The Architectural and Urban Competition as an Integrated Design Training and Project Acquisition Tool in the Collaborative Global Practice: A Status Report

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INTRODUCTION

Based on 14 years of professional practice and teaching engagement, the author was actively involved in roughly 50 competitions in the field of architecture and urban design. That includes working as an employee for architectural firms for the first two years after graduation, and thereafter as principal and co-founder of several design-based offices and networks, including the author's own studio. The scope of projects worked on includes very traditional competition themes, such as schools, small-scale tasks such as housing prototype development and housing for the elderly, to more exotic tasks such as information signature concept development and product design. Other themes include medium-scale projects such as museums, libraries, university buildings, civic, administrative and office buildings, mixed-use urban developments, urban infill projects, community development and Transit Oriented Developments, industrial and commercial projects, public pools, urban and landscape design, and civic centers. Complex large-scale projects include university and campus design, a concert hall, several train stations with their urban surroundings, urban design projects, and the design of an entire new city for approximately 2 million inhabitants in China.

Except for the first competition project, in which the author was a model maker in the firm of Frank O. Gehry, the author has been the leading designer in projects. In the choice of projects, the focus was on diversification rather than specialization. This specific strategy allowed for the accumulation of an incredibly diverse body of knowledge and experience, from which the author is able to draw not only in the field of professional work but also in the area of architectural and urban design education. Due to the nature of a competition, which usually demands the development of an architectural or urban scheme in a relatively short amount of time, the author was able to perform design as research on several levels by: [1] exploring a diverse body of architectural tasks and their possible solutions; [2] exploring different methodologies to approach a design challenge; [3] exploring different solutions for the same building/urban typology for different locations worldwide, and adjusting each typology to the specific cultural and technological context; [4] experiencing distinctive, project-related network settings; and [5] learning about the design and project culture on a global level.

Each of these fields of 'applied' research (and many more) might be covered to a certain degree in the regular professional practice setting; in many cases, though, this is not possible when working with a client on projects that are going to be built unless a client is extremely open-minded, supportive, and willing to take a specific path, and therefore keen to invest the necessary amount of time and money.

In many cases, the author went through the experience of the Honorable Mention – only a few projects made it into the last round and were awarded first prizes – which, in some cases, led to the commission and realization of the project. More projects received a second or third prize, a Merit Award, or a Purchase Prize. Most projects were lost in the competitive process, but to lose in a competition does not mean that a project is of no value at all for the designing team. What re-

mains is a very fruitful experience and knowledge gained through the design process. Due to little influence of the contracting authority in the mostly anonymous international competition procedures, one can approach a competition task in a more open-minded and unconventional manner, which makes the most important difference to a directly commissioned project. Besides having excellent design training on any of those projects and learning from the failures through studying the winning schemes of other participants, another benefit is to approach competition schemes in an integrated team of several professions. The author frequently experiences this kind of setting as brainstorming sessions in a think-tank. It widens the participants' scope to look at things and makes a project much more comprehensive even in an early stage of design. The integrated team approach allows for a better refinement of ideas through diverse professional input on several levels.

This paper will focus mainly on the experiences gained in the projects that did not make the cut. The formula for how these failures change design practice is relatively simple: through periodic participation in design competitions, participants constantly train their skills to become better designers and to develop efficient, successful methods to solve design problems. Through the feedback loop of analyzing the winning schemes after the competition is finished, one can reflect critically on one's own work, which constitutes a learning opportunity that does not exist in this form in regular design practice. The findings can be applied or further explored in the next project; this can happen in a fast rhythm since the time frame of design competitions is short compared to the process of designing and actually building a project.

TYPES OF COMPETITIONS ACCESSIBLE ON THE GLOBAL MARKET

Without being exhaustive, the following list gives an overview of the different choices of competitions available in the global market. Beginning with the traditional scheme, there are several types of architectural and/or urban procedures in which one can participate.

First, there is the student competition, which is a great tool for students to train their ability to come to a sound, sometimes comprehensive, conclusion on a conceptual level within a predetermined period of time. Besides receiving credit for a design studio project and the possibility of making it into the final round of winners, participation in a student competition is often recognized for its self-motivational aspects and the body of work produced by the time a student finishes school and applies for professional posts, which is an important factor in today's job market.

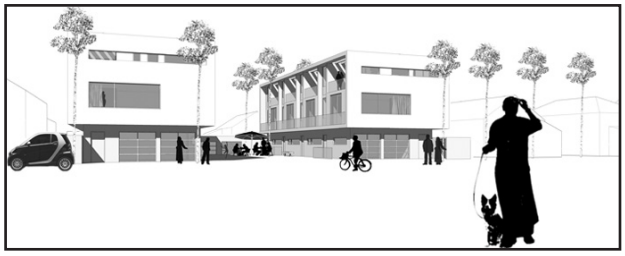

Figure 01. Competition Entry for the Portland Housing Design Competition [1]

The semi-professional competition, meanwhile, often allows students, as well as people from several professions, to participate in an offered project (Figure 01). This kind of competition is used frequently by contracting authorities, developers, and organizations to gain ideas and explore the possible limits of, or acquire clarification about, a possible future project. Usually these competitions neither seek realization of a project nor consider the winner to be commissioned with the further development of the project.

Thirdly, we have the professional competition, whih might be limited to a certain geographical or political area or allow participants from all over the world to take part. The main characteristic of the professional competition is the requirement to be licensed as an architect in the country where the participant practices. Contained within are two major types: the idea-based competition and the realization-based competition (or a combination thereof). The idea-based competition's goal is to gain a body of different ideas and approaches for a specific problem or project. Often, results are used to develop a complex project further before concluding with a realization-based competition.

As the most available scheme in architectural and urban design practice, the realization-based competition's goal is to choose a final winner among

the entries and to commission the winning team with the actual development and completion of the awarded project. This type of competition is an excellent opportunity for young and emerging designers to be commissioned with a larger project for the first time.

The fourth type of competition is the professional, limited competition, which selects a limited number of participants by their project portfolios and past successful competition entries and/or projects. This limits the group of participants to established firms that can rely on successful project portfolios. To allow young and emerging teams or small offices to enter, limited competitions sometimes permit a small number of those structures in addition to the more established firms.

Fifth, there is the investor's (developer's) competition, which usually conforms with the limited competition procedure described above, but differs in so far as only a small number of offices have access. History shows that the results are often driven by the investor's need and agenda, rather than by architectural and spatial solutions, urban context, or people's or municipal needs. Furthermore, these competitions do not need to conform to the rules of the Architects' Council of Europe (ACE)[2] or the appropriate national chamber of architects for national competitions. Nevertheless, the investor's competition scheme is quite popular in its worldwide execution, but typically excludes access for most participants and, therefore, often limits the quality of outcome through the reduced group of directly chosen participants. This scheme comes close to the hurdles of a Request for Proposal (RFP) process, in which young emerging designers, especially, have only a slight chance, if any, of being considered in the procedure.

Usually, professional competition entries are examined by a professional architectural/urban firm to determine whether they meet all competition requirements before they are reviewed, evaluated, and finally awarded by a jury that usually consists of well-established members of the professional community at the national and international levels. Awards for those competitions come with considerable sums of money for the winners, which, in the case of the first three prizes, usually cover the hard cost that comes with each professional's participation.

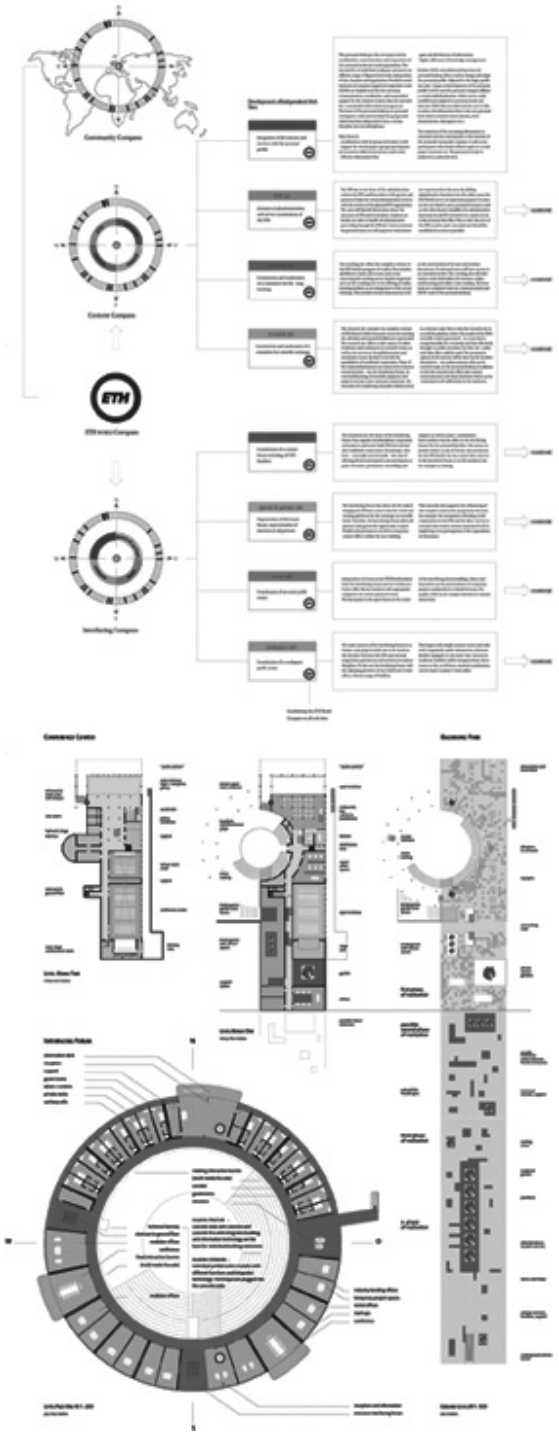

Figure 02. Honorable Mention: Entry for the ETH World Competition

Having been a competition participant as well as a competition juror, it is the author's experience that many young and emerging designers contribute

incredibly rich, deep, and often surprisingly brave proposals. Often, those projects are honored with an Honorable Mention, a Merit Award, or a Purchase Price, if they are not among the first three winners. These projects can easily compete with the contributions of well-established firms; indeed, they might even have a higher quality. In any case, the instance of a young office winning its first project and using it to establish its business does not happen often at all: the reality shows that the path to success in the architectural competition arena is a long and time-consuming one, requiring high motivation and unsolicited contributions to the profession. Nevertheless, even the Honorable Mention is an important reward recognizing young firms for their work, which often leads to further invitations to other competitions that have limited access.

Compared with the strong guidelines and rules that exist for the European competition market, there are no comparable principles and guidelines to support and execute regional planning, town planning and architectural competitions in the US, a task that could be taken on by the American Institute of Architects (AIA) in the future to promote more competitions on the US market.

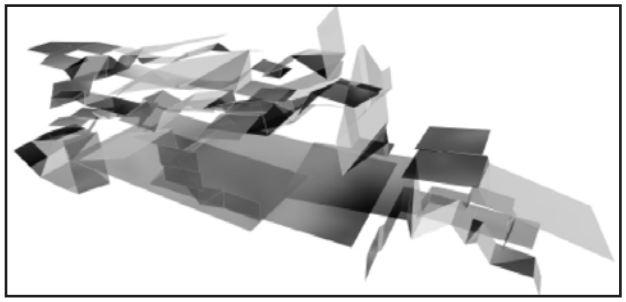

Figure 03. Moma Bozen - abstract spatial result

Competition experiences in professional design practice and education

Participation in every competition comes with high employment of labor and energy and thus with a high commitment toward the profession, since the designer cannot count on an honorarium unless the project is a winning scheme. The following project report, which cannot be more then a snapshot of certain cornerstones during the author's experiences in the last 14 years, is an attempt to explain why participation in architectural and/or urban design competitions is important for a designer and has an extremely high value for the work both in the professional and educational settings.

Having being involved in several national and international competition projects in well-established offices, the author started to collect experiences from their own firm(s). The first competitions in which the author participated were about relatively small projects, such as a school, two small city libraries, and some office and commercial projects. Common among these competitions was that they were single-phase open competitions with no other restriction to participation, other than being a licensed architect. The number of participating parties was relatively high, ranging from approximately 85 to 450 for the school project. None of these first projects were successful, in retrospect due to the fact that the amount of time, energy, and money that the small firm structure was able to spend on these projects was relatively limited. Also, there was no developed strategy about the kind of competitions in which the firm, at that time, could participate successfully. The learning experience was extremely valuable, though, in that skills were developed and sharpened to advance strong concepts within a short period of time, to take quick decisions on alternatives, to focus on a project's essential aspects, and to learn about the right level of depth for such a project. This, somehow, resides at the schematic design level, but can dive well into design development for certain projects. Furthermore, it was obvious that it is extremely hard to succeed in an open competition with a high number of participants. Most importantly, the author learned about the limitations of working without a strong team. Compared with the previous large-scale projects in the established setting, where immediate access to numerous consultants and fruitful design discussions were a permanent part of the process, the author experienced serious incisions and limitations in the design process without that kind of network support.

The logical step was to organize a team around a specific competition, which was achieved successfully with the two-phase international design competition of the ETH World in Zurich (Figure 02) [3]. The design task was to create a virtual teaching and research environment, the ETH World, which would perform parallel to the existing physical world of academia at the ETH Zurich. This environment had to be supportive in the formation of co-

herent, interdisciplinary, and global project groups that would cooperate mainly via the Internet.

Based on this requirement, an interdisciplinary design group that consisted of architects, designers, web-designers, content managers, and communication/e-learning experts was established at the beginning of the project. The team was aware of the importance to open up an intensive communication/discussion procedure early in the project that would then influence the design process. Emphasis was on a horizontal hierarchy within the team that would allow participants to take design and content decisions on the basis of each participant's individual field of knowledge and practice. A deliberate schedule of physical meetings/brainstorming turned out to be very supportive. As a result, the work process was effective and satisfying – the project was carried out using a real integrated design process. Although the design team decided to extend the required competition program of a virtual communication platform with respect to the given task, and added a considerable physical program to the project, therefore extending the standard competition brief, the proposal was strong enough to make it into second phase. The six remaining teams were flown to Zurich for a physical project briefing and were paid a design fee for the final phase of the project. Although the team around the author was not the final winning team but received the Honorable Mention, the positive experiences from the process were tremendously valuable for future projects, including those in the field of education, in which the author is actively involved. Furthermore, the new collaboration contacts made through the project served as an important support in future competitions. Thus, one of the major preconditions for successful competition participation - the establishment of a well-functioning network - was achieved.

A similar scheme was applied in the competition of the Museum of Modern Art in Bolzano, Italy (Figure 03) [4,5]. Different to the above competition, the setting for this project took in the field of architectural education. The team consisted of architectural students, teachers and practitioners and is considered another model of the integrated design approach. The team's focus was on the exploration of a specific design strategy that involved digital tools and the generation of algorithms to create the initial design for the building. The group used the computer's superiority to process an immense number of calculations and operations within a short period of time, applying a parametric-driven design process. This process enabled the project team to create, study and value a relatively large number of different project variations, and analyze and structure very complex contents. The employed software was programmed to apply gravitational forces on the competition's given architectural program. The designers chose to conceive the architectural program as solid building blocks that were suspended virtually above a digital site funnel, which, once the gravitational force was applied, would direct the program blocks into the given site perimeter, creating very complex spatial diagrams.

Figure 04. First Prize – Competition Entry for an Urban Design Masterplan for Caohejing High-Tech-Park, Caohejing, P.R. China

The experience was very different from a traditional design project approach, in that the group discussed and created the algorithm for the space-generating process. Once the process and parameters were determined, it took time to program the software and test the parametric procedure. To influence the design process, the moment had to be determined in which the algorithm was to be stopped. The designers influenced and directed the method actively through the choice of different forces, the layout of the suspended program, and the selection of the produced variants. Part of the time spent on programming and testing the algorithm was given back through the power and speed of the computer, which enabled the design group to run a large number of experiments with many outcomes from which to choose. Although some of the results appeared somewhat arbitrary, they all fulfilled the de-

Figure 05. Honorable Mention – Entry for the new Library for the University of Göttingen, Germany

fined conditions precisely, being re-enactable and describable even in a scientific manner.

By adapting the numerous digitally produced design schemes to the required competition task and its architectural program, the group learned that intense employment of traditional methodology still remains in the further process. Although the application of further digital automation was discussed, the group turned it down due to the immense effort that it would have taken in terms of time to develop and adjust the algorithm further to the specific architectural task – a procedure that cannot necessarily be applied during the very limited timeframe of a professional competition. Though very helpful in experiencing the pros and cons of a digitally driven design process, the final project did not extend beyond a certain conceptual stage, being especially deficient in architectural and spatial depth due to the extreme time constraints the team was facing. The project did not make it into the final round of awarded projects, but the experience of the process itself was tremendously valuable for all participants and was developed further in successive projects, applying and improving complex digital algorithms in the architectural design process. From an academic standpoint, the competition combined professional practice with research on different ways to approach a design problem, which is very obvious in this specific project. Generally, it applies to participation in every competition, though, because each project challenges the architect to explore and research new methodologies, concepts, approaches, and materials.

NETWORKING IN THE PROFESSIONAL COMPETITION PRACTICE

The experiences described above led to the formation of several collaborations for further competition projects, including formally announced partnerships as well as project-specific cooperation. The positive experiences of the integrated design process also informed the development of a specific setting in the author's architectural education strategy, which culminated in a web-based architectural design studio, the *Netzentwurf*™, a structure in which numerous mid-European universities participate. The *Netzentwurf*™ concept is well documented in past conference publications worldwide and will not be discussed further at this point.[6,7,8]

The employment of collaborative, integrated competition design practice led finally to a structure that enabled their members to participate in large-scale competition projects at the global level. Figures from the fields of architecture, landscape design, urban planning, engineering, and multimedia launched a formalized network structure. All partners were familiar with computer-supported collaborative work methods, since most of them were also members of the *Netzentwurf*™ community, and so accustomed to the field of architectural education and research. At this point, a complex loop of past developments and experiences was closed to the advantage of a strong team that could now act globally. The main idea of the network was to collect the potential for ideas and value-added management that existed within their different members. Local and regional contacts and knowledge, essential for the canvassing and the realization of contracts, were used for regional as well as global project applications. Within the network structure, human resources could be deployed flexibly in the project areas where they were needed. The integration of various members in three different locations worldwide was possible through a digitalization standard at all design stages of a project taken on by the participants. Collective endeavor revolving around computer networks and established Internet standards underwrote the efficient exchange of ideas, skills, information, and planning processes. This work process ensured that talents could be deployed where they were most valued and where they could achieve the best results in line with the set objectives.

Most importantly, the members were able to pool their successful projects and common expertise into an impressive project portfolio, which was used to apply for limited competitions at the global level successfully. This strategy, together with some good contacts from around the world, opened the door for a series of direct invitations to large-scale competition projects in Asia that were not limited to architectural topics only, but included urban design and planning challenges that the team had to face. Different from previous competition procedures in which the author had participated, the number of competitors in these competitions was relatively small, which led to a generally much higher success rate – every entry in this market was among the awarded projects (Fig. 04). Furthermore, each of these competitions came with a considerable design fee, which allowed the team to invest the money in human resources and consultants to face the challenges that come with large-scale global projects, but also covered the somewhat considerable travel expenses in those projects.

CONCLUSION

In retrospect, the author calculated roughly that he has spent at least 54 months/4–5 years/31% of his professional career working *intensively* on competitions. From an economic standpoint and regarding the monetary yield through the competition projects only, one might consider this strategy professional suicide. Yet, looking at it from a design skill training or lifelong learning process perspective, it becomes clear that each competition contribution comes with a number of new experiences, the enhancement of design knowledge and skills for a specific design problem, and a growing number of projects that are valuable for the professional portfolio, which can then be used as a successful tool to acquire project commissions. Furthermore, the experience of winning a competition comes with an incredible satisfaction: each scheme that makes it into the final round of mentioned and published winners adds considerably to the reputation of a firm. In the educational arena, each new project adds to a competition designer's knowledge in a specific area of design. This is important to keep up with state-of-the-art and emerging technologies, materials, design methodologies, and so on, in order to bring this knowledge to the classroom. It is also important with regard to the diversity of the individual's body of work. The continual training in design strategies for a diverse project portfolio at different project scales can be fruitfully applied to the architectural design studio setting by offering solid project experience to the students. Those students who understand the advantages of competition participation use the architectural competition as a training opportunity to sharpen their own design skills and to build a portfolio of their own self-motivated work, which is of important value these days.

To conclude, it is the author's opinion that the greatest, most apparent value of the architectural and/or urban design competition is the fact that most projects in which the architectural commissioning is based on a successful competition scheme, chosen by an experienced, strong jury, have a higher architectural, functional, and spatial quality and, therefore, higher value for their users, the built environment, and society. Those projects are, typically, based on an intensive discussion at both professional and municipal level, on the competition between the best schemes and often very talented participants, and on the choice from a repertoire of solutions that could not otherwise have been drawn upon. This view might be disputable to a certain degree; it is reflected though in the built environments of those countries that employ the architectural competition as a common procedure to find the best architectural/urban solution for a design problem. In this regard, it is the author's opinion that every public and private building of a certain size that is not commissioned through the competitive procedure of a professional competition is a lost opportunity for good architecture for the built environment and for society in general.

ENDNOTES

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