Lycée français Charles de Gaulle
Damascus, Syria

Architect
Ateliers Lion Associés, Dagher, Hanna & Partners

Client
French Ministry of Foreign Affairs

Design
2002 - 2006

Completed
2008
I. Introduction

The Lycée Français Charles de Gaulle in Damascus, a school that houses 900 students from kindergarten up to baccalaureate level, is a garden-like school with classrooms integrated into an intricate system of courtyards and green patios. The main aim of the design was to set a precedent: a design in full respect of the environment that aspires to sustainability. Consequently it set out to eliminate air conditioning and use only natural ventilation, cooling, light/shadows and so economise also on running costs. The result is a project that fully reflects its aims and translates them into a special architectural language of forms with rhythms of alternating spaces, masses, gardens and a dramatic skyline rendered by the distinct vertical elements of the proposed solar chimneys.

II. Contextual Information

A. Brief historical background

This is not an ordinary school, one that is merely expected to perform its educational functions although with a distinguishing characteristic: doing everything in French within an Arab country. Rather, it is a school with a great deal of symbolism and history attached to it. To illustrate this, suffice to say that this school, begun in 2006, was formally inaugurated by the French President himself. On a 2008 hot September Damascene morning, in the presence of world media, President Nicolas Sarkozy and the Syrian Minister of Education attended the formal opening of the school, in the hope of establishing a new phase of Franco-Syrian educational relations.

The land upon which the school is built was used previously by the French army during the Mandate for many years before being returned to the Syrian army which, in turn, occupied it until it again became part of the property owned by the French Embassy in Syria.

The French school initially started in 1970, at the second level of the already existing French school the Lycée Laïque de Damas. Later, it moved to several areas in the city from the 1970s onwards: the Mohajireen, Mezzah and Dummar neighbourhoods. The buildings that housed the school in those years were rented existing buildings that had not been designed as schools in the first place. Moreover, there was no integrated single campus to house primary, secondary and intermediate sections, which were spread out in different locations, depriving the school of having a unified administrative system, a proper image and generous sport areas for student activities. Hence, this new school fulfills the desire for an integrated campus with its own formal image that properly reflects the resumption of the diminished French educational system in Syria. It is a question of prestige.
B. **Local architectural character, including prevalent forms and materials**

The school is mainly surrounded by residential blocks in the east and south and a hospital in the north. To the west, it merges smoothly into the topography of one of the Mezzah hills.

The local architectural character around these blocks is mixed. Predominantly, it is comprised of typologies of four-floor plain concrete slab buildings. Some of these date back to the late 1950s and early 1960s, but the majority date to the 1970s. This building type can be found in residential areas throughout Damascus and is typical of most residential buildings in urban and suburban areas all over Syria. In the specific case here, it mostly houses blocks for the lower middle class. Nevertheless, there is one block further from the school in which higher quality buildings denoting a “higher” social stratum can also be seen. This group was built in the 1990s with a similar architectural character as those above but the building materials are of better quality: mostly stone cladding that is used to upgrade the appearance of the facades, with some marble sections too. In addition, local shops, which serve the daily needs of the neighbourhood, are usually situated on the ground level of the surrounding buildings facing the street.

Before the advent of modernism in Damascus, the Mezzah district buildings were constructed in traditional mud-brick and timber and these traditional buildings prevailed until they were demolished from the 1960s onwards (the last major demolition took place only five years ago). In fact, just over the Lycée Français’s boundary, old free-standing ruins of walls can still be found (see images).

C. **Climatic conditions**

It is important to highlight the prevailing climatic conditions because they motivated the main idea behind the design of the school and constituted its point of departure.

Damascus has a hot arid climate due to the rain shadow effect of the Anti-Lebanon mountains and the prevailing ocean currents. Summers are dry and hot with less humidity. Winters are mild and comparatively rainy, sometimes with snow. The annual rainfall is around 130 millimetres (5 in), occurring from October to May. However, the weather has changed and water has become ever scarcer during the last 50 years, with rapid urbanisation around the city and its region.

Summary:
- altitude: 733 m (2,405 ft);
- the average temperature in Damascus is 17.6°C (64°F);
- the range of average monthly temperatures is 20°C;
- the warmest average max/high temperature is 37°C (99°F) in August;
- the coolest average min/low temperature is 2°C (36°F) in January;
- Damascus receives on average 234 mm (9.2 in) of precipitation annually or 20mm (0.8 in) each month;
- on balance there are 45 days annually on which greater than 0.1 mm (0.004 in) of precipitation (rain, sleet, snow or hail) occurs or four days on an average month;
- the months with the driest weather are June, July, August and September when on balance 0 mm (0.0 in) of rainfall (precipitation) occurs;
• the month with the wettest weather is December when on balance 60 mm (2.4 in) of rain, sleet, hail or snow falls across eight days;
• mean relative humidity for an average year is recorded as 50.4% and on a monthly basis it ranges from 36% in June, July to 72% in December and January;
• hours of sunshine range between 5.7 hours per day in January and 13.8 hours per day in July;
• on balance there are 3,634 sunshine hours annually and approximately 10 sunlight hours for each day (source: http://www.damascus.climatemps.com).

D. Immediate surroundings

The site of the school is bordered by mixed natural and built surroundings: immediate, neighbouring and distant too, due to the topography of the area as a whole. From an aerial photo, it seems as though the school is located at a short distance downhill from the Syrian president’s palace (the Shaab Palace). However, on visiting the site, one discovers that the palace is far up the mountain and the seeming closeness on the map or aerial photo is rather deceiving.

The site still has some of the old trees left in good condition, especially pine, cypress and olive trees that seem to be very well adapted to the climate. The school border from the north and north-east still greatly benefits from the presence of these pine trees that frame the view towards the mountains that have the same kind of vegetation, making a nice visual connection and an echoing continuity. The view in question is one of the rare areas still left unchanged in Damascus, part of the lush green plain (Ghuta) that collides with the rocky hills and canyons of Rabwa.

E. Topography

Topographically, the site is located on one of the hills of the Mezzah area. It slopes gradually up from south-east to north-west. At the extreme north-western side of the property the slope becomes rather steep; at this end, the architects decided to keep part of the land as a roughly landscaped area using basalt local volcanic stone.

It must be pointed out that the whole Mezzah area is higher than the rest of Damascus and it is interesting to note that, historically, the high latitude of the Mezzah area made it a summer resort for Damascenes living in the hotter old city located in the valley below.

III. Programme & Functional Requirements

A. History of the inception of the project; how the project was initiated

The architects tried to address a programme that required the integration of all school sections in one campus, alongside facilities and common amenities. The list of requirements was as follows:
• kindergarten
• primary school
• secondary school
• several canteens for all ages and for staff
• administration section
• function hall/gymnasium (used also as multi-purpose occasionally)
• common and sports amenities

The solution presented by the architects is an integrative scheme of the list above: a system of courtyards and patios related to the biomatic scheme intrinsic to their core architectural concept and strategy.

B. How were the architects and specialists chosen?

The project was initiated by the French Foreign Office. The architects were selected to compete via an invited closed competition. After winning the competition, the architects formed a consortium of experts to complete the whole spectrum of issues embodied in the project.

C. General programme description and objectives

The architects explained that from nursery school to the graduation level of high school, pupils must be able to develop their own characteristics while acquiring a common identity based on an easy-to-use layout. Integral to this are communal area activities. An area of communal services is located at the bottom of the site alongside the street. Then come the various schools (kindergarten, primary and high school) developed in a similar manner from lower down the site to higher up. Beyond them are other communal areas leading to the garden.

It is important to note the wide avenue that runs in a north-south direction across the site between the existing trees. Using both roofed and open corridors, it leads to all the classrooms set out in an alternating pattern of patios and pavilions, giving each classroom its own connection to the garden and site as a whole.

D. Functional requirements

Please see point A above.

IV. Description

A. Building data

In designing the school facilities, the architects’ point of departure was the climate and its environmental implications. Their strategy was mainly centred on natural cooling and ventilation systems, a decision that proved to have crucial implications for the morphology of grouping the building blocks that shape the campus. These building blocks are typically two-level structures, each giving onto a small, lush, sheltered garden/patio. This has been translated as 29 building units on two levels each with 10,000 square metresnet floor area.
B. Evolution of design concepts

The small “garden” is the spatial building block of the design scheme, intended to create a microclimate of cool air feeding into the ventilation system through PVC pipes made to circulate by means of the updraft created by solar chimneys. The walls enclosing this garden are double-block for its thermal properties: solid concrete on the inside and concrete breeze-blocks on the outside, all separated by an air pocket. The classrooms are arranged in rows on both sides of the major axes, in a pattern of alternating masses and gardens. All this represented the response of the architects (and their technical experts who are integral to the team) to the physical constraints of the site, climate and plot ratios. This configuration, driven mainly by climatic conditions, also represents the architects’ response to users’ requirements and spatial organisation.

From a purely formal consideration, it could be said that the massing, articulation of facades, decorative features and use of traditional motifs are all subordinate to the main biomatic concept. Thus it is austere and purposefully understated.

Each building mass contains two classrooms, one above the other, with each classroom having its own solar chimney. On the right is the high school; on the left the primary and kindergartens. These, it should be noted, constitute the formal vocabulary of the composition, so to speak.

The architects took advantage of the request of the Damascus City Council to open up the district and place the French school out across a new-look public area beginning with a new road. This request was an advantage for the school, becoming later an integral part of the urban district. The new road not only eases the traffic flow, it also gives very obvious structure and prestige to the entrances and various other functions linked to it, such as:
• a separate entrance to the north-east for the kindergarten;
• a main entrance for all the other pupils who will go left towards the secondary schools and right towards the primary schools;
• a carefully structured succession of transparent panels leads the eye into the view, with the playground in the foreground and the garden and landscape beyond it;
• parking facilities for school buses and a drop-off point for cars;
• the new public road itself.

Landscaping

Regarding the landscaping dimension of the project, it has to be underscored that the architects set out to create a sort of garden-school. They did so by attempting to turn an arid site in the Mezzah district into a lush garden in the hope that the project would have a significant effect on local life in the area. The natural landscape in the proposed site is vast but its natural slope precludes any view eastwards into the distance over the entire city of Damascus. However, on the west side, where the topography is more marked, there is a pleasant vista framed by citrus and pine trees.

To establish the necessary microclimate, the architects followed these strategies. They decided, first, to keep all the existing trees on the site. These were mature and are still in good condition, having been preserved throughout the construction work. Secondly, they added more local trees – such as
ailanthus, jacarandas and Brazilian hollies – that grow easily, do not require much water, that are almost resilient in the Damascus climate and that are inexpensive as well. These are intended to form a canopy under which more exotic shrubs will be planted. Water is in short supply in Damascus. So, to provide for automatic watering, a pond was built in the lowest part of the site, below the gymnasium, to drain rainwater from the site itself and from the roofs of the buildings.

C. Structure, materials, technology

The architects realised that their decision not to include air conditioning will come as a surprise in a Middle Eastern country, but they saw it as a question of responsibility towards the environment. However, instead of sophisticated technology, they opted for making extensive use of what they saw as traditional features from hot countries with Mediterranean climates, that is, permanent active ventilation for buildings that are well protected from the sun and designed with high-level inertia. All the premises, especially the classrooms, have a double aspect and are situated beside closely set patios full of vegetation. The patios are covered with shade cloth in addition to the trees and shrubs. The architects maintain that the size and position of the windows had been calculated to provide maximum natural lighting while, at the same time, acting as part of the ventilation system. They point out that the walls consist of a double skin separated by a 5-centimetre air pocket. Outside, the architects designed the walls to be built of 20-centimetre hollow concrete blocks; inside, they consist of 10-centimetre solid concrete blocks. The aim was that during the day these give out the coolness stored during the night, thanks to the ventilation. Combined with double-glazing, this system is supposed to provide the inertia of the walls. Further, the concrete roofs are ventilated by having a slight slope parallel to the slope of the site. They are designed to be watertight and to give additional protection by a sheet of light-coloured aluminium and/or zinc. As can be seen from the diagrams presented by the architects, the 25-centimetre gap through which air circulates is supposed to be maintained at all times. Furthermore, the solar chimneys are laid out in such a way as to provide natural ventilation from the cool air in the patios and this cools the premises as it passes through the slab forming the ground floor.

The solar chimneys, consisting of a vertical polycarbonate element built in front of a dark-coloured wall, draw air up naturally from the patios after it has been cooled by passing through PVC pipes embedded in the slab on the ground floor. The architects’ main premise is that inertia, controlled solar energy and a garden to create a microclimate provide a solution to the need for consistently pleasant temperatures.

Materials were selected to further support the above-mentioned points. Most noteworthy are the basalt tiles used in the outdoor corridors, while the classrooms and the remainder of the premises are floored with ordinary cement slabs. This means that the school has been built mainly using inexpensive materials that are familiar to builders and their local techniques. They chose lime render for the walls and Aleppo stone for the facades and walls around the main entrance.

Built with rather inexpensive local materials, the school cost 5 million EUR (6,533,274.34 USD) for a net floor area of 10,000 square metres. It is said to be equally inexpensive to run because of the lack of air conditioning, the excellent natural lighting and the solar hot water production. However, as will be discussed below, I could not corroborate this claim for several reasons.
V. Construction Schedule and Costs

Occupancy: September 2008

Total costs and main sources of financing

Total initial budget: 423,709,975 SYP / 6,576,280 USD excluding VAT

Cost of land made available by Association des Français à l’Étranger (AFE).

Total actual costs impossible to quantify due to the current political events (without land).

Actual cost: 57,987 SYP / 900 USD excluding VAT/m² SHON, or net floor area (per square metre)

Remarks: amount of work: 395,310,502 SYP / 6,135,500 USD excluding VAT.

VI. Technical Assessment

A. Functional assessment (use)

The project proved problematic in its functioning within this particular scheme and the new manner that the architects proposed, in other words, the detached units, open-air corridors and alternating courtyards system. At present the functional relationship scheme and circulation system hypothesis in its abstract form works well in moderate weather conditions only. During the winter and early spring, which constitute most of the academic year, it has proved hard to live in the proposed open-air corridor system and courtyards. I was told by parents, students and teachers that they have to put their coats on before moving from one place to another on the campus. On the other hand, during the hot climate, the cooling system does not seem to work. I tried to examine it myself during site visits but could not experience it well as my visits were in March and April when it is still cold. I will examine it again when the weather is hot and report it in my presentation in Geneva to the Master Jury. This leads directly to discussing the climatic performance of the project as a main criterion to functional evaluation.

B. Climatic performance

Herein lies the core and soul of the project, especially as it pertains to natural lighting, natural ventilation and sun control. What follows is a summary of the systems developed and utilised with diagrams. But it is perhaps important to say that the architects indicated that deciding to erect a building in the Middle East without air conditioning surprised many people in 2005. However, it was done, thanks to the determination of the Ministry and the leaders of the Parents’ Association, who were convinced that the project expressed a certain sense of responsibility and secured control over running costs. There was also a desire to set an example.
C. **Response to treatment of water and rainfall**

It has to be underscored that water is in short supply in Damascus. Consequently, to allow for automatic watering of the created gardens, a pond was built in the lowest part of the site, below the gymnasium, for draining rainwater from the site’s grounds and also from the roofs of the buildings. This has proved to be still working efficiently.

D. **Environmental response and adaptation to the natural environment**

As can be seen elsewhere in this report, the environmental and biometric response of the project is the main driving force behind the design. This will be described and illustrated separately below.

E. **The choice of materials: the level of technology**

The level of technology is almost fully compatible and appropriate to the level of building technology and the construction industry prevalent in Syria. However, a problem seems to lie in the intricate application and supervision of the subtle details pertaining to the cooling biometric system, which is totally new to the country. In addition, workers and supervisors also came into contact with it for the first time. According to Dagher, Hanna & Partners, the architects on site, the work of the contractors was never satisfactory. This statement (and sentiment) is also prevalent amongst the teaching staff I spoke to. But the problem, as will be discussed later, lies in operating the system, its maintenance, and the fact that it is not totally accepted by the users, especially the students.

The building materials and finishing are rather austere and the proposed natural systems are not entirely sufficient for the users, who are used to a high level of luxury in this respect. Air conditioning split units have thus been subsequently added, defeating the architects’ central concept.

F. **Response to, and planning for, emergency situations, i.e. natural disasters, floods, winds, fires, earthquakes, etc**

In its planning and design, the project is in compliance with national local codes for emergency situations such as floods, fires and earthquakes. Particularly notable in the provisions categories is the attention given to the possibility of flood disasters. An elaborate system exists that drives waste excess water into a special reservoir underground. The collected drained water is then supposed to be reused for irrigation and cleaning.

G. **Ageing and maintenance problems**

It can be said that this is one of the most problematic issues. The building blocks (and spaces in between) seem to suffer from a lack of maintenance. So the school has aged prematurely in some aspects. In the current civil war situation in Damascus, and Syria in general, it is hard to positively identify and point the finger at the sources of the problem: design, execution, operations, poor maintenance, or, indeed, all these together. My personal feeling is that it is a combination of bad execution and poor maintenance. In 2010, a team from the prime contractors (Ateliers Lion and
Transsolar) identified the operating faults and proposed ways for improving the system. It seems that the war situation has not made this possible yet.

**H. Design features**

In terms of massing, volumes and articulation of spaces, the project appears decidedly different to the surrounding urban fabric. Its main feature is its regular pronounced rhythms, especially those of the solar chimneys. The masses of the classrooms and their minor courtyards are, in turn, grouped around two major courtyards, which function to separate the older from the younger students. The result is practically several schools within one campus.

In addition, the school is well integrated and sympathetic to the topography of the natural hill it sits on. In terms of its scale and morphology, and to understand the composition further, one can compare the site of the project and its loose low density with a similar area close by, where almost 12 to 14 residential buildings could be sited. This is the scale of a small quarter.

The sense of rhythm that distinguishes the design is created by the alternation between the masses/spaces of the gardens and on both sides of the main school courtyard. The resultant rhythmic effect is accentuated and made more dramatic by the skyline of the chimneys as the main formal feature. The slightly pitched roofs and the external staircases also add to the dynamism of the rhythmic constellation of elements. Complementary to the rhythmic components, on the other hand, are the two-floor horizontal corridors (or avenues as they call them) that slightly resemble arcades. In their continuous legato-like lines, they contrast and connect the staccato-like masses of the classrooms.

**I. Impact of the project on the site**

One of the positive aspects of this project is that it included the design of a new public road. This was requested by the municipal authorities as one of the prerequisites for issuing the building permit. So, in place of a negative impact on the site, in terms of increased circulation, this was successfully compensated by the implementation of a good road, while providing parking facilities for school buses and a drop-off point for cars at the same time.

**J. Durability and long-time viability of the project**

It is hard to speculate about the long-term viability of the project as the war situation in the country is still affecting all long-term forecasts. Nevertheless, it can be said that judging by the need for constant maintenance and sustained operational maturity, the building must be run in normal secure conditions. Furthermore, and endorsed by architects and users alike, a full review of the biomatic system is needed. Now, however, the priority is just to keep the school running at its minimum capacity. Designed for over 900 students, today it has only about 200. Many classrooms are closed, no longer maintained and merely left to the elements.
K. Ease and appropriateness of furnishings; interior design and furnishing

The design of the school did not require interior design in the traditional sense. So the interior finishing is elegant and austere with clean simple lines and colours and the furniture is appropriate and easy to use.

VII. Users

A. Description of those who use or benefit from the project

There are three categories of users of the project: students, staff and workers.

Students come from rather privileged backgrounds, both socially and financially. Some of the students are sons and daughters of French families that work in Syria while others have one of their parents of French origin. It is perhaps worth noting that compared to the ethnic distribution in the country, Christian students represent a higher proportion. This has its roots in the modern history of relations cultivated by the French during and after the Mandate. To that effect, it is interesting to know that although the school is run and owned by the French authorities, the budget for building the project was set up through a trust created by local students’ parents. This sheds light upon the degree of attachment and alliance between the families and the school – and further!

The staff, on the other hand, is usually a mix of local and foreign, mainly of Lebanese and French origins. The locals are predominantly Christians and/or from privileged families and educational backgrounds. However, the current war situation has reduced the staff mostly to locals.

Regarding the background of the third category, which comprises non-staff personnel, such as contractors and workers, it has to be said that they would have had previous traditional associations with the French in business, politics or both. The most notable is the main contractor for example. The maintenance people are also carefully selected, mostly through a subcontracted agency that manages the recruitment. In the current situation this traditional relationship has been upset and the maintenance does not seem to be working as it should. I have heard a lot of complaints about this from both students and staff.

B. Response to project

Popular reaction to the project is indicated in point 3 below, but in general it can be said that the school is now accepted and integrated into the Mezzah area after it had previously been looked upon as a sort of closed, foreign enclave, a “French island,” as one of the neighbours put it to me. Please refer to point 3 for more on this.

1. The response of the clients, as represented by students and staff, is rather puzzling, but mostly a feeling of dissatisfaction is widespread. The students do not fully understand why and how the school has this biometrically derived form, except for the students who studied it as an assignment.
This was a special project for investigation under the supervision of Madame Ziena Al-Farra, a prominent teacher and parent.

For those who agreed to speak with me frankly, they said that the level of cooling is not comparable to what they are used to, nor sufficient. And they find that the open corridors and arcades are not comfortable, as they have to go “outside” when they finish class, to canteens, restaurants and other facilities. They have to put on and take off their coats as they go from place to place. One of the students said that they would have preferred an enclosed school similar to what can be found in a “mall” atmosphere. His friends who were listening, agreed! Some members of the teaching staff and administration, on the other hand, were more understanding and appreciative of the cooling system as a design idea. However, they were not using it: they had air conditioning in their rooms! Additionally, they blamed the contractors for the “bad execution” of the system that did not allow utilisation of what most of the money had been spent on, namely the cooling system.

2. *What do architectural professionals and the cultural "intelligentsia" think about the project?*

The reaction of architectural professionals and the cultural “intelligentsia” is interesting as it represents the customary feelings triggered when a project is carried out by foreign firms. What was very surprising, though, was the very small number of local professionals who knew about the project or who had visited it. I have no explanation for this except to point to the marginal and fairly concealed location of the project and to the lack of local debate and publication about it.

The fact that “foreign” firms get to design all the prominent projects in the country engenders feelings of unease, even envy, in local professionals. They feel that if they had been given the chance, they would have produced a better and more appropriate project, as they have a better understanding of the context. On the contrary, the project is popular among students of architecture; amusingly, they find in the form of the chimneys an exciting formal exercise that breaks with the usual monotony of the building blocks around. However, they were critical that they had not been allowed in to visit for security reasons – a point that the current headmaster stated was untrue but that may have occurred during the time of his predecessor.

Unfortunately, I could not find anyone from the intelligentsia to give a noteworthy comment to cite here. I tried asking a few people involved in politics, but they were reluctant to voice an opinion at this time.

3. *What do neighbours and those in the immediate vicinity think about the project?*

The reaction of the neighbours is mixed, although sometimes extreme; however, it can be classified into three categories according to their background.

*Category one:* positive reaction. This is mainly adopted by external shopkeepers who opened businesses opposite the parking area facing the school entrance. These shopkeepers are very happy with the presence of the school as they are making good profits daily from the rather well-off students. These shops range from French bookshops to candy and stationery. In fact, the most prominent French bookshop in Damascus (Shashati) opened a branch in this area. Other neighbours
are glad they have a new road with good hard-to-find parking areas secured after the school bus congestion time is over. They also feel that the area has been upgraded economically, as prices of apartments have gone up. Furthermore, the sight of the school with its trees and neat layout presents a nice view from their windows.

*Category two:* rather negative. For this category the school represents a crowded area with its buses and unwelcome traffic congestion during the mornings and afternoons. In addition, the students, who in general come from a different social background, are too noisy and too “liberal” as teenagers in their overall behaviour. They gather and “hang out” right next to the parking area and shops opposite the school. This irritates some neighbours, especially the elderly, the poor and the conservative. The present headmaster, a retired teacher who also lives amongst these neighbours and knows them well, made an interesting observation regarding this point. When I interviewed him, he remarked, while pointing at the modest residential buildings overlooking the school, that he knows that the local children and parents are sad that they cannot attend such a nice school with its sports facilities, gardens and neat colourful classrooms. And this was exactly what some of these people did say when I interviewed them.

*Category three:* a minority. This category has negative preconceived ideas. While the two previous categories present an understandable reaction to real daily issues troubling them, this third category is, instead, prejudiced against the French presence as such, not only in their neighbourhood but also in the country at large. They were highly suspicious of the real intentions of the foreign French teachers educating the local elite. They invoked France’s “bloody past” as an occupying colonial force, on the one hand, and of the French as “Christian missionaries” on the other. A couple of disturbing stories were recounted to me by two family members directly affected by the French bombing of their great grandfather’s beautiful house in old Damascus: “They bombed our most beautiful houses, now they are trying to build something nice and new to civilise us.” The second told a story about how he could never forgive Henri Gouraud, the French army general and head of the occupying force, who insulted the tomb of Saladin in the backyard of the Umayyad mosque. Son of a French mother himself, he went on to quote Jérôme Bocquet’s description of French schools in Syria as built for “Missionary Presence, Diplomatic Rivalries and Proselytising”. This was the single most interesting interview I encountered in this review.

**VIII. Persons involved**

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<td>Design Office Environment, Stuttgart, Germany</td>
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IX. Bibliography

A. Articles

- Detail Green magazine – November 2011, the latest developments in sustainable design in the Middle East.

B. Books


C. Exhibitions

- “Elsewhere. French Architecture throughout the World”, traveling exhibition, 2010. Presentation of a project for the AFEX 2010 award selection: “Charles de Gaulle French High School in Damascus”. Inauguration at the Unesco Palace in Venice; exhibitions at the Cité de l’architecture et du patrimoine (Architecture and Heritage Centre, Paris), the French Institute (Athens), the Maison de l’architecture d’Aquitaine (Architecture Centre, Bordeaux) and in the main Indian cities as part of the cultural festival, “Bonjour India”, organised by the Alliance Française.

Wael Samhouri
April 2013
The campus and facade openings of the buildings are mainly oriented east-west.

The school is located on one of the hills of the Mezzah area. It slopes gradually up from south-east to north-west.
Front and rear facades of a classroom.

Each classroom is typically two-level structures, each giving onto a small, lush, sheltered garden/patio. This has been translated as 29 building units on two levels each with 10,000 square metres net floor area.
Natural ventilation system of the classrooms. A meeting was held at the opening of the school to explain to users how it works.

The classrooms are arranged in rows on both sides of the major axes, in a pattern of alternating masses and gardens, a response to the physical constraints of the site, climate and plot ratios.
Natural ventilation system in the classrooms.

The patios between the classrooms are covered with shade cloth in addition to the trees and shrubs. The size and position of the windows had been calculated to provide maximum natural lighting while, at the same time, acting as part of the ventilation system.
The primary school patio.

The highschool playground runs between the existing trees.
The primary school playground.

Interior view of a highschool classroom.