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# **The spatial organisation for cooperation: what knowledge can we use from a historical analysis to understand the design of a new campus at Saclay ?**

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## **Abstract**

This proposal is part of the thesis which is looking at the conception of the Campus Paris-Saclay (France) being part of the implementation of a nationwide public policy, the main purpose of which is to give France a higher education and research system of excellence. One of many reforms is to stimulate the scientific cooperation by grouping together some of the best French higher education institutions and to promote cooperation between public research and the economic world.

The starting point of the research is to question what involves the notion of campus by looking at the hypothesis that a historical approach can generate knowledge. We propose to focus on the principles of campus development in order to establish a morphological and functional genealogy of this item. The principles reveal that the purpose of the first campus was to organise a new community or to bring several communities together and create a social link between them, materialised by specific shapes: quadrangle, galleries etc.

What type of knowledge can we use from examples of cooperation in the business field (Segrestin, 2006) to enhance the reflection and to analyse the spatial organisation of the cooperation between several partners of the campus?

We propose to look at the current management of a symbolic cooperation project at Saclay, such as the Learning Center project in order to question the instrumentation of the project

## **Keywords**

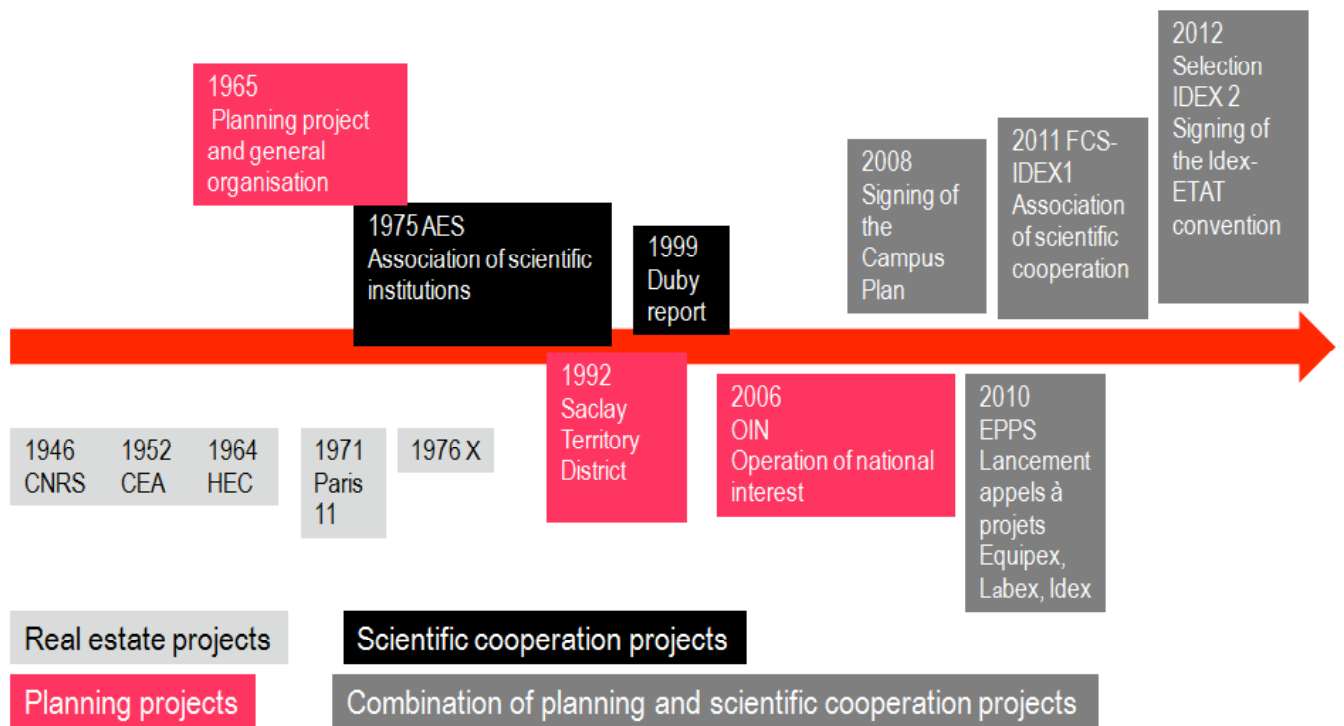
Campus design, cooperation, project management, public policy, spatial organisation

## **Introduction**

This proposal is part of the thesis which is looking at the Campus Paris-Saclay project in France. The aim is to analyse the conception processes of a new campus being part of the implementation of a nationwide public policy the main purpose of which is to give France a higher education and research system of excellence, at the world's best level, in order to allow national visibility and competitiveness. Since 2000, a series of reforms have been introduced at the European level (Musselin, 2009)[1] crossing several dynamics: the implementation of structures to evaluate and finance research, groups to stimulate the scientific cooperation, the development of a territorial policy, a system of competitive bidding and the promotion of cooperation between public research and the economic world. The thesis consists analysing of the concept of the Saclay model and its implementation. How does this model of territorial organisation comes to life, is justified and contributes to national public policy?

This project must be placed in several schools of thoughts relating to organisation and generation of knowledge through, on the one hand, the collaboration between the academic and the economic world (Gibbons, 1994)[2], and on the other hand, an approach based on the relationship between the university, business world and the State (Etzkowitz, 2000)[3]. In 2008, the institutional project was defined as a project requested by the French president - Nicolas Sarkozy - "to enable the transformation of the territory of Saclay to a scientific pole similar to the best campus in the world such as MIT, Standford or Cambridge. This campus will bring together 23 actors from higher education and research around a common scientific project and common infrastructure to promote strong collaboration." The idea developed in the political speech is to create a "French Silicon Valley" at Saclay. Therefore, the territorial scope is an essential parameter of the process analysis. If we compare the Silicon Valley model and the Saclay project through the territorial angle, we especially notice a divergence between the two models.

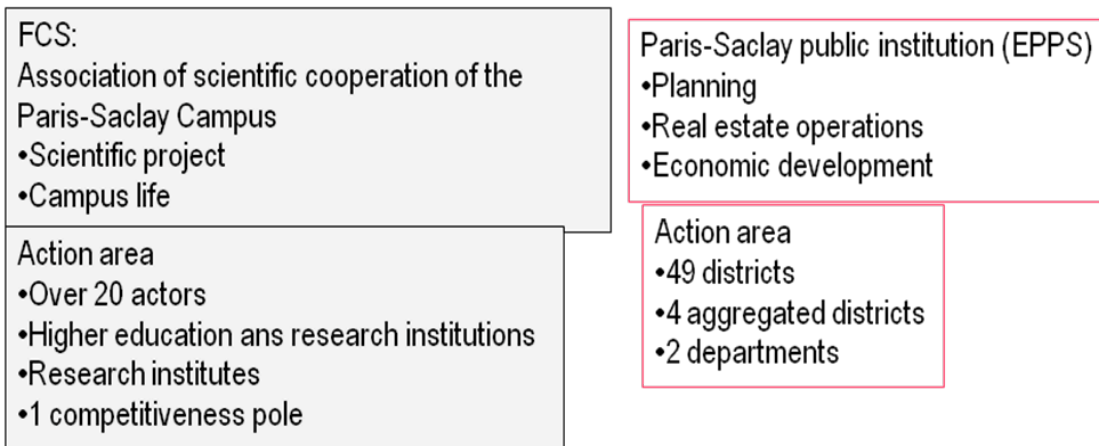
Firstly, the device set up at Saclay has at stake to group several institutions to create a new university. By contrast, the literature about the development of the Silicon Valley emphasises on the emergence of a horizontal organization based on networks which enables cooperation between companies and the university (Saxenian, 1994)[4] as well as "the complex co-evolution from technologies, institutions, and markets"(Weil, 2010)[5]. Secondly, the spatial organisation of the Silicon Valley is not the result of "a planning ambition". This lack of planning is, according to geographer Cynthia Ghorra-Gobin, the result of specific geography, the nature of the Silicon Valley activities and American planning tradition (Ghorra-Gobin, 1992)[6]. By contrast, the campus project at Saclay is being part of a large planning project of the territory of Saclay initiated in 2006. Looking at the chronology of the development of the Saclay area with the first institution established in 1946 (CNRS) to date, we observe a succession of independent real estate projects from 1946 until the eighties of research institutions or higher education establishments. We note that an association of the scientific institutions (*Association des établissements scientifiques*) was created in 1975 and a first proposal for the cooperation between several institutions from the territory was written in 1999 (Duby, 1999)[7].



**Figure 1** The chronology of the Saclay territory.

The purpose of the planning scheme at Saclay is to alter the heterogeneous elements of the territory. As such, the Paris-Saclay project is a case of institutional conception - with the creation of a new university - as well as a territorial one. This duality makes of the campus project an exceptional case compared to the nationwide public policy on the subject, which is implemented through two governmental financial programs (“Investissements d’Avenir” et “Plan Campus”). In parallel, we note that the project management is split, with on the one side the scientific and academic -institutional- project and on the other side the territorial project.

**Ministry of higher education and research**  
 •Campus Plan ( Plan Campus)  
 •Investments for the future program ( Programme d'investissements d'Avenir)



**Figure 2** The project management.

The research question of this paper raises how both aspects –institutional and territorial– of the campus Paris-Saclay project are managed? In particular, do these two projects converge to a combined project at some point?

As a starting point, we assume that a historical approach could generate knowledge on both institutional and territorial sides of the project.

The paper suggests to firstly question the notion of campus through a historical analysis by the constitution of a morphological and functional genealogy which reveals a paramount aim; the construction of the cooperation within a given community, it question secondly the possible specificity of the “French campus” and finally it will looks at a symbolic example of cooperation; the project Learning Center building.

## **Text**

### **1. A genealogy of the campus**

The starting point of the research is to question what is included in the notion of campus by looking at the literature on the subject (Turner, 1984)[8], (Olmsted, 1997)[9], (Muthesius, 2000)[10], (Mitchell, 2007)[11]. The hypothesis is that a historical approach can generate knowledge in relation to the link between an ideological context – higher education systems reforms –, planning principles, functions, planning tools, spatial organisations and geographical implementation. As such, we have tried to define the campus by looking at its different forms.

We propose to focus on the principles of campuses development in order to establish a morphological and functional genealogy of this object. The aim is to confront the origins and the evolution of the campus to the conception of the campus in Saclay and to try to determinethe relationship between the different models and the new campus in construction. The analysis starts at the end of the eighteenth century when the term “campus” seemed to

appear at the New Jersey College – later Princeton College. It looks at two particular reform periods of the higher education system; the nineteenth century in the United States and the sixties in the United States and in Europe. Looking at the examples of the University of Virginia, (Turner, 1984), the model of « University community » (Olmsted, 1997), the Massachusetts Institute of Technology (Mitchell, 2007) or the campus of Konstanz in Germany (Muthesius, 2000), we observe that the campus is related to a specific ideological context – institutional reforms – which influences the principles of conception. The functions are the result of these context and principles and we distinguish two morphological variables; the spatial organization and the geographical establishment. We also observe that the choice of planning tools – master plan or / and sociogram – is the result of the development principles which influences the shape of the spatial organisation.

The principles reveal that the priority of the first campus was to create the conditions for a specific spatial organisation to build a community. Since the 1960's and the massive university development, the aim has been to bring several communities together and create a social link between them, materialised by specific shapes, especially the distribution systems: quadrangle, galleries etc. The campus is then conceived as one coherent piece and we observe that the institutional context determined the shape of the campus. (Scott, 2011)[12]

## 2. A specificity of French Campus?

The genealogy traces two centuries of campus conception. As we have seen, the model of campus emerged in the United States and seemed to channel to Europe in the sixties and was interpreted differently by the various cultures. This physical object questions both planning and institutional practices. Therefore, we propose to use this genealogy to re-settle the Campus Paris-Saclay project in, on the one hand, a planning tradition of practices and in the second hand, in the French institutional logic.

This genealogy shows two different methodologies for conception processes: the modernist methodology with a functional approach using mostly the *master plan* as a planning tool and the socio-diagram methodology “where the designers were more interested in what happened in between the various fixed points, in short, the sociodynamics of institutions” (Muthesius, 2000:88) using *sociograms* or network analysis.

We note that the issue between the two methodologies seems to be a social issue. Richard Dober transposed modernist principles developed in the first part of the 20<sup>th</sup> Century by Walter Gropius in Germany (Choay, 1965)[13] to theorize campus planning (Dober, 1968)[14]. The idea was a rational organisation by the co-existence of functions without the social sense of Gropius thought (Scott, 1998)[15]. If we look at the French literature about the campus, especially the analysis of Pierre Merlin (Merlin, 1995)[16], we note the same approach for the planning of French campus in the sixties.

A **functional** model with the dividing functions by the "zoning" based on the model developed by Gropius (Choay, 1965). Transposition of these principles for the development of campus but without social element of such model (Dober, 1963), "French campus" (Merlin, 1995)

**For a rational organisation and a co-existence of functions. Use of mass plan as a conception tool**

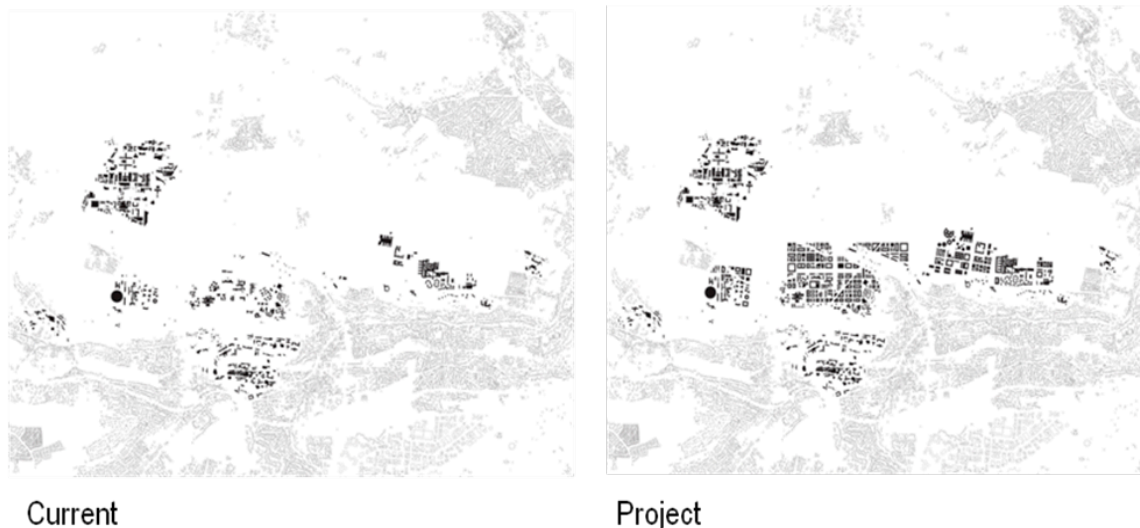
A model where the spatial organisation has to **materialise the relationship** between the different entities. Implementing conditions to favour contacts

**Use of socio-diagrams as conception tool**

Figure 3 Two methodologies of conception processes.

For Merlin, the questions at that time were more technical questions than ideological. He insists on the conception mechanisms which were very specific with State financing, a centralisation of decisions in a rigid legal context in which the scholars were not directly involved in the conception processes.

If we use this genealogy as a comparative tool to discuss the actual state of the Campus Paris-Saclay project, we understand that at Saclay the modernist methodology seems to be preferred. The maps and the drawings of the project show many prospective master plans of the campus.



**Figure 4** Master Plan from the Campus Paris-Saclay project.

So, is this rational conception process minimizing the construction of the social link at Saclay?

In order to bring pieces of information together to answer this hypothesis, the empirical study has shown that the campus Paris-Saclay is not built as one item; some institutions are already there, some are joining and there is still uncertainty for others. The campus is built piece by piece and a shape already exists which dates the project with the territory heritage. So this shape pre-exists the institutional conception by contrast with the first model of campus where the shape was the result of the institutional changes.

On the institutional side, the same conception mechanisms as in the sixties seem to be mobilised with top down centralised processes. The architectural program plans to transpose the institutions as they exist at the moment – the same number of square meters, the same distinction between the departments, etc. – and stick them on the Saclay territory. As DiMaggio and Powell describe mimetic processes in organisational theory, “uncertainty is also a powerful force that encourages imitation” (DiMaggio, Powell, 1983)[17]. The use of the master plan as a planning tool allows a development institution by institution. This imitation process seems to avoid the question of cooperation which is the central issue of the political speech.

Therefore, the aim of the study is to understand how the topic of cooperation between institutions is treated in this project on both spatial organisation and institutional aspects? How does the campus as a physical object legitimate the institutional conception? How is the social link materialised in this model of campus?

### 3. The Learning Center example

Looking at the management literature relating to cooperation in the business field (Axelford, 1984)[18] (Hatchuel, 1996)[19] (Segrestin, 2006)[20], we propose to identify places where the cooperation issue is treated and observe the conception process in relation to the principles of coordination and agreement – which is the condition of cooperation.

The financial program “Plan Campus” was originally created to refurbish university buildings. At Saclay, the idea was to use these funds to conceive buildings for the common activities of the campus partners (sports, restaurants, class rooms, etc.). One of these projects is the Learning Center which wasn't prescribed in the initial program. The libraries of the different institutions were, indeed, included in each institution's architectural program and the aim was not, at the beginning, to create a new physical object to group the several libraries.

From a methodological point of view, this example is a specific case of the planning conception processes at Saclay. Therefore, its analysis shows a form of conception processes, from a bottom up initiative.

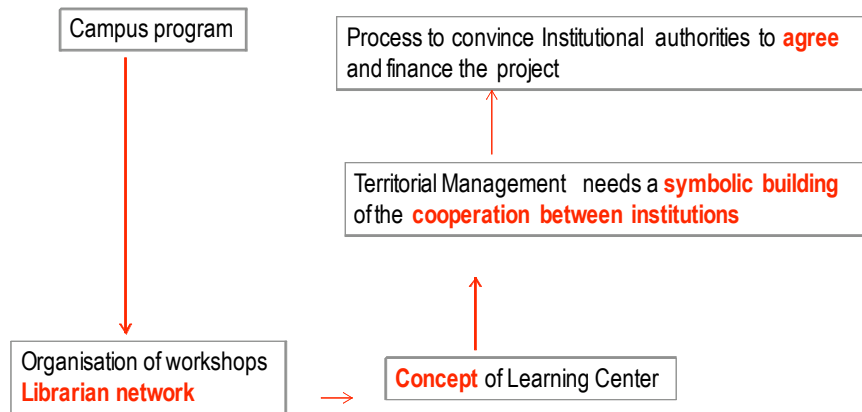
The concept of the Learning Center was not prescribed in the campus architectural program, but was initiated by the librarian network. The aim of this building is to host the collections of different institutions, to propose services about mutual online resources, to become a central public place of the campus. This example points out the power of a specific group that change the content of the program. It also shows how the territorial management project and the institutional project management interacts when this project has been picked by the management of the territorial project and reflected in the model of the campus.



Figure 5 Model of the Campus Paris-Saclay project, 2012.

The territorial management required, indeed, a symbolic object to materialise the institutional change and the foundation of the new university. The management of the territorial project needs to convince the institutional authorities to agree and finance the project.





*Conception processes for the Learning Center project*

**Figure 6** Diagram of the conception processes for the Learning Center project.

The description of this case reveals the disjunction between the institutional project and the territorial one, but also generates knowledge on the cooperation construction. Is the act of conceiving a physical object a way to materialise institutional changes?

## Conclusion

As this study has shown, we understand that conception processes of the campus Paris-Saclay project are the result of several logics and practices. This project is part of a long territorial heritage, former institutional logics and classic town planning processes. We also understand that these processes may not be quite appropriate for the cooperation goal of the political speech. The campus Paris-Saclay project seems to be a new object which is questioning the town planning approach and practices and the institutional logics.

The paper points out the link between institutional dynamics, space and social organisation. It also shows a specific and powerful collective action outside the official management set up.

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