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Architectural Competition for EPFL Library (Ecole Polytechnique Fédérale de Lausanne -- Switzerland): *Viewpoint of Technical Panel*

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The slides of this paper can be found at: http://www.zhbluzern.ch/LIBER-LAG/PP_LAG_06/Friday/AymoninRittmBisbrouck-EPFL.pdf

ABSTRACT

In 2005, the Ecole Polytechnique Fédérale de Lausanne (EPFL) launched an international architectural competition for the construction of a Learning Centre comprising in particular a large library. A technical panel nominated by the contracting authority, comprising experts from the building-engineering and quantity-surveying fields, and including two library-science experts, Mel Collier and Marie-Françoise Bisbrouck, studied the twelve competing architectural projects.

The author presents her methodology for the project study, which she founded not purely on functional criteria (number of floors; legibility of various departments; inter-departmental associations; vertical and horizontal circulation; security of collections; design-open-endedness etc.), but also on individual project impact on the built-up architectural environment of the campus site, and the sensation of interior ambience perceived for each project according to the manner in which the interaction and articulation of the various spaces of the programme were proposed.

The presentation also includes a comparative table comprising five of the twelve competing projects, highlighting the fact that even though a project may seem to satisfy the majority of the analytical criteria, it is not necessarily functional and attractive in overall terms.

The prize-winning project established by the Japanese architecting firm SANAA - an eminently 'poetic' work - henceforth leaves EPFL with a question, namely, the degree of 'adaptability to reality'.

INTRODUCTION

The architectural competition launched by the Ecole Polytechnique Fédérale de Lausanne (EPFL) for the Learning Center saw ideas from 12 architecting concerns competing at international level. A major feature of the competition - other than the programme actually defining the future building - was the extreme variety and architectural wealth of the candidate proposals. In my view, such a level of diversity was made possible by the size of the available plot, and the absence of constraints imposed on the architects.

It was specified in the programme that:

- the building "must be significant";
- that it needed to "impose itself in the environment like a signal in the landscape";
- that thanks to this new building, the EPFL campus "was to become a hive of activity";
- that the new building should, in a way, "magnify the school, adding to the reputation of its academic curricula, emphasising the school's radiance at national and international level".

The architects were also to take account of the special environment, centring on the presence of the magnificent lake forming the site's backdrop.

The results of the architectural competition may be basically classified into four major categories:

- either projects with an extensive ground coverage, within highly ordered landscaped compositions (essentially two projects: **SANAA** and **Ateliers Jean Nouvel**);
- or projects with extremely marked elevations (three projects: **Herzog & de Meuron**, **Diller Scofidio** & **Renfro** and **OMA**, the former two having pursued a theme of "prestige-building-on-the-lake");
- or projects with a high or a marked compactness (four projects: **Vacchini**, **Olgiati**, **Mecanoo** and **du Besset-Lyon**, the Mecanoo project being the most-original and cloned, almost, on the very essence of EPFL itself - a school of engineering, technology and invention, with the project appearing as an omnipresent technological object, turning about itself as if examining an all-round perspective of the rest of the faculty's buildings and the lake);
- with the last three being somewhat mixed, both high, while also partially extensive and compact (**Abalos & Herreros**, **Xaveer De Geyter**, and **Zaha Hadid**).

In the framework of this contest, two experts in library science were appointed by the School to analyse the functional part of the twelve competing projects:

- Mel Collier, who had worked in particular for the British Council and who is currently Library Director at Leuven University in Belgium, and a specialist in the new technologies;
- and myself, having worked for 10 years in France on the architecture and design of academic libraries, in the framework of a large national programme aimed at reconstruction and modernisation of French academic libraries.

Mel Collier and myself did not work together, in order to avoid influencing one another. In effect, I believe that it was preferable to work separately because it is indispensable to 'get into' projects without any preconceived ideas, especially when the projects are very complex. It was therefore only a few days before meeting the members of the jury that we discovered our respective analyses of the projects. I will mention this more in a moment.

SELECTING A METHODOLOGY FOR ANALYSING THE PROJECTS

The purpose of analysing projects by a technical committee is to inform the members of the jury, but even more so the Contracting Authority, as to the qualities and shortcomings of the competing projects, in order to throw light on the various choices, the difficulty - for the panellists - being to avoid passing judgement on the projects. Our role, in fact, is to consider only the library-management aspect of the projects, knowing that the technical committee comprises other experts who will study the projects from the viewpoint of structure, energy consumption, technical feasibility and notably, cost. It will then be up to the Contracting Authority, in charge of the operation, to assume its choices, and have the same accepted by the local authority responsible for operating the building, and for a period extending over several decades.

Given the size of the areas involved (13,000 useful m^2, that is 17 to 18,000 m^2 with circulation and plant rooms) and wealth of the programme, we received only very small-scale plans (2 millimetres per metre), saved to a CD-ROM. We also received hard copies in A3 format, which is also very small. And, since the drawings are only sketches, analysing each projects has to be limited to the major sections only.

We received no coercive guidelines from EPFL for managing our analyses. Our brief was to study the twelve competing projects in terms of the functionality of the library areas with regard to the other areas. Both for Mel Collier and myself, however, it was obvious that our assignment could not be completely dissociated from other aspects associated with the other very rich components of the Learning Center programme, and the very architecture of the proposed buildings, such as:

- **accessibility of the Learning Center** in view of the traffic streams of the population being served -orientation of entrance(s) - and depending on the "effort" required to enter the building; this question was very important insofar as the EPFL wanted to widen access to the campus, to populations other than students, in particular for cultural and prestige events: for example, the role of the top-flight restaurant requested in the programme, or the scale of the cultural areas (for conferences, entertainment, exhibitions etc.);
- **integration of the project into EPFL's existing premises:** the programme mentioned, in effect, that the future building "must be significant" in architectural terms, with regard to the other campus buildings, which, it must be said, are quite heterogeneous. But in my opinion, this aspect also meant examining the manner in which a building "announces itself" from the outside (that is, its degree of visibility on the campus, and the immediate legibility of at least part of the activities being practised therein), and also the image that the building gives for people moving

around on campus; and also, perception of the building both at night-time and in the day, since the school's desire was that the new building be a centre of activity if possible round-the-clock, throughout the year;

- I also considered it important to try and imagine, from the architects' sketches, the **impression obtained once inside the building**, as determined by the volumes of the various areas, and the notion of compactness: does the building feel open or closed-in on itself? Is the building oppressive or does it invite breathing, expansion? Does it feel amusing or boring? Is it breezy or cramped? What does one feel inside the building - balance and harmony or, on the contrary, a certain hardness in the various areas, or a certain repetitiveness, leading to monotony? Is the building easily legible? What is the risk of there being permanent noise? Does the building offer a wide variety of area types, and therefore of attitudes and possible usage's by the users? What are the distances to be covered in terms of length and height-difference, to go from one point of the building to another, or to change from one activity to another? What is the degree of permeability between functions? Does entering the building, and moving around in it, require a particular effort on the part of users, which might dissuade users from coming in? et cetera.

These considerations may appear anecdotal or external to the field of the survey entrusted to us; but for myself, on the contrary, they constitute the very essence of a project, for a building that has to serve several decades'-worth of users. In my view, architecture should help people to live better, to exist in an appropriate and harmonious setting, to offer correctly dimensioned but not hemmed-in areas, neither too vast nor too small, pleasant to move around in; a building that sharpens the curiosity of its users and visitors, constantly offering them a new manner of seeing things; yet a building that retains a human dimension; a building whose uses are able to evolve over time, depending on changing needs. These points, in any case, form my philosophy...

From a strictly more functional viewpoint, I tried concentrating on analysing the following points:

- **the number of levels and the legibility of services**; this was a very appreciable point in the various projects - we studied extreme projects comprising from 2 to 18 levels!
- **programme objectives relating to the various public services:** library, internet café, CRAFT Center (research and support for training and technologies), language laboratory, cultural and social amenities, restaurants, etc.;
- **functional vertical and horizontal links between public services**: Multimedia Library and Research Collection, for example, but also locating of internal departments in relation to one another, and in relation to public services; for example, it may be noted that the delivery aspect of the building (entrances for supplies, documents, diverse objects, equipment, commodities etc.) - and also related outgoing routes - was very sketchy in the general programme, and some of the projects hardly mentioned these aspects, which are nonetheless fundamental; the library programme itself made no mention of deliveries, yet this aspect is a key element of library operation, among others...;
- **natural lighting** distributed into the building: lighting diversity and balance - too much or too little glazing...: does the library look like a goldfish bowl or a bunker?
- **security of library collections and materials:** as the project study advanced, I began to see that that was probably the most crucial aspect to be addressed in most of the projects, given the interplay of widely differing services offered by the Learning Center (car park, amenities, social areas, recreational areas, places of work, places of activity, et cetera), each having its limits, its operating constraints, its own requirements, its desire to be seen, its desired interrelations (or otherwise) with other elements of the overall project, its de facto exclusions etc.;
- **the ability of each project to evolve:** most projects expressed powerful architectural intentions, which, in cases where they seemed to prevent the future Learning Center from functioning correctly, required heavy modifications. The projects were obviously examined from the viewpoint of their structural capacity to evolve. One major unknown nevertheless remains, namely, the will of the prize-winning architect to accept inclusion of often-major functional modifications to his project; in my view, this criterion is one of the essential factors of choice for a contracting authority, that is, being able to determine his ability to converse with the future users of the building. It must be remembered that, in the framework of architectural competitions, it is prohibited for the contracting authority to have contacts with the architects before the latter have submitted their projects;
- other elements of project analysis were also important, such as **easy maintenance (or otherwise) of a building or its environment**: cleaning of glazed facades, servicing of gardens and landscaped areas, maintenance of swimming pools or ornamental ponds, for example.

A very detailed analytical report was written up for each of the twelve projects, with, in certain cases, recommendations for members of the jury and the Contracting Authority.

The following table gives a synthetic report of the main criteria studied, for the final report by the jury members, in relation to the programme criteria regarding desired proximity between departments. The successive items analysed are:

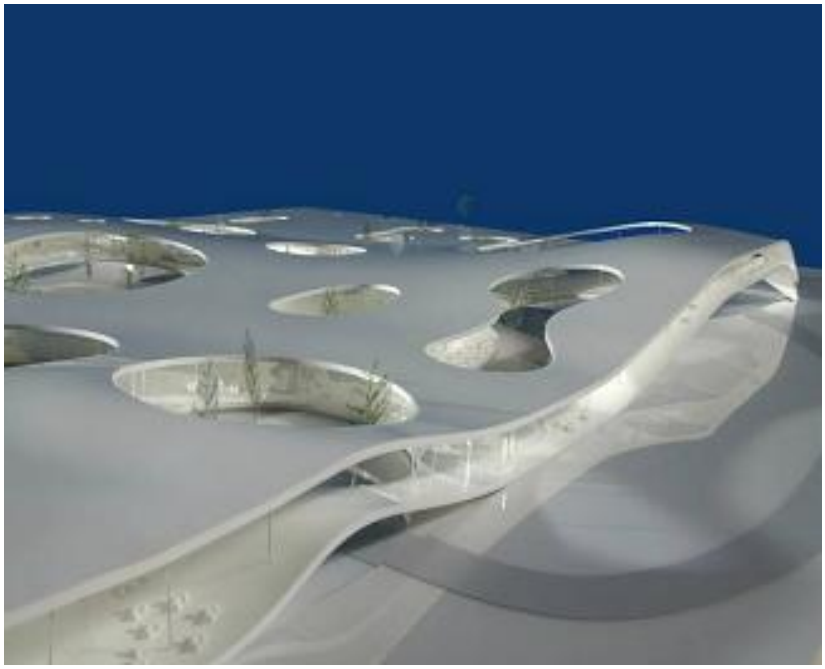
- the number of total levels in the library, with their degree of share between public services and internal departments (for library personnel),
- the access to the Research Collection, starting at the library entrance,
- the location of the Research Collection extension in relation to the collection,
- the access to the Training Department via the Multimedia Library,
- the proximity of the Learning Center's Training Department and the Library personnel's internal departments,
- the proximity of the CRAFT and the Library personnel's internal departments,
- the proximity of the Internet Café and Multimedia Library,
- the possibility of staging exhibits in the general hall of the building,
- an opinion regarding the security and surveillance of library collections and materials,
- the general functionality of the Library.

In table 1, I have used only five of the twelve projects to illustrate quite basically how major differences can exist between projects, and to draw attention to the fact that, even though a project answers a large part of the criteria regarding proximity to services as requested in a programme, this fact does not necessarily make the project a good project in terms of the overall functionality, nor in terms of image.

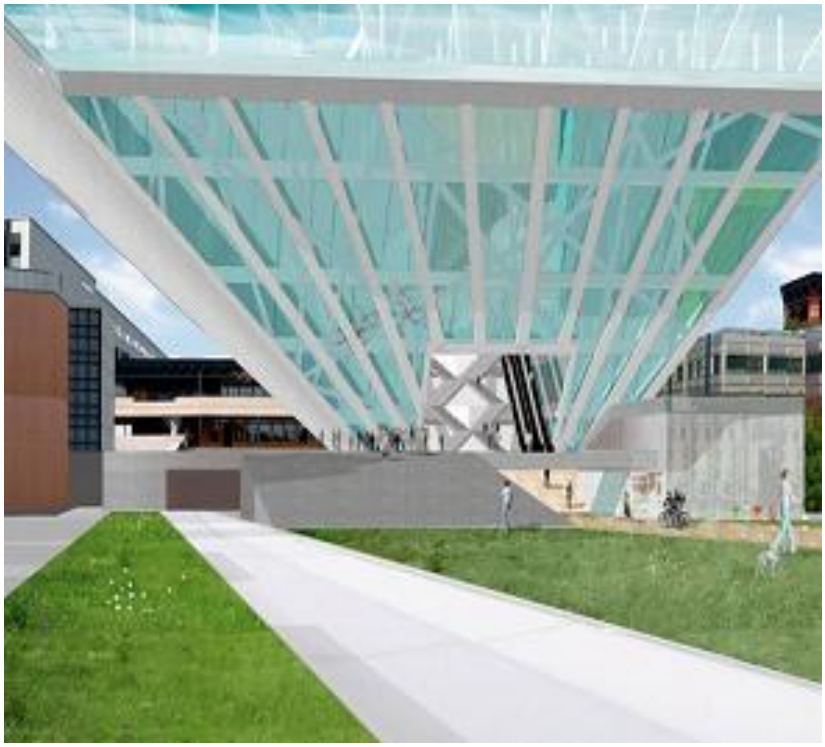
Picture 1: DILLER SCOFIDIO + RENFRO, New-York

Picture 2: MECANOO Architecten, Delft

Picture 3: OMA Stadebouw BL, Rotterdam



Picture 4: SANAA, K. Sejima + R. NISHIZAWA, Tokyo



Picture 5: Xaveer De GEYTER, Bruxelles

Table 1

	DILLER SCOFIDO	**MECANOO**	**OMA (Koolhaas)**	**SANAA**	**XAVEER De GEYTER**
Total number of library levels (includ research extension), & number for Public Services & Internal Library Departments	7 levels includ. 6 public and 1 level for the internal personnel departments.	3 levels includ. 3 for public and 1 for internal departments, but 2 public levels comprise several floor plates accessed by ramps.	13 small levels and 1 large tiers, including 10 for the public and 3 for internal departments. (18 levels in total)	2 levels include. 2 for public and 1 for internal departments	2 levels out of total of 10 for the building, include. 2 for public and 1 for internal departments.
Access to research collection via Multimedia Library	YES	NO 2 dissociated accesses	YES	YES	YES
Research extension adj. to research collection	YES 2 adjoining levels	YES	YES Superimposed levels	YES	YES
Access to Training Department via Multimedia Library	YES Too many levels	NO	Proximity YES, but direct access unsure …	YES	YES
Proximity to Training Department and Internal Library Departments	NO levels 3 and 7	AVERAGE 1 level difference	YES	YES	On the same level but somewhat remote.
CRAFT to proximity to Internal Library Departments	NO levels 3 and 7	AVERAGE 1 level difference	YES	YES	On the same level but somewhat remote.
Proximity to Internal Café and Multimedia Library	YES	NO 1 level difference	YES	YES	YES
Exhibits included in Main Hall	?	YES	?	YES	YES

Security and monitoring of collections and materials	POOR Too many levels or half-levels. Cf. elevator access	Crucial point for functionality of project	VERY POOR due to excessive number of levels. Crucial point for this project.	Excessive number of entrances (> 8) gives excessive permeability of areas, preventing any monitoring.	POOR Problem with all lifts serving all 10 levels of the building.
General functionality of the Library	POOR Too many levels, problem communicating with the "wings" of the building at certain levels. Problematic shelving of collection by staff (stepped levels not served by ramps). However, an extremely attractive and powerful building, numerous differentiated areas, very rich in possibilities, very open.	VERY GOOD for the Multimedia Library, but problem of access to the research collection, and problems regarding security of collections. Very simple, very legible and genuinely attractive building. Re-examine location of cafeteria and the Internet Café. Check overhead lighting of the building.	VERY POOR because of the architectural scheme. Juxtaposition of departments. Areas are considerably broken up. Overall legibility is not obvious. It is unclear how the levels communicate. Each floor-step seems to function independently even if they are contiguous … A very "hard" building psychologically: climbing the various levels becomes somewhat of a task.	VERY POOR The library is very spread out: separate activities become a hotchpotch. Very few enclosed spaces (lack of partitioning). Curved facades offer reduced functionality and are difficult to accommodate in the useful areas of the various departments. Checks and monitoring are impossible. Problems with noise and draughts. Nonetheless, a fine poetic statement.	General functionality is excellent, over 2 vast floor plates (except for security of collections and deliveries). High degree of flexibility, good natural lighting. Nonetheless, the scale of the building in the environment remains a question …

More than these tables, which it is impossible to examine in detail, because this would entail being acquainted with each of the projects in particular, I think that it is more interesting to look at table 2 that EPFL drew up for the jury meeting from the two overall projects analyses produced by Mel Collier and myself. The synthetic aspect of this table is obviously highly condensed, and for a long while this posed a problem for me, because Mel Collier and myself had diverged heavily in our analysis of certain of the projects, in particular the one which ended up winning the competition - the Tokyo architecting firm of SANAA!

Table 2

Architects	Mel Collier	Marie-Françoise Bisbrouck
1. Du Besset-Lyon		
2. Vacchini		
3. Abalos and Herreros		
4. SANAA		

5. Herzog & De Meuron		
6. OMA (Rem Koolhaas)		
7. De Geyter		
8. Mecanoo		
9. Ateliers Jean Nouvel		
10. Diller Scofidio		
11. Olgiatti		
12. Zaha Hadid		

Excellent	Good	Not satisfactory	Very unsatisfactory (avoid)

Examining this table, you may understand my puzzlement with regard to the project submitted by SANAA, since Mel and myself were poles apart in terms of overall assessment of functionality!

IN CONCLUSION

I would just like to say that I found this operation very gripping, because it was an opportunity to dive into the very centre of architectural creation. The work leaves me with one regret and one wish.

My regret concerns the attitude of the jury to our work as library-management specialists. Our analysis, which we had conducted with extreme attention to the desires expressed in the total requirements issued in the Contracting Authority's programme, was not sufficiently taken into consideration by the jury members, as if the analysis were of no interest for them in relation to the projects they had to judge; it was as if they were simply judging a fine architectural object, without any real content, and having no future users! We were prevented from even briefly presenting our work to the jury, project by project, since the architect members of the jury obviously had no desire to hear librarians discussing the functionality of the projects. Thus, 15 days' of frantic analysis work resulted in less than 30 minutes of floor time for the two of us, and solely in the form of excessively fast questions-and-answers, where we practically had to answer by "yes or "no", which allowed little room for nuance! But it must be said that the jury meeting itself lasted hardly longer that a single morning...

This attitude, which I have no regret in qualifying as "scornful", once again poses the **question of the make-up of juries for architectural competitions**. There are too many architects in these juries, in the event, for the EPFL, nine architects out of twelve jury-members, and only a single librarian!

Nonetheless, the fact remains that the work we undertook apprised the School of the major advantages and disadvantages of each project and, in particular, the prize-winning project, which will allow the client to be firm on their architect by demanding a genuine "realignment effort" in order to make the project correspond to reality...

EPFL made an excellent choice in asking twelve big-name architects to compete. The contest resulted in the expression of extremely powerful architectural creativeness for no less than nine projects out of the twelve.

None of the projects was perfect - all included certain difficulties, some greater than others, relating to functionality, points on which the experts drew the attention of the Contracting Authority.

In terms of the scale of the building, **the prize-winning project** is not a "significant building" as the Contracting Authority seemed to require in its programme. The project that was chosen is the lowest project height-wise, and the one with the most modest volume-for-height, even if the ground footprint is considerable.

The jury choice was for a "poetic" project, one that jumps out from the ordinary, not through its outside force or magnificence, but by its extreme internal fluidity; a project that could almost be qualified as "extravagant", opting outright for fluidity between areas; a project which appears to preclude - of its own initiative - any potential excesses of behaviour on the part of users (no one shouts, no one steals documents, either from the library or the bookstore; a project where no kitchen smells sneak out of the restaurants, and where everyone has a good pair of legs and can negotiate heavy inclines, et cetera.). In short, quite a "Zen" project!

We were all very attracted by this project, and even though I may seem quite critical of it, I actually experienced a particular sensitivity to it, as if this project embodied, of itself, the promise of a better world, a hassle-free world. I think it had a certain effect on us - one of a gentle oasis, with its numerous patios and slopes inviting promenades. In sum, a fascinating project overall, one we hope will truly function, and which must now be made to work without breaking the delicate intrinsic harmony it presents. The whole question is of knowing whether it will be possible....

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