The Oxymoron of 'Jectivity'

A Design Process for Unveiling the Unexpected Manifestations of the Architectural Project’s Reality

ABSTRACT
This paper discusses a design methodology that seeks to unveil the nature of architectural projects (here abbreviated AP) as the basis for spatial production. This method is embedded within a broader theory of designing that suggests an autonomy of the project as an independent entity detached from the architect. Therefore, the architect’s role is to discover the AP. This approach appears as a counteraction to the relational models in designing where the architect constructs the project in limited and subjective ways usually driven by the alienation of external. The methodology presented here also rejects any possibility to reveal the AP in its fullness as a unique and absolute truth.

The inherent reality of any project is specific and unique in itself. This means each AP is ontologically complete and different from any other. Because designing is the encounter between the AP and the architect, jectivity is a form of cognition that is neither objective nor subjective. It finds the potential of novel spatial configurations in what we call the "space of abundance," which appears beyond the architect’s limited perceptions of the determinate AP. This design method aims to unfold some of the initially ungraspable multiple manifestations.

Two particular projects explore jectivity as a methodology that seeks the AP’s unknown and turns the procedures that lead to it into new knowledge gained for the architect. The two projects illustrate some of the possible uses of computational and digital technologies for both asking and materializing (cognize and notate) its inward architectural realities.
INTRODUCTION
There are discrepancies between the reality of something and how it is perceived, meaning we cannot ensure the originality and totality of what we see, feel, or think. This position has already a long trajectory in Western philosophy visible in the seminal works of Immanuel Kant (Kant 1855), Martin Heidegger (Heidegger 1986) and more recently Graham Harman (Harman 2018), among others. There is no point or space here to discuss the differences between these three thinkers, but only to remark their main common ground: there is an autonomous reality of things that differs from how they manifest. Whereas this independence means the wholeness of a reality that can never be fully grasped or described by neither other entity (in our case humans) nor by the entity itself, its manifestations are the superficial phenomena that are cognizable. As Kant reminds us “[t]he estimate of our rational cognition a priori at which we arrive is that it has only to do with phenomena, and that things in themselves, while possessing a real existence, lie beyond its sphere” (Kant 1878, xxx). What such cognizable phenomena presuppose are two significant issues: (1) it is never complete in regards to the fullness of the thing, and (2) it is limited by the cognizable capacities of whoever perceives the phenomena. Stated differently, when we encounter something (even ourselves) in direct and literal manners, meaning sense perception or conceptual thinking, there is always another something of that thing which is missing: an extra, surplus, or excess. But such unknown excess belongs to the cognition of the thing, not to the thing itself—otherwise excess would mean that there is a too much in relation to a fullness. Excess is the distance between the limited cognitive capacities of who perceives and the thing itself. This paper sees in the excess the raw material for spatial novelty. Novelty means that which is unexpected before the design process begins. It refers to the a priori unimaginable and indescribable. Novelty lies in the excess, meaning the unknown latent of the design that the work process seeks to materialize in something particular, and therefore, turn it into knowable.

FROM RELATIONAL TO AUTONOMOUS
The overall tendency in architectural design in the 90s and 00s was founded on the so-called relational model, where the position of the architect appears at the center of the design. The irruption of digital design techniques encouraged, even more, a design panorama whose general interest lied in intricacy and complexity based on relations. As Greg Lynn put it: “intricacy is the fusion of disparate elements into continuity” (Lynn 2004, 9). This supposed a shift from object to field, i.e., from the classical and Modernist regimes of composition, where wholes were unified through geometric operations, to open-ended networks of forces and events—the so-called ‘field conditions’—that “reflect the complex and dynamic behaviors of architecture’s users” (Allen 1997). This position is still strongly present in today’s relationist agendas, like parametricism, that seek out affiliations and relations with the context, among many other things, to produce a sense of overall embeddedness (Schumacher 2018, 78). Within that regime, the architect’s main design actions are oriented towards the construction of chances by selecting, combining, and synthesizing all possible factors that, under his/her consideration, may suppose a problem to be solved, an opportunity to be gained, or a combination of both. Consequently, this paper asks which factors should be considered and which ones ignored. Architect Mark Foster Gage answers that “to claim to have designed a project that addresses all variables equally...is equally ignorant in its assumption that all aspects of a project can be wholly understood and properly addressed by the insightful architect” (Gage 2019, 111). This does not mean that external circumstances have to be deliberately ignored. They indeed have an essential presence in the AP, but the AP cannot be reduced only those factors.

This is the realist position that accounts for the autonomy of things. That means that, though being an architect-made object, the AP is independent of the architect. The AP cannot be reduced to what produces it. From the architect’s standpoint, neither the relation of some external factors nor the hypothetical agglomeration of all of them can define what the AP is. But this does not presuppose that the AP is an immutable given thing waiting to be unfolded by the architect. Precisely due to its autonomy, the AP is internally selective and sensitive to the outside circumstances that may influence it, each of them in different degrees, including its encounter with the architect. In short, the selection of the external factors in regards to the AP does not correspond to the architect, because s/he is another external factor. His/her construction of relations cannot be at the core of the design, because the field conditions are foreign agents to the AP. They can influence the AP but never define it. If not, the power of the outer agents is axiomatized to the degree of monopolizing the AP. External agents should not instrumentalize the AP for its convenience or degrade it to by-product.

Therefore, this paper posits for returning to the object of Architecture (with capital A) and the AP, not in the classical or Modernist way previously mentioned, but as autonomous entities, as David Ruy states (Ruy 2012). If we take a stance for both in their own right, meaning detaching them from any possible depicted relation with humans in the role of beholders or authors, we must assume that Architecture
and its APs will be something more and beyond the subjective intentions and capacities of the architect or any other factor that may influence them. Something different is the object of designing architecture, which is a temporary alliance of two specific and autonomous compounds: the architectural project (AP) and the architect. But the way we encounter architecture is always phenomenally. Then the question lies in if by admitting this inevitable situation, architects can take some advantage of the noumenon and design within the excess that appears beyond the phenomena in which we are trapped in (notice that thinking in architecture is already a kind of phenomenon).

**‘JECTIVITY’: NEITHER OBJECTIVE NOR SUBJECTIVE**

Within this realist schema, the architect’s role for overcoming his/her phenomenological hindrance involves at least two main questions. First, how to ask (cognize) or identify the unknown excess between s/he and the AP, and second, how to materialize (notate) it in particular architecture. Because human cognition is the basis of knowledge and works in direct manners, meaning someone perceives some phenomenon (either empirical or intellectual) that is registered, accumulated, and transferred in the most accurate and explicit possible way, for our current design purposes we can rely on knowledge up to a certain point. Why? Because as stated, such knowledge is based on the superficial limitations of our sense perception and thinking, instead of on the reality of what we are dealing with. What this means is that the direct cognition of the architect towards the AP should be avoided if the design process does not want to remain at the level of the architect’s limitations and subjectivity (something that is defined above as another kind of external factor). Hence, one may suppose that an objective cognitional process may appear as the opposed alternative for the goal of impersonality. But, may something such a human ‘objective cognition’ even be possible? And if so, would not that ultimately mean that the process of cognition might be defined, proven, and established in a series of specific actions that guarantee the appropriate perception? Pure and extreme objectivity would imply a hyper-rigid set of conventions that would end up in the absolute, the immutable, and the literal. In other words, it would be capable of, at some point, accessing the fullness of the project and therefore, that would be the sole form of knowledge. In this sense, objectivist philosopher and Ayn Rand’s heir Leonard Peikoff claims for a holistic ‘closed system’ whose essence is not subject to change (Peikoff 1998). This would cut off any possibility of evolution and newness because it accepts that the reality of anything would ultimately be exposed in full; i.e., there would be no more once it is achieved.

On the contrary, this paper claims that both subjectivity and objectivity alone are equally inefficient for achieving any new spatial phenomena, and hypothesizes for an operative third way that interweaves both. But first, a short clarification is needed. An oxymoron is a figure of speech that uses in the same expression two opposite terms for generating a third meaning. To avoid grammatical redundancies like ‘objective subjectivity’ or vice versa, please consider the root word ‘jectivity’ as a more manageable simplification. In our case, the term appears as the counteraction to the (subjective) impositions of external factors (architect’s mind and knowledge included), and the (objective) immutability of a full exposed reality. Jectivity ultimately means being impartial about something without defining its entirety (because it is ontologically impossible). The incomplete capture of the AP’s wholeness precisely implies its very own chances of new perceptible manifestations of its reality. The AP (as any other object in the world) is finite and concrete, but our cognition of it tends towards infinity. In a realist approach, each of these manifestations exists simultaneously and independently from one another. In Ian Bogost’s words, “things can be many and various, specific and concrete, while their being remains identical” (Bogost 2012, 12). What this suggests is that infinity does not exist as such in the human condition. Infinity is an abstract ideal that refers to a huge finite. As Timothy Morton states: “[v]ery large finitude is harder to deal with than an abstract, ideal infinity” (Morton 2010, 40). In other words, our cognitive apparatus for perceiving and creating is clearly finite (i.e., limited), and though we may assume that the ways in which we can grasp and make visible the AP have an end indeed, the possibilities of its manifestations are actually vast, so much so that we cannot even figure out how large they can be. This is the unknown excess or space of abundance that this paper suggests to explore as a prolific field for designing. This space is the distance between the architect’s ignorance (lack of knowledge) of the AP and the AP itself. Jectivity is the proposed method to deal with it. All possibilities within that space pertain to the AP in question, meaning all possibilities within are equally valid to be a successful solution. It is a space of secure speculation.

The techniques to work with the space of abundance are as vast as the space itself. Meaning, there are not close recipes or instrumentality that guarantee an optimized unveiling of the AP. The architect establishes his/her work conditions to identify and manifest the AP. In this framework, this paper presents a three-step design process that proposes that the more sophisticated the working tools are, the more chances for grasping deeper realities are. In short, computational tools are of great importance for manifesting unexpected spatial phenomena.
Metaphor: The Entanglement of the AP and the Architect

First, because the AP is a determinate unknown entity and its multiple cognitions lead to very large finitude of outcomes that may produce more confusion than solutions, the encounter architect-AP has to be somehow framed. The metaphor appears as a useful device to provide particular orientation for constraining the context in which to proceed further. It is the first contact between the architect and the AP. By instructing a third entity in the conversation (a reference), its direct and cognizable qualities are relocated in the AP-architect framework (Figures 2 and 4). The reference allows the entanglement between the architect and the AP, which form a temporary alliance for designing a “new object generated by the metaphor” (Harman 2018, 85).

Variation: Multiple Manifestations

Second, a period of experimentation appears for the production of variations. Thanks to the excess in the process of cognition, there is not a single AP’s manifestation, but multiple unknown ones. At this point, knowledge must be overcome if any spatial newness wants to be achieved. It is not about rejecting knowledge, but going beyond it. The design process needs to enter into areas of uncertainty and ambiguity that are not fully controlled by the architect, who has to produce the right conditions of the unexpected within the framework gained in the metaphor. But such unexpected variations are not random items coming from the outside. They are in fact hidden and withdrawn representations of the AP that our forms of knowledge cannot directly conceive. This is what Luciana Parisi, in regards to the mathematician Gregory Chaitin, means when she refers to the incomputable as in fact part of the computed (Parisi 2015, 134). Simply put, they are determinate variations that are part of the design object in question. In our case, the unexpected multiplicity is Parisi’s incomputable that belongs to the AP at issue. This excess is beyond the architect’s cognition and knowledge. It allows the manifestation of multiple solutions. They are the intrinsic speculations that unveil the latent of the AP’s reality. Once the space of abundance is identified, specific internal criteria to the own process need to be established, but a priori, all outcomes are equally workable. Any of them is equally valid to be “the winner.” The particular criterion of selection of the next two projects is based on patterns, i.e., looking for self-similarities and the invariance within the variations. This means that the selection does not necessarily need to be a singular item, but can also be the unchanging features along with the variations.
Repetition of the Protocols
The third step is to stabilize the outcome. Once the selected variation appears, the actions that allow such a solution to emerge must be repeated for discarding any one-off random variations. The protocols and procedures that drive the solution must specialize. Each new iteration along the work process reflects at three levels. First, the AP’s visibility (its actuality) goes into detail and particularizes every time more. Second, the protocols and tools in use specialize as well. And third, in regards to the latter, the architect’s knowledge learns a new particular design procedure. Thus, knowledge needs to be overcome in the variation-step to produce more knowledge in subsequent steps. In other words, turn the unknown excess into knowledge. Appropriate the unknown. The reapplication of the same set of actions to the result of the previous iteration successively implements these three aspects by narrowing closer approximations to the AP’s finding. This three-steps schema is not fundamentally linear. It can repeat itself for particular aspects of the AP at different scales—almost as a fractal method or a fractal way of operating. Hence, instead of imposing any preconfigured idea, this design strategy posits for discovering the project through the work process.

TWO PROJECTS
Two projects, LWZ 38 (2017) and Oso & Madroño (2019), explore the potential of the previously explained methodology metaphor-variation-repetition in architectural design. The work process and particular protocols here applied to unveil the AP are mostly based on computational procedures. Both examples assume that AP’s reality is highly determined by the site, meaning each of the APs is particular and unique to each location. Therefore, these conditions are explored to establish the entanglement with each AP.

6 Generated flat ornamental pattern 18 from Wagner’s drawings (see Figure 2)

7 Final and refined tectonics over the existing building

8 Top view; the discovered project emerged from the existing ornament, whereby a warped volume elevates the roof level to provide space beneath for the penthouse apartment in the tradition of Viennese Dachbauten
The LWZ 38 project is a commission for an exhibition that explores the Viennese tradition of rooftop extensions in contemporary manners. The project appears on the central building of the three iconic Wienzeilenhäuser designed by Otto Wagner between 1898 and 1899. Being one of the most relevant examples of Jugendstilarchitektur, the primary aspect of the existing construction is the golden ornament composed of natural motifs. This provides reliable support in which to frame the metaphor as the basis for designing (discovering) the new extension. In this particular case, Wagner’s own drawings are the reference to enter in conversation with the AP (Figure 1). Based on this document, an algorithm written in Grasshopper generates a series of new ornamental patterns that are 2D applied to the roof and south façade of the existing building (Figure 6). These 2D patterns are elevated in different heights to generate 3D spatial structures. Specific architectural conditions of the program, which follows a semi-free floor plan schema, and structural performance are considered during the computational calculations to guarantee the habitability and a plausible constructive scenario. This range determinates the space of abundance in which punctual evaluations modify the algorithm to orient the next iterative series towards one or other direction. In this case, a formal solution is desired that visually resembles the natural and organic motives of the original drawings. A total of 86 2D patterns are produced for 354 valid 3D structures (variations). Any of them is equally suitable for continuing the design. Nonetheless, a second algorithm (based on the Grasshopper components Galapagos and Karamba3D) compares all the outcomes and provides a unified model. Hence, the final spatial configuration is not one of the 354 outcomes, but a unification of all of them based on the invariable features of each result (Figure 3).

In the final and third step (repetition), the first algorithm is reapplied to the discovered model to double-check that the resulting spatial structure belongs to the space of abundance of the project in question. Once it is successfully confirmed, the densest areas of the unified 3D structure shape the tectonics of the roof and the façade, which are several times remodel and redrawn using Maya and Z-Brush software. This provides small re-adjudgments for an optimal insertion of the program and a more explicit dialogue between the new generative ornament of the extension and the existing one. Minor spatial changes happened in the project during the last step (Figure 7).

The jective process identifies the space of abundance that contains all initially inaccessible manifestations of
this particular project to the author. The resulting design appears as a free floor apartment on the roof. On the south façade, a series of balconies and cantilevering boxes expand the spaces of the existing building. Endless golden lines configure the warped tectonics. The ornament is at the core of the design as the link between the new and the existing architecture (Figures 8, 9, and 10).

Oso & Madroño
The Oso & Madroño project is a competition entry for a public library in Las Tablas, Madrid. The jective process is in this case applied to the collision of two fundamental factors: (1) the physical reality of the place, and (2) the social and collective reality of the neighborhood. Both are constitutive elements of the specificity of the AP in question, meaning they provide the framework of the space of abundance to work with. Concerning the first, the new urban structure of the block emerges from the superposition of historical and geological layers, as well as the adjoining urban context (Figure 12). An overlay of all together creates indicators and configurations without apparent recognizable meaning, but which are specific to the place and which are waiting to be unveiled (Figure 13). The project is there; at least one of its multiple manifestations needs to be disclosed. The unfolding of these hidden but inherent variations is the basis on which the new configuration of the plot is designed (Figures 14 and 15). About the second factor, the social and collective reality, the commonly used ‘closed housing blocks,’ lack the urban and social conditions for enhancing a sense of city and community. There is no structure in which the neighbor can feel identified or represented because it is a standard model (a typology) that repeats independently from the particular conditions of the area. As a result, the social and collective reality of such neighborhoods is absent. Therefore, the aim of this proposal, in addition to the given competition brief, is to provide the underlying conditions on which to stimulate public and social encounter. To do so, the first step of the metaphor calls to symbolic references and social signs: ‘the bear and the strawberry tree,’ which are the symbols of the city of Madrid, and the art project Wrapped Trees by Christo and Jeanne-Claude (Figures 4 and 17).

In the second step, variations in the medium of physical models study shapes, textures, and transparencies of the membrane of the tree (Figures 16 and 18), which are each of then digitalized via 3D scanning. The multiple outcomes are, as per the previous project, unified in a tree-shaped structure that configures the spaces of the library (Figure 5). A series of calculations in Karamba3D are carried out on the discovered model to double-check its viability and determinate the dimensions and profiles of the structure (Figure 19).

The final step, repetition, refines and details the project by redrawing and remodeling the resulting geometry for accurately accommodating the program, materiality, and constructive aspects (Figure 20). Following the directives established in the metaphor-step, an ETFE membrane wraps the unveiled tree-shaped structure and provides
11. Oso & Madroño, the project emerges from the physical reality of the place (historical and archeological) and enhances its social reality through collective identification.

12. Superposition of historical and geographical layers together with the influences of adjacent buildings and green areas

13. Networking and pattern formation based on density as the new structure of the block

14. Superposition of the unified pattern and the existing urban grid

15. Discovered structure of the park

16. Study model; wrapping and texture properties of the membrane

17. Wrapped Tree by Christo and Jeanne-Claude (Basel 1997); this is the second reference used in the project, the first reference is Figure 4

18. Study model; transparency and translucency
the requested conditions of thermal comfort (Figure 21). The project emerges from the physical reality of the place (historical and archeological) and enhances its social reality through collective identification (Figures 11 and 22).

CONCLUSIONS
The design process presented here aims to make visible the AP’s phenomena that would be impossible to achieve through literal forms of knowledge, which are always limited by human capabilities of understanding and forms of representation. This does not mean to exclude them, but relegate them to a second plane of necessity, and entails that neither the architect nor the instrumentality in use, or any other external factor, has to be privileged, but only the architectural project (AP) itself. This paper seeks the unknown excess in the cognition of the AP as the fertile soil to explore unseen forms of space or spatial solutions that are initially unimaginable to the design in question.

From the architect’s point of view, the AP is the source. It is the ungraspable reference where the architect has to unveil its possible materializations. The outcome cannot be subject to pre-configured ideas or impositions such as materials, styles, typologies, or shapes, but it has to emerge from the work process itself. The architect’s role is to establish the conditions of this work process and to make it work. If we consider the human beholder or user of a building as the ‘reader’ of the AP’s manifestation, the architect is the ‘journalist of architecture’. S/he does not have to invent the news (i.e., the AP’s reality) by relating external agents, but merely be objective and impartial in how it is delivered. In these terms, subjectivity is an external factor that is as embodied in the architect as in the journalist, and it is as dangerous in architecture as in journalism. Architects (following journalism’s manners) must investigate the AP, elaborate it, and translate it into readable phenomena to other humans. The work process must be impersonal and as fair as possible to the AP. On the other hand, pure objectivity, as opposed to subjectivity, does not solve the problem either, because it cuts off any newness. Thus, the design process is an inevitable paradox. But it is a productive one.

This paper shows how the oxymoron of jectivity privileges neither the constraints of subjectivity and the imposition of external factors nor admits a total objective exposure of the AP but instead encourages a very large finite cognition within a finite framework called space of abundance, i.e., space of secure speculation. Thus, this design method of unveiling the spatial unknown encourages constant spatial newness and unexpected architectural configurations.

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REFERENCES


IMAGE CREDITS

Figure 2: © 1898 Otto Wagner
Figure 4: Antonio Navarro Santafé, 1967, Unknown photographer
Figure 17: © 1997 Christo and Jeanne-Claude, Unknown photographer
All other drawings and images by the author

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