

## THE USE OF SOCIAL NETWORKS AS A TOOL FOR ARCHITECTURAL AND URBAN DESIGN

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### ABSTRACT

The paper focuses on the analysis of new digital media, in particular the sociometric platforms such as Facebook, Twitter..., the writing on these platforms and their impact on architectural or urban projects. In order to deconstruct these new processes of information and data made easily available to the authors of projects, we work from theories allowing to give value (meaning) to writing according to the context in which it is written and materializing in the form of powerful citizen or individual commitments. We look for the keys of analysis allowing to pass from an opinion of influence to an analysis of recurrent commitments to be the object of collective stakes. These different approaches of reading the media/medias crossed with the territory and its collective commitments allow us to develop a method of analysis of the stakes because of the advent of a new project at the scale of a district or a piece of city. Its ambition is to offer to any project author (rarely a data scientist) to appropriate an approach more within his reach while being in phase with the digital reality that transcends the traditional approach of project design.

### KEYWORDS

Social networks; semantic analysis; ontology; project; city; citizen; commitment.

### 1. INTRODUCTION

The digital tools used for urban analysis and architectural projects can only make sense if they are situated in a broader ontology of understanding and nuances of recent theories of smart cities and their critics. An approach that can be part of the digital convergence to increase the capacity to analyze social phenomena related to new urban issues.

The concept of smart city emerges in a rather vague way around the years 1995-2005 (Leccese and Mc Cormick 1999). Several researchers have attempted to define it (Mitchell, 1995; Ergazakis Kostas, 2006) or to situate it in relation to new imperfect urban approaches (Giffinger and Haindl 2009; Jang and Suh 2010), leaving aside the interaction between the territory and its inhabitants to focus on the new technological contributions to the strategic or daily management of cities. The 2010s have seen the emergence of an increasingly critical observation of these approaches, among others by authors such as Nam and Pardo (2011) (Nam and Pardo 2011), Ben Letaifa (2015) (Ben Letaifa 2015) and more recently Ben Green (Green 2019), who all refocus the issue and the need to take into account citizens in the march of an increasingly digitized city and through issues arising from increasingly complex urban contexts in view of the urban competition raging at all scales of the cities both metropolitan and regional, in the framework

of the theoretical model of creative cities theorized by Richard Florida (2004) and Charles Landry (2012) (Florida 2004; Landry 2012a; 2012b; 2016) to name the most influential. Creative cities that rely heavily on technology to enhance social, cultural, economic and educational development.

Authors agree that the place of the citizen has evolved in the context of the development of smart cities, moving from simple consumers to engaged and more informed actors, defined as a moment of generational and technical rupture by the New Generation Internet Foundation (FING) and described in the report *The Time of Ruptures?* (D. Kaplan et al. 2012) as a polyform model, based on the observation that the emergence of socionumeric platforms and the social interactions that follow (A. M. Kaplan and Haenlein 2010) redefine the methods for analyzing the impacts of new socio-spatial expressions in the city linked to connected devices such as the smartphone. This new field of research has been particularly investigated in North America through one of the major socio-spatial movements of the last 10 years: Black Live Matters. One of the first significant studies was *Beyond the Hastag* (Deen, Mcilwain, and Clarck 2016), later complemented by numerous others, all dealing with the relationship between socio-spatial data from the Twitter platform and understanding urban issues (Huang and Wong 2016; Resch et al. 2016; Kovacs-Gyori et al. 2018). These studies confirm a sentiment initiated in the early 2010s, of the paradigm shift in social data at the time of the massification of data (Big data) from socio-digital platforms (Tuhus-Dubrow 2014).

At the same time, actors in urban sociology have commented on the impact of digital technology on individual and collective behavior, such as Bernard Steigler and his work on the Common Plain north of Paris, who has theorized extensively on the relationship between the smart city and its inhabitants, conceptualizing disruption as a misalignment

between technical, social and biophysical systems (Steigler 2016). He postulates that there is a collective intelligence well present on the ground, but that it is contained in a societal digital *Pharmakon*, a pharmacological term specifying that medicine is both healing elixir and poison, applied to the smart and digitized city as a factor of collective individualization destructive of the commons if one is not careful as a city actor.

It should be noted, however, that the analysis of platforms was extremely concentrated on urban and non-local projects (on the scale of architecture) and essentially on semantic platforms (#hastags) of which Twitter is at the forefront but far from being the most used in Latin countries. Our research approach attempts to overcome this lack of analysis at the scale of the architectural project and to reweave the axioms of understanding citizen actions at the very local scale of a building, an architectural object, in a territory of small urban scale: one or several neighborhoods. An analysis that should allow for a new form of simplified analysis that disregards the need for complex algorithms to achieve its objectives, as was the case for the analysis of the millions of hastags of the #BlackLivesMatter movement. An approach that should allow a certain form of reconnection between the project owner-project manager pair and the citizens, new actors and recognized assets of the intelligent city in a context of anxiety-provoking ecological crisis exacerbates the fights of an unknown future as B. Steigler defined it in his *Plaine commune* approach. At this scale of the project, the question of the place and the role of the architect in the mediation process between the climatic stakes which sometimes require to shake up the habits of a district and the need to better understand the citizens' fears while valuing the daily expertise of the inhabitants who can improve the project process by relying on the free digital tools at our disposal, is also raised.

## 2. THEORETICAL AND METHODOLOGICAL ASPECTS

Our approach relies on the analysis of texts based on the writings of the Facebook platform in order to discover what citizens think about new urban and architectural projects and then deconstruct the discourses on digital platforms to bring an increased understanding of the frequent phenomenon of rejection of modernity or protection needs (NIMBY: Not In My Backyard) in the Belgian French-speaking territorial framework. This analysis is based on psychogeography, which attempts to describe the uses of the city as well as the defense strategies of individuals vis-à-vis urban pressure (Debord 1958), developed in the early 1960s at the same time as the first citizen movements. It is complemented by the theory of temporal geography of Torsen Hängerstrand (1970) (Hagerstrand 1970), which demonstrated that the actions of a few individuals could have a gregarious effect on the behaviors of a larger number, regardless of their original social framework, as they are rather influenced by the interactions induced on a given territory. Guy Di Méo's approach to social geography deepened these questions through *Les territoires du quotidien* (Tizon and Di Méo 1996) trying to demonstrate the symbiotic link between a territory and its inhabitants proposing, if necessary, new forms of social cohesion to defend themselves against new aggressions. The choice of our announced research thread is finally based on the resurgence of these approaches applied in the light of the new algorithmic calculation tools and which shows a continuous bridge between the research of the second half of the 20th century and the socionumeric platforms of today where communities make common cause according to the opportunity of the subjects.

The theoretical basis allowed us to develop a method relying on the semantic value of writing (Ferraris 2006) in the context of the Facebook platform as a social science research tool

(Kosinski et al. 2015). We voluntarily wanted to reduce the analysis capacity to small local projects so that the analysis could be conducted in an iterative and analogical way, in the sense that no digital tools (API, software, algorithms) were used in the framework of this research applied to 7 projects located in the region of the cities of Mons, La Louvière and Charleroi. The objective being to be able to transmit and diffuse the analysis tool for the whole of the project owners and project managers.

### 2.1. Ontology of digital writing (Meinong and Ferraris)

The harvesting of behavioral data in public space is now recognized as potentially related to the development of the use in public space of the smartphone and platforms (Fischer 2010; Bingham-Hall 2017). The Italian ethnologist M. Ferraris, strongly influenced by the work of J. Derrida and his grammatology (1967) (Derrida 1967), attempted to define a new relationship to the smartphone in his book *T'es où?* (2006), complemented by the study of soul and iPad (Ferraris 2014) where he addresses the question of the written word and the trace as a condition of thought by establishing a relationship with the essence of the technique. He concludes that we are spiritual automatons, but free. He considers that the definition of a cell phone is too restrictive as an extension of the wired phone or embedded multimedia support, in front of this machine that can express relationships between humans. He defines a mobile eidos, that is to say that every phone is a writing machine, illustrating the principle of transcription of memory through the machine and in documentary form. In his thesis on digital behaviors and writing, M. Ferraris develops the concept of social object linked to the uses of machines. He develops the idea that social objects need a support in the sense of the capacity to be shared and that we define here as the Facebook platform. From this ontological approach, new notions of

the intimacy of subjects having the possibility to accumulate, save and idealize arise. By analogy with the past, it refers to the papers in the wallet and corresponding to a reconstituted identity based on the role of writing in the social constitution of the contemporary individual. Papers replaced today by posts on FB. They do not exist as such in space, but remain as traces and thus acquire a duration in time to become ideas in their own right making the link between space and writing. The social object is thus a moment of sharing stories (in reference to the act of writing) retranscribed through the digital medium, a tool for expressing our social object (who, what, where?). By this point, we define the intentional value of the writings located on the pages and Facebook groups and more particularly within the framework of the publications which mark out more and more the procedures of authorization of the architectural projects as soon as this one does not fall within the framework of acceptability of the local inhabitants.

## **2.2. Dissociate the individual from the collective, actors in the writing of the project**

The individual is a social object that appeared studied from the 17th century, at the threshold of the modern era of the machine made autonomous to man. Authors like Guy Debord (1958), Zygmunt Bauman (2005), or Guy Di Méo (2009) (Di Méo 2009) speak of the societal impact between the development of the reinforcement of the individual behavior the more the machine puts itself at his service. The complexity of the behaviors of the one can only be compared with the emancipation of the other, pushed to its paroxysm today by the arrival of the smartphone. More recently, the term individuation was developed by Gilbert Simondon (Simondon 1964; 1989), today taken up again through the questions related to the socionumeric use (Pinheiro Neves 2011) and finally translated by Bernard Steigler through the concept of Pharmakon. For Simondon, it is necessary to operate a reversal in the research

of the principle of individuation, considering as primordial the operation from which the individual comes to exist and reflects the unfolding, the regime, and finally the modalities of its characters. He defines this phenomenon by the transduction. The specificity of this individuation, characterized as a process of concretization, holds that the machine, industrial technical object is an object which functions: the individual technical object is not such or such thing given *hic et nunc*, but what there is genesis (...) the genesis of the technical object is part of its being (Simondon, 1964). Like the blacksmith's hammer, it is an action tool for doing and acting, thus defining an intentional action integrating much more values than the simple "barroom" discussions often attributed to the actions carried out by collectives on sociometric platforms. This bias of appreciation has been analyzed by B. Steigler through the prism of the concept of Pharmakon defined as the poison of the writing of the project (in the sense of the history of the construction of the building) carried by the project owner and his architect. The philosopher-linguist defends on the contrary that the technological Pharmakon is not an "or" that is inevitably doomed to a death struggle applied to the decried architectural projects, but rather an "and" linking the technophile (represented here by the architectural modernity) and the technophobe (represented by the local residents allergic to the change of their environment)

## **2.3. Time as a framework for the analysis of the dissociation of the I and the we**

In order to dissociate the collective action that can find a certain legitimacy through the socionumeric uses and that of an individual action situated at the same level as the collective through the functioning of the platforms without moderation, the semantic analysis of the Facebook pages and groups of the projects led us to validate the approach of B. Steigler who dissociates the collective we from

the I of individuation through its expression in the temporal flow (Stiegler 2005). An approach facilitated thanks to one of the intrinsic characteristics of these platforms which offer the advantage of being the new safe of the small papers of Z. Bauman's portfolio that the platform keeps automatically. Bauman's portfolio that the platform automatically keeps. Time is an essential and constitutive notion of platforms since everything is recorded, stored and archived there. (Wieviorka 2013) specifies this new paradigm of permanent change by analogy to the book: the reader becomes an author and speaks of the notions of reinscriptive and reticular through a compiling and interrelation approach between the different information that interacts for a given place.

This is the case for the concepts stated in the examples we have analyzed, changing over time to become polyform through the influence of post authors. The concept of re-registration is expressed like an onion that is worked in layers (the re-registration of different readers). The reticularity of re-registrations is even more intertwined thanks to sociometric platforms. The authors conclude that creation becomes protean, co-authored and constantly evolving (Pierrot and Sarazana 2010). However, this reticularity can also be biased by the particular influence of one or more particularly committed and active authors who need to be dissociated from the us. This does not mean that they are excluded from the group, but we need to be able to define the semantic interactions between the different actors and their weight. All of these interactions are symbolized by a timeline of the project, the time flow, which allows us to sort the various interactions of all the citizens according to the themes discussed for or against the project. The longer the time, the more refined the analysis of the evolution of the layers that express intentions, ideas and concepts becomes and the more we can characterize the game of the actors expressing themselves on the platform through the various forms of writing.

#### **2.4. The place of expertise in the joint writing of the project**

Today's world has become increasingly complex to analyze, complemented by the ability of the internet to offer knowledge available to all. Through the analysis of projects through the expression of actors on platforms, we have observed the use of elaborate and complex concepts by self-information, themselves made available to actors and citizens by other experts without them necessarily mastering the complexity of the topics addressed. For example, in the context of the project that will be analyzed in this article, the collection of information by certain actors who express themselves regularly does not always make sense. However, you have to be an expert to see this. The example of many posts on the defense of a renovation rather than a complete reconstruction of the site concerned is based on the valuation of the reduction of the carbon impact of a renovation rather than a demolition/reconstruction. Our field experience on these subjects shows that this type of principle is theoretically clear, the reality is always more nuanced depending on the contextual reality of the building concerned. Without a real expertise of the said concepts, the dialogue between the actors of the project becomes loose.

The new context of writing the project through platforms thus raises the relevance of the question of the place of the architect or author of the project who rarely contributes to the citizen dialogue through the digital commons. To this end, we set an analogy from a writing of Kant explaining the link of work that there can be between writing and project:

a book is the instrument of the dissemination of a discourse to the public, not simply thoughts (...) Herein lies the essential, namely that it is not a thing that is disseminated thereby, but (...) precisely a discourse, and in its very letter (...) the author and the owner of the copy can each say with the same right

of the same book: this is my book! but in different senses. The first takes the book as writing or discourse; the second simply as a mute instrument of the diffusion of discourse to him or to the public, that is, as a copy (Kant, 1995).

The citizens need to appropriate the book-project, to understand and accept it. If the book is a work written by an author, each one makes what he wants of the book with which he lives. Today, the actors of the sociometric platforms arrogate to themselves the right to write a part of the book without being in dialogue with the author and therefore the work because the complexity of the work is not demonstrated and therefore cannot inspire respect for the dialogue. These actions are therefore not to be taken as a direct attack on the author's talent, but rather as a way of appropriating the book even before it is published, which can obviously create situations of conflict. Our analysis tries to demonstrate hereafter with the selected example that the different writings are not always contradictory to the project and that a new form of dialogue between the actors can

be opened thanks to the semantic analysis of the platforms by deconstructing the systematic approach of the conflicts whose outcome is not always in favor of the author and his owner.

### 3. APPLICATION: BELFIUS MONS PROJECT, BELGIUM

#### 3.1. Setting the context

The Belfius Jean d'Avesnes project is an ambitious demolition and reconstruction project of the regional headquarters of the Belfius bank located in Mons (Belgium), a city with an important heritage character like many Belgian cities. The proposed project is in line with the restructuring logic of banks that are drastically reducing the number of physical branches. The regional head office is to become the main branch for an agglomeration of more than 250,000 inhabitants. The public authorities imposed a broader reflection with the imposition of a mixed project as well as the permeability of public spaces overlooking a military bakery



Figure 1: Proposal for the mixed building (housing, offices and kindergarten) of the regional headquarters of the bank Belfius, Avenue Jean d'Avesnes. Mons, image arch. NOHO, Brussels, 2019

from the Dutch fortified period and located at the rear of the site studied. Initially, the project (arch. NOHO architecture and design, Brussels) foresaw the transformation of the existing building and its extension in alignment with the square and the boulevards located at the historical intramural boundary of the city and then transformed into a brand-new project. The project includes 93 housing units, 1,500 m<sup>2</sup> of offices, a bank branch for a total of 12,000m<sup>2</sup> with a public park at the back and a day care center. On paper, this project is virtuous in proposing urban functions, common areas and a strong mix while increasing the density in the city center with very energy efficient housing. The current project was submitted to the city's urban planning department in mid-2020, including an impact study for the construction of the underground parking garage. The public hearing was held in the fall of 2020. As the project was modified during the investigation, a second investigation was conducted in the spring of 2021. At the same time, various negotiations took place between the local parties and the bank, without success. Finally, and after sustained lobbying by the residents, the new project, amended at the margin, was rejected by the municipality. To date, the project has been relaunched with some modifications and should be approved but subject to appeal by the same residents.

### 3.2. Analysis of citizen actions on digital platforms (analysis in July 2021)

When one invites a search #Belfius, #Mons on FB, one gets in first line the group negative impacts of the Belfius project on the Messines district in Mons (531 members). The second group is the basketball club Belfius Mons-Hainaut (official) (10.453 members on the page). The third page is NO to the Belfius - Avesnes project (232 Likes). The next three groups are fan groups of the basketball club. In 10th place, the position of Muriel Istace, a

resident of the project, one of the Community Managers of the pages and strongly impacted by the project (Télé MB 2021). Note that in this case, it is the publications and not the Pages that are listed. The creation process of the page (December 3, 2020) prevails over that of the group (December 26, 2020). However, the group will very quickly supplant the page which will have no more activity from February 25, 2021. The number of posts will be affected by this, respectively (measured until July 27, 2021):

- 21 posts for the page
- 249 posts for the group

The distribution of group posts is fairly constant with a fairly similar average of publications/month from month to month with a continuous growth and a total of 270 publications for only 8 months representing a high activity. In addition, there is a fairly high reader responsiveness with an average of 8.86 responses or interventions for 531 group members (July 27, 2021). The tools can be divided into two categories depending on whether it is the page or the community:

- Page: an "official" advocacy tool
- Group: a tool for building arguments... to enhance the advocacy arguments developed on the Page

It should be noted that our analysis took place just after the pandemic crisis and the containment (between March 17 and May 3, 2020). A paradigm shift that influenced the discussions (cf. Semantic analysis), seeing the emergence of new urban expectations of the residents, going beyond the strict framework of the project.

In terms of influencers, we can highlight two actresses in particular. The first is a local resident of the project who has a view of the bank site, which is currently empty, but whose context would change radically if the project were to be built. Her commitment

is commensurate with her personal stake: one of her children is autistic and has a view of the site concerned from his room. A second actress, who is a resident of the area but not immediately concerned, is more characterized by the NIMBY phenomenon. These two actors demonstrated a rather exemplary strength of argumentation with the search for articles on the internet aiming to support their argument beyond a strictly local issue to make it more global by seeking to educate themselves on the ideas that they then wanted to share with the community and to become a support for the elaboration of the speech against the project.

### 3.3. Semantic analysis

As the posts progress, we notice the emergence of three recurring themes, we summarize them as follows:

- «Nature in the city to heal us» in a very mineral medieval city. This argument is also used to decry the Belfius project which proposes a park project above a parking lot, limiting the large plantations on the periphery of the parking lot and the felling of the existing 7 trees. This point is the subject of recurrent publications throughout the Timeline of the group and is particularly supported by publications of peripheral articles and positive images of the post-COVID plant life.
- In addition to the sustainable and sanitary issue, the subject of decreasing urban densification is also a recurrent topic for residents and sympathizers in opposition to current urban strategies, especially in a country where demographic growth is continuous with a perspective of 9.2% increase in the number of inhabitants in Belgium by 2050 (Duyck et al. 2022; STATBEL 2022). It allows to argue and justify the reduction of gauges of the Belfius project. The posted articles are always related to the issue of nature in

the city, density not being compatible with emptiness and therefore green spaces.

- Recycling is recurrent with the sharing of many external publications. This idea allows to emphasize the argument of maintaining the existing building and renovate it. A subject consolidated in the intentions of local residents by the nomination of architects Lacaton and Vassal for the Pritzker 2021, architects who have particularly developed skills and projects in this area.

Our analysis develops around the semantics structured around objects. The Meinong object diagram used by M. Ferraris to develop his semantic analysis. It must be dissociated according to the characteristics of the media (Page/group). We propose here an analysis of the group:

- Physical object (real): The Belfius project
  - Ideal object (fantasy): to remain as it is (volumes), renovated.
- Social object (collective intention): Protect the image of the city, protect against changes, NIMBY phenomenon.

### 3.4. Qualitative analysis

For the purposes of this article, and for reasons of format, we have discarded the explanation of the elements of semantic analysis through a timeline of the group intersecting the discourses and their evolutions through the publications, we have concentrated on Meinong's taxonomy produced by M. Ferraris, combined with the strength given to the meaning of words over a given time and allowing for the structured analysis of the ideas developed by the actors and the approval of these by their readers.

From this method, developed in the form of diagrams presented in Figure 1, we note that the object and the objective intersect through arguments leading the actors of the page/group to make the urban situation fixed. However, the taxonomic method allows us to



extract broader questions that require a real response from the public authorities. It is on this part that we note that the institutional actors (the services of the Region) as well as the architects or the project owner have been silent in all languages, while in parallel, a real professionalism of communication

on social networks has been developed by the opponents. Their discourse has become so unifying for a particular case that it has influenced the municipal decision with a first refusal of a project that is nevertheless strategic for the region (location of jobs, new housing, services, etc.).

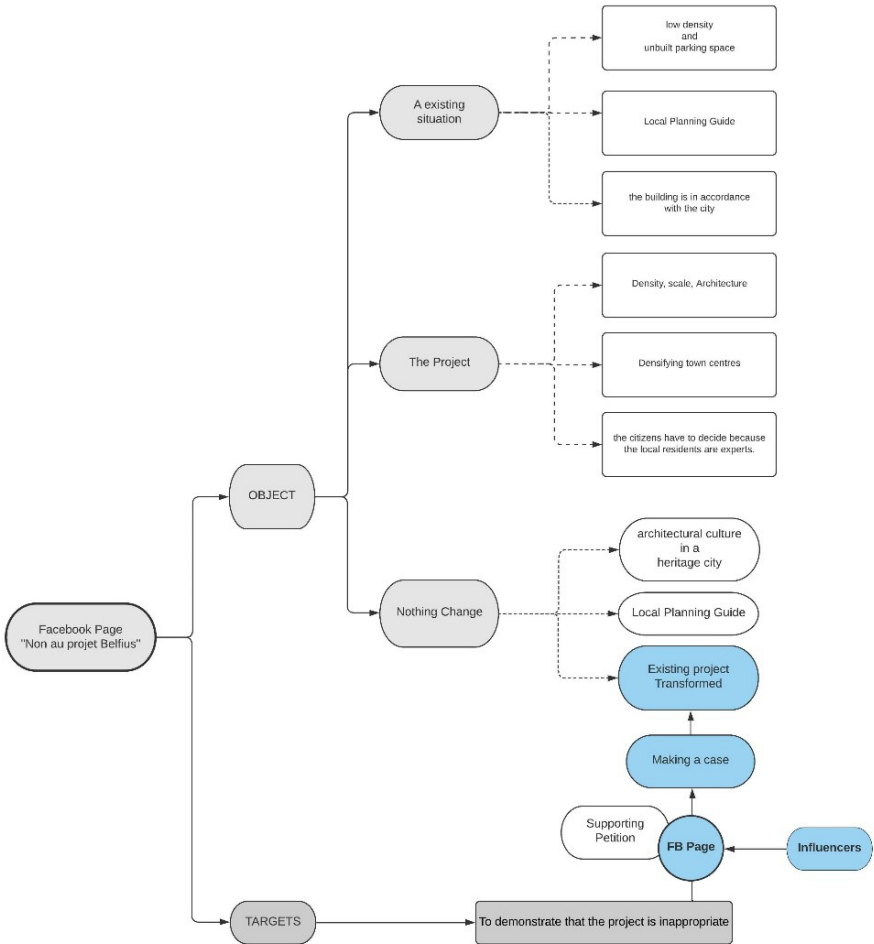


Figure 2: Analysis diagram according to Meinong's taxonomy applied by M. Ferraris in the context of the semantics of Facebook pages and groups, Belfuis Mons Project

The analysis of the objects, but also of the readers' reactions, reveals a significant lack of knowledge of current urban problems that could have been developed by the authors of the projects by clarifying the project process in all its complexity and thus better channeling paradoxical ideas such as reducing density in the city, but also in its periphery in the face of the demographic rise. An idea that confronts the question of housing and the necessary densification of cities in Belgium to allow everyone to enjoy a home. This is what the project is all about. The semantic analysis has shown this contradiction which would have required pedagogy to qualify the remarks of the self-proclaimed experts.

The second semantic analysis is based on the recycling of buildings rather than new construction. While this approach is virtuous, it remains a technically complex subject requiring a case-by-case analysis. The bank's original building was designed in the 1970s, a period when the quality of construction in Belgium had deteriorated considerably during an inflationary period and, from experience, was complex to transform. A complexity that would have deserved information beyond the virtuous concepts stated by the influencers. We note a concordance of the subjects developed by the detractors of the project and of speeches voluntarily destructive of the Belfius project. We could, once again, demonstrate the will to influence the administrators of the Page/Group using common interests for particular interests. There is probably some of this in the approach, but it would be reductive for a Group that has federated more than 450 people and above all, has allowed the development of a dialogue on current topics of development of architecture and the city of tomorrow, and whose discussions within this group show a certain form of expectations but also of urbanistic candor. There are also many shares (18,6% of shares of the posts, which means a continuous engagement of the readers). This is rare enough to be

reported, showing real concerns related to the advocacy axes promoted by the administrators.

### **3.5. Time for information and expertise**

The analysis of this project, succinctly summarized in these few pages, shows that this group, which originated from a local project, but which radiated through the more general questions it posed on the development of the city, should have been accompanied by targeted information that objectively answered the questions posed. However, in this quadrilateral between the institutional authorities, the project owner, the citizens and the project manager, the question arises of a trusted third party capable of assuming this informational status with sufficient credibility? The public authorities and the citizens were in conflict of interest or influence. The project owner did not have the necessary credibility as an applicant. Only the project author has control over the technical topics discussed by the group members and its transcription into the project. However, our research work on other projects has shown that this competence is built over a long period of time, from the beginning of the project until the acceptance of the work (Simoens 2021). A time that justifies even more the role of the project author in this process which must inform to better dialogue and thus respond to the future challenges of the city.

## **4. CONCLUSIONS**

The use of digital platform tools that influencers and self-taught people have managed to use thanks to an original approach of referencing external articles to develop their arguments and supported by their community, is more and more frequent. A finding that supports the fact that the authors of these platforms are no longer innocent and

know how to skillfully develop communication strategies with the tools at their disposal. M. Ferraris shows us the strength of the writing from the digital world and E. Kant before him had already raised the question of the co-production of the book and its work. However, in order to avoid chaos, these parallel writings must be aggregated through a conductor that we designate today as the project author. Of course, his approach is also biased by his position, but it is not a question here of a scientific project, but of an adventure. Other experiments that we have conducted have demonstrated the relevance of the project author taking charge of the platforms' information, as long as the approach is activated at the genesis of the project and with a few rules linked to the functioning of the platforms themselves. On this basis, a new brick in the co-production of the project can be envisaged for the benefit of the parties, but perhaps also to reduce certain risks, such as the unilateral refusal of the project. Our method is in its infancy and invites architects, urban planners or landscape designers to test it to improve it, it is versatile enough to adapt to many contexts.

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