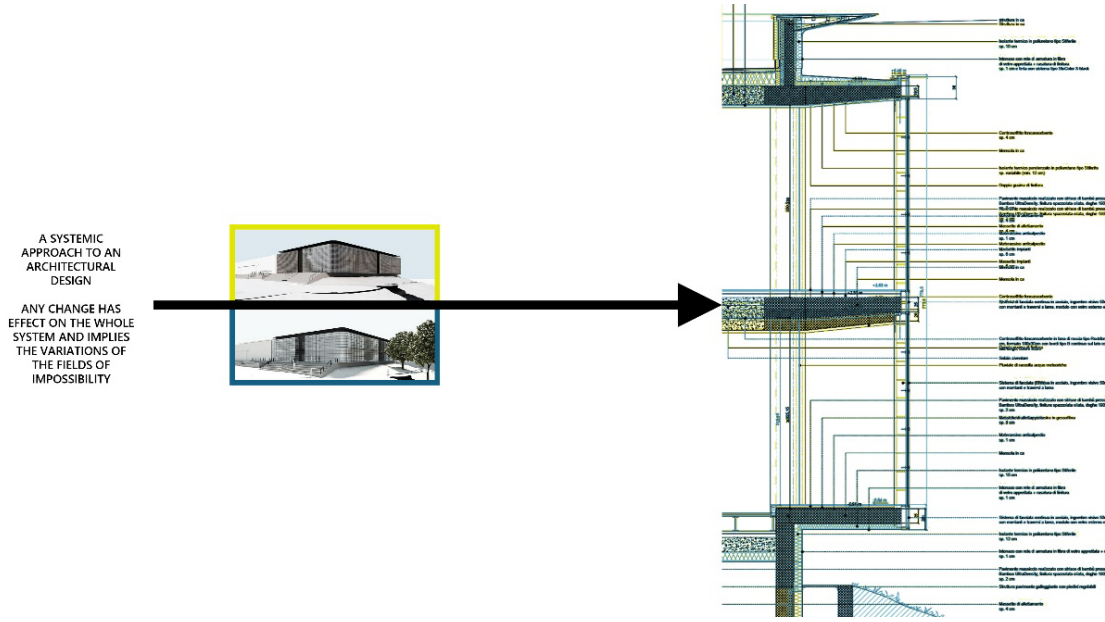

Figure 10: each ideal requires a complete revision of the architectural system, following the principle of responsive cohesion. @MasterplanTeam, 2023, Diagram by the author.

6. The detail and the glider

These examples illustrate the potential outcomes of applying the ethics of responsive cohesion and a deep understanding of tactical potential. While typical design relies on setting the ideal vision, here, the crux of conception lies in constructing its system of meaning. Hence, anticipating the technological details, shifting its place to Stage 3 or even 2, compared to the usual Stage 4, can transform the vision from a singular, ideal, pictorial present-of-the-future to an opening toward several, ideal, systemic futures-of-the-present (Figure 11).

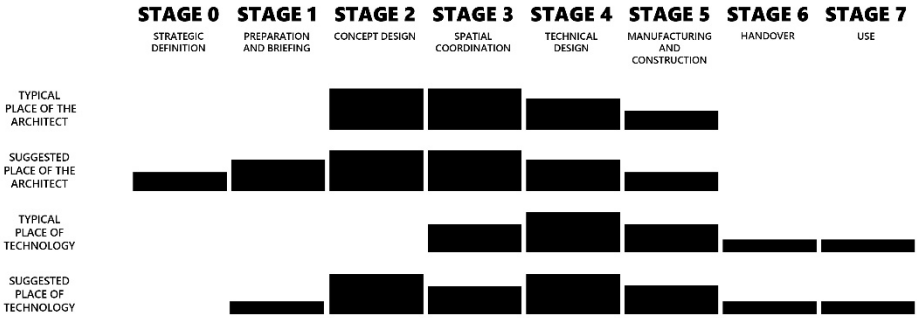

Figure 11: typical and suggested "places" of the architect and technology. Diagram by the author.

In this conception, the detail would act as a glider. Other than being a flying object, the glider can be defined as a finite pattern that carries on information through a series of iterations: a spaceship, it is called in cellular automaton, and a (proposed) symbol of the (original, ethical) hacker culture.

In the systemic world of architecture, where technical competence often limits the role of architects to the aesthetic definition of formal concepts and general indications, the information is the core conception: the vision at its deepest, purest level. At that level, the successive configurations are endless. Then, going through Stages 2 to 6, numerous accidents will limit this infinite opening, creating fields of impossibility. Still, the glider will continue to convey the information – the original conception – through all the variations, just as the detail can be the key to navigating the free space of different systems. As the system evolves, in fact, so do the forms. Instead of the typical, gradual increase in precision that accompanies the various phases of the process, the detail could enable the anticipation of potential issues, thereby

impacting the direction of the process and making formativity performative. To borrow the words of François Jullien (2022), the detail can "fissure" the seeming density of norms and technicalities, setting the ethics of formative responsive cohesion for architectural design and, potentially, becoming the most potent tactical weapon for architects during the project's development.

For architects, this shift requires a radical mindset change, not to betray the traditional, aesthetic-driven approach to architecture but to make it even more pervasive and performative. More vision(s), less despondency.

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