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July 2005 - Issue N° 34

NDU Spirit *A periodical about campus life at Notre Dame University - Louaïze.*

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He signed the last of his articles then slept on a bed of words. When he woke up to the rays of the sun to meet the city, he was overwhelmed with the dreams of its tomorrow. But the highwaymen of freedom blew up his feet. They forgot, however, that the courage of pens will always embrace the wreaths of martyrdom!
We owe it to the youth to dedicate this issue to the soul of that who spoke in the name of their generation, to the martyr Dr. ***Samir Kasseer****, the political scholar, the democratic activist, the Renaissance man and the great master of free press. He is another symbol on the Golgotha towards the resurrection of Lebanon…and the Arabs!*
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A Word from the President

Reverend Boutros Tarabay

And when the days of Pentecost were accomplished, they were all together in one place. And suddenly there came a sound from heaven, as of a mighty wind coming; and it filled the whole house where they were sitting. And there appeared to them parted tongues, as if it were of fire; and it sat upon every one of them. And they were all filled with the Holy Spirit.
(The Acts, ch. 2)

It is considered that it was at this moment the Church came into existence, the Mystical Body of Christ, by membership in which we share the divine life, the eternal vision that God has of Himself. We say this in order to recall that being a Christian is not a matter of belonging to a sect, a clan, or a community with common political and economic interests. Being a Christian means living the life of the Spirit, as taught in the Gospel, the Acts and the Epistles. In fact it entails being able to go outside our family or our village or our country to share in the suffering of those outside.

I have said before that Catholic means Universal, so as a Catholic University we must consider ourselves as having a mission that embraces our whole country, our whole region and all mankind beyond. For six years I have had the honour of presiding over the destinies of Notre Dame University. I have been helped in this by colleagues whose diversified religious background represent well this catholicity; but all are drawn together, all are working towards one God-given goal, and all, we are sure, are directing the students' footsteps towards the same unselfish objectives.

I once explained that our University must be distinguished by Science, Scholarship and Spirituality, three elements that must stand or fall together. If during my six-year mandate they have moulded those who have gone forth from our University Campus, armed with the riches of the East and of the West, I thank the Holy Spirit for guidance, Our Lady Our Patron for her intercession, and all my collaborators for their support, their prayer and their labours.

French Embassy Delegation at NDU

May 11, 2005

The cultural attaché at the French Embassy, **Mr. Frederic Clavier**, visited NDU with a delegation of officials from the embassy.

The aim of the visit was to promote interaction for the purpose of building cultural and academic bridges between the Francophone and Anglophone cultures, in particular through academic cooperation between French institutions and NDU.

The visit was devoted to three main objectives:

> Establishing a network of cooperation to develop and promote research centers at NDU, especially those related to the issues of environment, energy and water.

> Establishing an academic cooperation that will allow the exchange of instructors and students with French universities, making use of an exchange of complementary expertise and encouraging students to sit for their MA's and PhD's in European universities.

> Cooperating on promoting the study of the French language among students, opening French-speaking courses, and paving the way towards offering a major in French literature.

The President of NDU, **Father Boutros Tarabay**, indicated the possibility of establishing a special department for the teaching of French language and literature at the university.

All those present agreed that this cooperation contributes to guiding MA theses towards the practical issues of scientific principles and commended the successful example of cooperation between the Faculty of Business Administration and Economics at NDU and the School of Business at Bordeaux University in France, which is based on a dual degree program delivering NDU's MBA Degree, and the French National "Grandes Ecoles" Master's in International Business.

Lebanese Emigrants' Delegation Visits NDU

May 10, 2005

A delegation of Lebanese emigrants visited NDU, headed by the President of the Lebanese-American Council for Democracy, **Mr. Tony Haddad**, the President of the Lebanese-American Council in Detroit, **Mr. Gaby Issa**, and the President of the Gathering for Lebanon in France, **Mr. Simon Abi Ramia**. The delegation was welcomed by the President of NDU, **Father Boutros Tarabay**, and the Vice-President for Sponsored Research and Development, **Dr. Ameen Albert Rihani**.

Discussions centered on academic affairs with the aim of establishing a mechanism to promote cooperation between the Lebanese emigrants in the countries of emigration and the different Lebanese universities in general, and NDU in particular as a university adopting the American system of education.

After the meeting, the delegation was invited to a lunch that was organized in their honor and attended by political, media and social figures.

NDU Activists and Congressman

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1. From left to right: Mr. George Hajjar, Dr. Akl Kairouz, Congressman Darrell Issa, Dr. Eugene Sensenig-Dabbous and Dr. Dima Dabbous-Sensenig. (Photo by courtesy of the American Embassy)

On Easter Monday, 28th March, 2005, US Congressman **Darrell Issa** laid a wreath of flowers to honour the Americans and Lebanese who died as a result of explosions directed against Americans here in the 1980s and 1990s. The Congressman said that he wished that violence would cease and that Lebanon would know peace once again as the country "is on its way to a very different future." (Daily Star, p.2, 29th March, 2005.)

Following the ceremony, California Republican Representative Issa met with the Acting Chair of the Republicans Abroad in Lebanon **Dr. Akl Kairouz**, Chair of the Democrats Abroad in Lebanon **Dr. Eugene Sensenig-Dabbous** and Vice Chair of the DA Lebanon **Mr. George Hajjar**. All three are professors at NDU. Dr. Sensenig-Dabbous is shown here with his Lebanese-Canadian wife **Dr. Dima Dabbous-Sensenig**, who is professor for Media Law at the Lebanese American University, Beirut.

Both Dr. Kairouz and Dr. Sensenig-Dabbous assist Americans in Lebanon wishing to remain politically active in the United States and organise various events, including voter registration drives prior to US elections.

Admissions In Action!

The Tannourine Association of the Lebanese community of Sydney.

Dr. Elham Hashem reports on her recent tour (December 2004-January 2005) of Australia, New Zealand, the Middle East and the USA.

The relationship between Australia and Lebanon is one of the closest in the Middle East. Australia's fundamental connection is based on the strength of Australian-Lebanese communities, stemming directly from the large numbers of Lebanese who have migrated to Australia over the last 150 years. Today, the Lebanese in Australia are about 300,000 strong. Of these, about 70,000 were born in Lebanon (Census 1996), while the remainder have a Lebanese background. Arabic is the fourth most common non-English language spoken in Australian homes.

Australian-Lebanese play on active and positive role in Australian society and have made notable contributions in business and commerce, politics, education, sport and the arts. They have a strong commitment to their adopted country, Australia, while cherishing their Lebanese cultural and ethnic heritage. Accordingly,

because of NDU's feeling of obligation and a personal Australian-Lebanese affiliation, there is a strong need to enhance the relations between these two great countries. Moreover, there is felt a patriotic duty to encourage people to visit Lebanon and come back to their roots. In particular, there is a feeling of urgency to promote NDU and initiate joint academic programs with the prestigious institutions of higher education in Australia.

In "Down-Under" the objective of all contacts and visits – to the Ministry of Education, Lebanese religious and government officials, Australian officials, schools, universities and educational institutions – was to promote Notre Dame University. The discussions included introducing the NDU programs of study and what academic support services NDU offers. In addition, the Summer Arabic Program and future exchange programs were promoted. The importance of initiating joint research projects and exchange of internships was stressed. Moreover, the reciprocation of programs was highlighted. Furthermore, the possibility of establishing a Ph.D. program at NDU in collaboration with any of these prominent Australian institutions was welcomed and the details of future agreements will be specified by NDU and the individual institutions after the signing of a Memorandum of Understanding.

The first contact was with the Ministry of Education and Australian Education International (AEI). AEI's programs and services are managed within the Australian Department of Education, Science, and Training (DEST). The AEI Group comprises three branches (Export Facilitation Branch, International Cooperation Branch and Educational Standards Branch), a Business Management Unit and an International Network of offshore offices associated with Australian diplomatic and trade missions throughout the world. There were meetings with the Director of the Education Recognition Unit known as the National Office of Overseas Skills Recognition (NOOSR). NOOSR offers an educational assessment service which assesses the comparability of overseas qualifications to Australian awards. Educational assessments give an indication of the comparability of the educational level of an institution's qualifications to Australian educational qualifications. Country Education *Profiles* (CEPs) is a series of booklets describing the educational systems of over 85 countries and provides guidelines on the comparability of qualifications in these countries to Australian awards. A draft guideline for assessing qualifications of Lebanese institutions as recognized by the Australian government was acquired. It was made clear that; NOOSR accredits NDU Bachelor degrees as equivalent to Australian Bachelor degrees. Notre Dame University-Louaize /Lady of Loueizeh University, see Notre Dame University [de] Louaizé, is on the official list of Universities recognized by the Australian Ministry of Education. This list is made public and distributed to all educational institutions.

A series of courtesy visits was made to Lebanese officials in Australia. One was to the Lebanese Embassy, with a long and productive meeting with H.E. the Consul General of Lebanon. He expressed extreme appreciation for the mission to promote not only the educational system as reflected by NDU but also to encourage people to visit Lebanon. He displayed full support and stated that such an activity must be publicized not only in Australia but also in Lebanon and he would inform the Ministry of Foreign Affairs of my activities.

The religious figures that I visited were His Lordship the Maronite Bishop of Australia, **Aad Abi Karam**, who blessed my mission, the Metropolitan Archbishop, Primate of the Antiochian Orthodox Archdiocese of Australia, New Zealand and Dependencies, and the Most Reverend Bishop of

Press conference with prominent academic figures from Various universities in Sydney, Australia.

the Melkite Catholic Church of Australia and New Zealand, both the latter expressing great enthusiasm for the promotion of education in Lebanon. They also showed full support and blessed the agenda.

One specific New Zealand city, Canterbury, which has been classified as the "City of Cultural Diversity", is very active. Productive meetings were conducted with the Mayor of Canterbury City Council, with the General Manager, and with the Deputy Mayor, **Ms. Fadwa Kebbe**, who is of Lebanese origin. The Council members are planning a visit to Lebanon as part of their "Sister City" program. Canterbury has a large Lebanese community. An invitation was extended for the delegation to visit NDU as part of their official visit.

The Association of Tannourine, comprising the families from the village of Tannourine, invited me to a gathering at which a presentation about NDU was given with a briefing about my activities.

The schools that were visited were among the most prominent. Rapport was established with the principals and administrators. NDU literature and the Admissions Guides were distributed for the students. A briefing of what NDU offers was given and clarifications made by the AEI and NOOSR were stressed. The following schools are strictly Lebanese and 100% of the students are expatriates: – St. Charbel's College, St. Maroun's School and Our Lady of Lebanon School. Among the other schools are Stella Maris College, The Casimir Catholic School, The Holy Spirit School, Collège de La Salle and the Christian Brothers School. These have a student body of which 55% is of Lebanese origin. The meetings were very effective and arrangements were made for future visits with scheduled orientation sessions with the students.

The universities and institutions of higher education were all very enthusiastic and keen to establish contact with the Middle East and especially with Lebanon. All of them were glad to see someone from Lebanon taking this initiative to enhance the educational relations between the two countries. They all expressed extreme willingness to establish contact and to proceed to a Memorandum of Understanding (MOU) with details to be determined between the two institutions.

The University of Sydney is one of the most prominent universities in Australia. A first meeting was with the Vice-Chancellor and the International and Development College Manager. We discussed many issues such as establishing criteria for accreditation for exchange purposes, internships and the reciprocation of knowledge. We also spoke about future programs that may be established including a Ph.D. program, but the stress was on joint research projects. Another meeting was held with Dr. Nijmeh Hajjar (Lebanese), who is with the School of Languages and Cultures. Dr. Hajjar was previously with the Australian National University (ANU) and has visited NDU with a group of students who took the Summer Arabic Program.

Another meeting was held with the Dean of the Faculty of Business and the International Development Manager and the Health Science Department at Sydney University. They have a keen interest in the Middle East and were very impressed with NDU. The Business Faculty is accredited by prominent international standards and they have the European Quality Improvement System. They are very strict on alliances and very cautious with MOUs but they do want a strategic partner in the region. They

ADMISSIONS IN ACTION

are very happy that NDU has approached them. We discussed possible future joint projects. The establishment of a CPA program at NDU was suggested. All the officials at Sydney University are ready to visit NDU and take discussions further.

Contact was made with the International Education Officer of Notre Dame University in Perth. It is a sister university with the American Notre Dame of Illinois. We exchanged information and discussed future programs. They are very interested in establishing contact with a Notre Dame in the Middle East. Contact was also established with Curtin University and Griffith University in Perth.

The University of Queensland in Brisbane and The University of Technology in Queensland also expressed great interest.

The University of New South Wales is another prominent institution. There were meetings with the Associate Director of Study Abroad and the Program Mangers of short courses. They offer short programs where students can go out with a faculty member for a certain research project or internships.

The Australian Catholic University is a multi-campus institution that excels in Nursing and Education. A meeting was held with the Director of International Education and discussions also covered issues of importance to both universities. Future course of action was also identified, with other programs as Arts, Theology and Environmental Sciences.

The Director of International Relations at Macquarie University explained that they are considered to be the number one study-abroad destination in Australia. The meeting included the Director of The Centre for Middle East and North African Studies, the Manager of International Development and the Marketing Coordinator. Macquarie is also the home of the National Centre for English. They have a reputation for high-quality programs. There was great enthusiasm for establishing an exchange program with NDU and I was given a draft MOU. Our discussion was very effective.

Very productive discussions were conducted with the International College of Tourism and Hotel Management and with the Blue Mountains Hotel Management School. The International Affairs personnel were very interested in learning more about NDU and with follow-up; there is a positive outlook for future agreements.

The New South Wales Department of Education and Training initiate technical degrees and programs across the state through the TAFE. There was a meeting with the International Consultant, who is also Lebanese, and we had very productive talks about joint programs. There is an urgent need to establish training centers and the TAFE is willing to offer all the facilities and resources.

NDU already has an agreement with the University of Western Sydney. There were meetings with the International Officer, the Dean of the College of Arts, Education and Social Sciences and with the Head of the School of Language and Linguistics. Discussions were also conducted with the Language Course Advisor. We spoke about future programs and plans.

The Australian-Lebanese Chamber of Commerce (ALC) has an excellent reputation and is active in promoting all facets of Lebanon. Words of gratitude are to be extended to **President Khattar**, **VP Mr. Rizk**, **Mr. Murr**, **Miss Obeid** and **Dr. Hashem**. They contributed greatly to the overall success of this mission. Special appreciation goes out to Tile Depot/Colour Tile and Australian Consulting Engineers for their full support.

SBS Radio conducted one interview in Arabic. The broadcaster was Lebanese and it was organized by the ALC and was met with vigour.

The Press Conference had prominent newspapers that cover Lebanon and the Arab World – *Al Nahar*, Future, The Herald and The Telegraph. The Press Conference was attended by educational, religious, governmental and business officials. NDU literature and press releases in both English and Arabic were distributed. A general overview of Lebanon and Education was given and NDU facts and statistics were offered. The objectives of the visit to Australia were listed. The feedback of my visits and what we aim for in the future were mentioned and we spoke about the establishment of the Friends of NDU. This was warmly welcomed.

In general, the recruitment and promotional visit to Australia was an extremely fruitful event. The objectives were met and there will definitely be follow-up visits with all those concerned. We wish the best for Lebanon and Australia and hope that these two great nations will prosper always.

Thereafter, there was a recruitment visit to Amman, Jordan, where about fifteen schools were visited. Orientation sessions were given and application forms were completed.

The Admissions Office also participated in the annual GETEX (Gulf Education and Training Exhibition) in Dubai, UAE. There were over 350 universities, institutions and training organizations from all over the world and more than 20,000 people visited this year. NDU exposure was exceptional and many contacts were made. In addition, schools in Dubai, Abi Dhabi and Sharjah were visited.

As members of the NAFSA, the Association of International Education, the Admissions Office attended the 57th annual Conference that was held in Seattle, Washington this year. The theme of this year's conference was "Opening Minds to the Global Community". There were over 6,000 accomplished colleagues from more than 90 countries. Fresh ideas and new skills were acquired from workshops that revitalized knowledge-based strategies. Inspiration was offered by renowned speakers and activists and new perspectives were shared among colleagues who face the same challenges in education. Most importantly, the networking was a very promising opportunity to capitalize on tomorrow's international education and exchange.

Another annual event that the Admissions Office attended was the NAM (National Apostolate of Maronites) convention in San Diego; again a very successful networking procedure that has recruited students from USA to come to NDU and especially for the Summer Arabic Program.

It has been another very fruitful academic year both inside and outside Lebanon. Overall, more than 300 schools were visited by the Admissions Office of Main Campus, NLC and SC. Now it is time to end one academic year and start another; applications for 2005-2006 are being submitted.

During 2004-2005, we experienced success with the Association of Directors of Admissions and Orientation organizing School Forums in Tripoli, Akkar, Saida and Zahle. We have plans to expand our activities during 2005-2006. We are coordinating well with each other, keeping "healthy competition" our goal. In addition, we are collaborating with the Secretary General of the Catholic Schools in Lebanon to enhance relationship between our schools and universities.

We wish you all continued success and good health and the Admissions Office wishes NDU continued prosperity and development. The Admissions Office Staff are to be thanked for their efforts: **Miss Pascale Abi Rizk**, **Mrs. Karine Saadeh**, **Mrs. Mirna Sfeir**, **Mr. Mario Kozaily**, **Miss Marise Abboud**, **Miss Nancy Rizk**, and **Mr. Farid Haykal**.

God bless you and may the Blessed Virgin guide us always. See you next year!

WEERC Workshop for Chekka pilot area

The workshop, organised by the NDU Water, Energy and Environment Research Centeer (WEERC) in association with *Meditate* and in cooperation with the School of Water Sciences at Cranfield University, UK, was held in the Pierre Abou Khatter Hall between Thursday and Friday the 9th and 10th of June, 2005.

The first workshop process was entitled *Construction of a livelihood vision, Social and Economic Development*. The second process, held in the afternoon, dealt with *How water supports social and economic development*.

The third workshop process, held in the morning of Friday, dealt with implications of water use, trade-off and conflicts, to define a *Business as* usual Scenario and then the *boundary condition for extreme* scenario.

MEDITATE is an acronym formed from **ME**diterranean **D**evelopment of *I*nnovative **T**echnologies for intergr**A**ted wa**T**er manag**E**ment. **Mr Philippe Ker Rault** says the MEDITATE project aims at developing water scarcity management in the Mediterranean catchment, using karst submarine springs, desalination and re-use. The aim of the NDU workshop was to build a water vision and scenario of social and economic drivers. Work Package 2 was devoted to the socio-economic analysis of water demand, availability and needs.

Mediterranean countries have long experience of water scarcity and its management, and now governments are facing increasing demands. Karst aquifers are an interesting potential source of high value, so far under-exploited. For countries without them, integrated water management is a key system, using various alternative systems such as re-use and desalination. Such planning is the core of the MEDITATE project.

Work Package 2 aims at water governance and improved use by social surveys and cost-effectiveness analysis, concentrating on the vision for 2025 to determine the scenarios to be used in WP4. The foundation for WP2 is the data about case-study areas, their political circumstances, socio-economic condition, ecological and sanitary records, and geographical and demographical backgrounds. The WP2 inter-disciplinary tram has to conduct research in a way that can finally produce a comparative analysis.

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LERC News

Children of Lebanese Migrants in Australia

Lecture by Dr. Rosemary Suliman

From Left to right: Dr. Suliman's son, H.E. Ambassador Stephanie Shwabsky, Dr. Suliman and her husband.

Children of Lebanese Migrants in Australia: Issues and Challenges was the title of a lecture organised by the Lebanese Emigration Research Center (LERC), under the patronage of Her Excellency **Stephanie Shwabsky**, Ambassador of Australia to Lebanon. The lecture, held on Thursday, April 7th, 2005, in the NDU Main Campus Auditorium, was moderated by **Dr. Amal Saleeby Malek**, Assistant Professor in the Faculty of Humanities, and presented by **Dr. Rosemary Suliman**, Senior Lecturer at the University of Western Sydney, Bankstown.

Dr. Suliman is a pioneer in the field of teaching Arabic in Australia; she has also gained a reputation for her contribution to curriculum and syllabus development, as well as for training teachers in the field of language-teaching methodology. In addition to international recognition, her hard work has so far earned her the Australian Arabic Women's Award, in 1999, as well as the UWS Vice Chancellor's Award for Social Justice, in 2004.

Dr. Suliman stressed the issue of Lebanese children's poor school achievement in Australian schools as compared to that of other students of both English and non-English-speaking background. Her study targeted a total of 271 "year 9" students in three high schools in south-western Sydney: an all-boys school, an all-girls school and a co-educational school. The number of Lebanese students in these schools amounted to 117, most of whom were Australian-born, although only 11.8% of their fathers were born in Australia. Hardly ever, however, had the parents of these children completed their education and only 7.8% of Lebanese fathers were in professional or paraprofessional jobs.

Dr. Suliman rejected the theories according to which the Lebanese students were performing poorly because of **family factors** alone, that is to say the family's socio-economic background and family culture and values, which at times did not encourage education, and the mismatch between school and home culture, "because in some instances the minorities who differ more in language and culture from the dominant group are the ones who are more successful at school," and because "the Lebanese are the dominant culture in those schools, since almost 76% of the schools' population is Lebanese," Dr. Suliman added.

Dr. Rosemary Suliman addresses her specialised audience.

Dr. Suliman however gave much more credit to the assumption according to which **historical and social factors** very much determine school performance. The oppositional cultural frame of reference the Lebanese students have come to develop, and which other migrant students have not, is mainly due to the distinction between **autonomous immigrant minorities** and **caste-like minorities**. Immigrant minorities are those who "moved more or less voluntarily to their host society"; they perceive school credentials as a key to advancement and eventually achieve **upward mobility**. However, caste-like minorities are the minorities which become "incorporated into a society more or less involuntarily and permanently through slavery, conquest or colonization and are exploited by the dominant group" and that is when these immigrant minorities' children experience **downward assimilation**.

The third wave of Lebanese emigrants adhere to the last group, not because they were persecuted and exploited but because of certain reasons to which Dr. Suliman attributes this bitter reality, namely the little economic security that these migrants had upon arrival in Australia, their limited literacy, their hope of returning to Lebanon once the war was over, the chain migration with the tendency to settle close to each other without feeling the need to become involved in the major institutions of the country's life and, to make matters worse, the economic depression in Australia.

The Lebanese-born are the sixth largest immigrant group in Sydney, most of whom arrived over a period of about six years (with a thousand immigrants arriving each month), placing financial and social burdens on the existing Lebanese-born population. The children of this last group of Lebanese immigrants were born in Australia, but of parents who migrated during the 1970's and who lived through the aftermath of the Gulf War, September 11, and the Iraqi War. In addition to these immigrants' poor economic and welfare conditions, third-phase Lebanese-Australians also suffer from the "be loyal or go back home" syndrome which reflects the Australian community's tendency to accuse them of being disloyal to Australia and of threatening its social cohesion. According to Dr. Suliman, the situation became worse with September 11 and with a number of local offences committed by members of the Lebanese community in Sydney. As a result, Lebanese youth "stay Lebanese together" and regard "Aussies" with disrespect.

Dr. Suliman concluded her talk on a very positive note, stating that recently the problems of the Lebanese youth had been addressed by the Lebanese groups and associations throughout New South Wales with the help of the government bodies. The main objectives of these projects were providing parent/family support; improving communication between parents of non-English-speaking background and the schools; and improving literacy and numerical skills, as well as establishing a Tutorial Centre and homework centers at some schools. The promotion of positive images of the Lebanese communities was also on the agenda.

Report by Marie-José Tayah,
International Affairs and Diplomacy Student

LERC Forum

Residents and Emigrants: Together for a New Lebanon and a New Generation

This title well indicates the theme of the important forum held at Notre Dame University, Zouk Campus, on Wednesday and Thursday, May 4th and 5th, 2005, by the Lebanese Emigration Center (LERC) of NDU in cooperation with the Student Cabinet. It was distinguished by speakers who included eminent personalities and specialists.

At the opening session starting at 9.00 a.m. on Wednesday, the speakers were **Mr. Suheil Matar**, NDU Director General of Public Relations, **Reverend Father Boutros Tarabay**, NDU President, **Dr. Ameen Albert Rihani**, V.-P. for Sponsored Research and Development, **Ms. Guita Hourani**, Associate Director of LERC, **Mr. Rock Chlala**, President of the Student Cabinet, and **General Michel Aoun** speaking from overseas.

The first session, starting at 11.15, had as its title, "Is there a Unified Citizen Concept for Lebanese Residents and Emigrants?" The moderator was **Mrs. May Chidiac**, LBC Anchor. The speakers were **Mr. Pierre Gemayel**, M.P., **Mr. Ibrahim Kanaan**, Head of the International Affairs and Relations Committee of the Beirut Lawyers' Syndicate, **Mr. Roland Khoury**, President of the Youth Committee and Student Affairs in the Free Patriotic Movement, **Mr. Edgar Barakat**, Head of Continuing Education at NDU and Reformist Kataeb President of Student Affairs, **Elie Shamoun**, National Liberal Party President of Student Affairs, **Mr. Omar Harqous**, Democratic Socialist Party President of Student Affairs, and **Mr. Nader Al Naqeeb**, President of Student Affairs in the Mustaqbal (Future) Party.

There were two outside speakers, namely **Dr. Sami Aoun**, Professor of Political Science, University of Sherbrooke, Canada, and **Dr. Richard Koyomjian**, Member of the Political Council of the Lebanese Forces Abroad, Washington.

"The Role of Education and the Media in the Development of Citizenship" was the theme of the second session, which started at 11.30 with **Mr. Rafiq Khoury**, Editor-in-Chief of *Al-Anwar*, as Moderator. The speakers were **Mr. Gebran Tueni**, General Director of the *An-Nahar* newspaper, **Mr. Raed Sharafeddine**, Professor of Leadership and Strategic Management and Board Member of the Imam Al-Sadr Foundations, and **Dr. Abdo Kahi**, Professor and Coordinator of the NDU Lebanese Center for Social Research,

Outside speakers were **Dr. Hadia Haikal-Mukhtar**, Fellow of the Royal Australian College of General Practitioners, and **Dr. Rashid Rahmeh**, Fellow of the (British) Royal College of Surgeons, Vice President of the Political Council of the Lebanese Forces Abroad, and World Vice President of the World Cultural Lebanese Union.

Lunch was at 2.00 p.m. and at 3.30 the third session opened with LBC Anchor **Mr. Walid Abboud** as Moderator. The subject was "Migration and Democracy in Lebanon and the Middle East". The speakers were **Mr. Nazem el-Khoury**, M.P., **Dr. Michel Nehmeh**, Dean of Political Science, Public Administration and Diplomy at NDU, **Dr. Youssef Kamal el-Hage**, Professor of Physics and

philosophy researcher, **Dr. Paul Salem**, Director of the Fares Foundation, and **Mr. Eliot Engel**, Member of the US Congress from outside.

On Thursday at 9.15 a.m. the fourth session opened with LBC Anchor **Mr. Toni Salameh** as Moderator. The theme of this session was "Connecting Lebanese Emigrants with the Economy of Lebanon: Reality and Aspiration". The speakers were **Mr. Nabil Itani**, Chairman and General Manager of the Investment Development Authority of Lebanon (IDAL), **Mr. Nassib Ghobril**, economist and researcher on migrants' remittances, **Mr. Pierre Ashkar**, President of the Lebanese Hotel Association and CEO of Hotel Monroe, **Dr. Elie Yachoui'**, NDU Dean of Business Administration and Economics, and **Dr. Riad Aweida**, partner of Aweida &Co., Management Consultancy Division. **Mr. Paul Michael Wihbey**, President of Global Water & Energy Strategy Team, Washington, D.C. and **Mr. Nick Dagher**, businessman in South Africa, spoke from outside.

At 10.30 the fifth session, with Mr. Walid Abboud again as Moderator, dealt with the subject of "Electoral Systems Used in Lebanon as Compared to those Used in the World". The speakers were **Mr. Kamal Feghali**, election specialist, **Mr. Nawwaf al Moussawi**, Head of International Relations of the Hizbullah Party and member of its Political Bureau, **The Hon. Dr. Youssef Saadallah el-Khoury**, former President of the State Shawra Council and Director General of Legal and Administrative Affairs in the Lebanese Presidency, **Dr. Ahmad Fatfat**, M.P., **Mr. Naji al-Boustany,** M.P., former Minister, and from outside **Mr. Ramzi al-Rihani**, President of Friends of NDU in the USA.

At midday the sixth session opened with **Dr. Ziad Njeim**, Anchor at *Al-Hurra*, as Moderator. The theme was "Lebanese Emigrants' Right to Vote". Speakers were **Mr. Ghassan Mokheiber**, M.P., **Mr. Nematallah Abi Nasr**, M.P., **Mr. Samir Franjiyeh** of the Qornet Shehwan Gathering, and **The Hon. Joseph L. Boohaker**, judge, Birmingham, USA, and from outside, **Mr. Toufic Baaklini**, member of Friends of NDU, Washington, and **Mr. George Beshara**, businessman and former President of World Lebanese Cultural Union, Mexico.

At 3.30 after lunch the seventh session opened with **Mrs. Shaza Omar**, LBC Anchor, as Moderator. The title was "The Lebanese Emigration Lobby and the UN International Resolutions". Speakers were **Dr. Abdallah Abou Habib**, former Ambassador to the United States and currently adviser to former Deputy Prime Minister Issam Fares, **Dr. Fares Seaid**, M.P., **H.E. the Erudite Sheikh Mohammed Hussein al-Ameen**, **Mr. Gebran Bassil**, Member of the Committee for Political Communication in the Free Patriotic Movement, **Mr. Tony Haddad**, President of the Lebanese American Council for Democracy, and from outside **Ms. Ileana-Ros Lehtinen**, Member of the American Congress.

The closing session started at 4.45 p.m., with **Mr. Zahi Wehbeh** as Moderator and **Mr. Toni Nasrallah**, lawyer and member of the Media Committee of the Free Patriotic Movement. There was a round table with **Mr. Walid Eido**, M.P., **Dr. Mosbah al-Ahdab**, M.P., **Dr. Khaled Hadadeh**, General Secretary of the Lebanese Communist Party, **Mr. Naaman Mrad**, founding member of the National Union of Students, **Mr. Habib Younes**, journalist, **Mr. Ramzi Kanj**, representative of the Free Patriotic Movement, **Mr. Eddy Abillama**, Representative of the Lebanese Forces, and **Mr. Hikmat Deeb**, representative of the Free Patriotic Movement. There was also an external intervention by **Ms. Regina Sneifer**, journalist and geopolitical analyst, speaking from France.

At 5.45 p.m. the following presented recommendations and conclusions: **Dr. Ameen Albert Rihani**, **Ms. Guita Hourani**, **Dr. Abbdo Kahi**, **Father Boulos Wehbe**, Director of the NDU Student Affairs Office, and **Ms. Betty Hindi**, Forum Coordinator.

Ms. Valerie Aoun of NDU was in charge of the simultaneous interpretation team.

4th Millennial Lecture Series 2004-2005

Religion/Science Interface: Explorations

Dr. William Grassie on Universal Reason: Religion and the Foundations of Civil Society

On Tuesday, 16th April, 2005, **Dr. Doumit Salameh,** Chair of the Department of Social and Behavioral Studies, Faculty of Humanities, presented **Dr. William Grassie**, who gave a talk on *Universal Reason: Religion and the Foundations of Civil Society*.

William "Billy" Grassie, Ph.D., is founder and executive director of the Metanexus Institute on Religion and Science (www.metanexus.net), which currently runs some 300 projects at universities in 36 countries. He also serves as executive director of the Institute's online magazine and discussion forum with over 140,000 monthly page views and over 6,000 subscribers in 57 different countries. He has taught at Temple University, Swarthmore College and the University of Pennsylvania. Grassie received his doctorate in religion from Temple University in 1994 after a BA from Middlebury College in 1979. Prior to graduate school, he worked for ten years in religiously-based social service and advocacy organisations in Washington, D.C., Jerusalem, Berlin and Pennsylvania, P.A.. He is the recipient of a number of academic awards and grants from the American Friends Service Committee, the Roothbert Fellowship and the John Templeton Foundation. He is a member of the Society of Friends (Quakers), famous for both their opposition to war and their heroic humanitarian service on the world's most dangerous battlefields.

Introducing the speaker, Dr. Doumit Salameh alluded to the influence of Tertullian on philosophical and religious thinking and spoke of the influence of Plato and Aristotle favouring a correct balance between the one and the many in Jewish, Muslim and Christian thought, against the tendency to reduce religion to a question of psychological state.

Dr. William Grassie developed the themes of the Metanexus Institute, referring in particular to the problems of Islamic society in facing the question of the relation between science and religion. He admitted that he was not giving the United States as the best model, for there also there were religious fundamentalists, in this case of Christian tradition.

Dr. Boulos Sarru', Dean of the Faculty of Humanities, with a biblical and Miltonic background, took up the theme of Paradise Lost. Referring to the particular roles of Adam and of Eve, he said that there was the question of whether the forbidden fruit was a satanic or divine device to develop rationality. After what the audience had just heard, they might consider the question of the complementarity of science and religion, while there was a need to go beyond the individual. Here Dr. Sarru' delved into Greek lexicography and the meaning of *meta*, beyond, key to the activity of the Metanexus Institute.

As usual, there was keen discussion on the floor and afterwards during refreshments.

The following information concerning Metanexus has been kindly provided by Dr. Edward Alam. It comes from the introduction to a special issue of Palma, with some omissions and editing. A report on the talk given by Dr. Eric Weislogel will be found in issue 32 of NDU *Spirit*.

The second volume in the special series edition of *NDU Palma* brings to publication both the formal and informal presentations made by various scholars, primarily from NDU's *Communio*/LSI Study Circle, from 2002-2005, which grew out of NDU Lebanon's *Communio* Study Circle, which was established in 1996 by Dr. Edward J. Alam, an Associate Professor of Philosophy at Notre Dame Univeristy, Louaize, Lebanon. Like other *Communio* Study Circles worldwide, the group meets monthly to discuss articles from the International Catholic Review, *Communio*. NDU's *Communio* Study Circle has been particularly interested in books and articles that address the relation between faith and reason. Members take turns in presenting articles from the journal to the group, though all members come to the meetings prepared by their own thorough reading and study of the article. In the February, 2003 meeting, Dr. Alam presented Thomas Howard's *Providence in C.S. Lewis' "Space" Triology* from the Fall 2002 edition of *Communio*. As a result of this particular presentation, the group gradually became more and more aware of the importance of the religion/science dialogue, as the theme of "providence" naturally leads in so many ways to the intersection between science (especially the natural sciences) and faith. The group then decided to apply for funding from the Metanexus foundation of Religion and Science in Philadelphia (www.metanexus.net), which boasts of 300 projects with colleges and universities in 37 countries, to support the establishment of another study group that would focus on themes related to the religion/science dialogue. The group was awarded a three-year grant and took the name NDU's *Communio*/Local Society Initiative (LSI) study circle. The group held monthly meetings during its first year of funded activity, and produced television programs on Télélumière, Lebanon, during its second year of funded activity. Both the *Communio* Study Circle and the *Communio*/LSI Study Circle boast of a rich diversity in their member's religious convictions and in their areas of expertise. Christian and Muslim scholars from various academic disciplines and from various institutions in Lebanon are involved in these activities. The group has Eastern-Rite Catholics (Maronites and Melkites}, Eastern Orthodox, Mennonites and Sunni and Shiite Muslims, from various departments of Physics, Behavioral Science, Philosophy, Theology, Political Science, and Computer Science. Finally, a word of special thanks goes to Dr. William Grassie, Founder and Executive Director of the Metanexus Institute, and Dr. Eric Weislogel, Director of the Metanexus Local Society Initiative, both of whom visited Lebanon during the 2004-2005 academic year to show support for the NDU *Communio*/LSI Local Society, and who delivered lectures in NDU's Millennial Lecture Series. These lectures are also published here. (EJA)

Excerpts from the NDU Communio/LSI Annual Report for 2003-2004

As the initial installment check of $5,000.00 was not cashed until the end of December, the group finally began its proposed activities in January, 2004, with serious planning at a meeting involving all the members of the group. The

Millennial Lecture Series

first seminar took place on February 12, 2004 beginning promptly at 8:30 a.m. with a general introduction by the group's chairman, Edward Alam, addressing (1) the reasons why he believed NDU was awarded funding,(2) the execution of the stated proposal and (3) the three-year plan. Dr. Alam then introduced the group to the thought of Stanley L. Jaki, relying heavily on Jaki's latest work, *A Mind's Matter: An Intellectual Biography*. In January, the group had decided to begin its reading activities with Jaki's *Miracles and Physics*, rather than with *The Relevance of Physics*, as the original proposal stated. The progression of the former corresponded better to the idea of getting a crash course in Physics from two of the group's able physicists, Dr. Roger Hajjar and Dr. Yussef El-Hage, who wanted to meet the goals of the stated proposal by dividing up their presentations into Physics "before" the twentieth century and Physics "in" the twentieth century. The chairman decided to put off the reading of the text until the group's non-physicist members could get re-acquainted with the major movements in physics over the last three centuries, since this was one of the stated goals for the first year. Thus, by 11:00 am, Dr. Roger Hajjar began his two hour presentation titled Gaining Perspectives: A Crash Course in Newton, Part One. Part two of the session continued at 3:00 p.m. and was much of the same and ended with this important insight, quite startling to some: Newtonian physics was not totally and utterly "absolute," but had an important dimension of "relativity." The March meeting took place following roughly the same format of the February meeting, with Dr. Edward Alam giving a thorough presentation of both the *Introduction* and the first chapter of *Miracles and Physics*. In the afternoon Dr. Yussef El-Hage presented *Beyond Newton: Einstein's Relativity and other Relative Matters*. Just as the "relative" dimension in Newton's physics came as a surprise to some members of the group during the previous seminar, so too did the "absolute" dimension of Einstein's theory of relativity come as a surprise to other members. Dr. El-Hage stressed that Einstein's great discovery really consisted in seeing that if the speed of light was taken as "absolute", independent even of its source, then the form and "beauty" of Maxwell's equations could be left intact. Both presentations attacked the idea that Einstein's theory of relativity could be the basis of any sort of relativity theory in ethics, as some moral philosophers and others have suggested. On March 31, 2004, the group worked on the narrative for the supplementary grant, wherein they studied and applied the then recently published UNDP's *Arab Human Development Report of 2003*. The third all-day seminar took place on April 13, 2004 with the Reverend Ross Frey presenting chapter two of *Miracles and Physics* in the morning and Dr. Yussef El-Hage making a presentation on Heisenberg's *Inevitable Imprecision of Atomic Measurements* during the afternoon session. In May of 2004, the group's chairman made an informal presentation of his paper, "Philosophy, The Only Solid Bridge Between Religion and Science", to the group in order to get their feedback before traveling to Philadelphia for the annual conference, where he presented the paper. On June 22, 2004, Dr. Alam reported back to the group on the activities that took place during the annual Metanexus conference, and some members watched a portion of the C.D. of the last annual conference, which he had purchased during the conference. The bulk of the June 22 2004 meeting consisted in a highly charged and interesting discussion of Friedrich's

Millennial Lecture Series

Dürrenmatt's award-winning play, *The Physicists*, which the members had been assigned to read in January. Dr. Eugene Sensenig-Dabbous, a political scientist, presented the play. His presentation was extremely insightful, as he had studied the play in Germany in the original German while earning his M.A. in German literature. Although no regular meetings took place during the summer months, the group agreed to read Jaki's *The Savior of Science*. In September, the group's chairman met with the Executive Director, **Mr. Raymond F. Nader,** of Noursat/Télélumière T.V. Station, a Catholic television station and asked whether the station, would be interested in beginning a new program dealing with the relationship between religion and science, with Arabic subtitles, dedicated to the religion/science interface, that would be broadcast worldwide as well as in the Middle East. During the many discussions of this issue the idea emerged of inviting the Director of the LSI of the Metanexus Institute, Dr. Eric Weislogel, to Lebanon, as a way of kicking off the program.
Dr. Weislogel graciously accepted the invitation and on the 15th of October, Dr. Weislogel delivered the opening lecture at Notre Dame University's Millennial Lecture Series to an impressive audience of about one hundred persons. The talk generated much interest in the idea of being part of an internationally active community of scholars, laypeople, and clergy, dedicated to the promotion of the religion/science dialogue as a way of restoring a badly needed unity to both scholarly and religious life. On October 16, Dr. Weislogel met with **Dr. Habib Malik** and **Dr. Richard Khuri,** both of whom are professors at Lebanese American University. Dr. Habib Malik is the son of the late Charles Malik, who was one of the principal drafters of the Universal Declaration of Human Rights, and who was President of the thirteenth session of the United Nation's General Assembly. Habib is deeply interested in the relation between religion and science, in general, and in the relation between the Catholic Church and Astronomy, in particular, just as his father, Charles, was.

Dr. Khuri has an international reputation for his publications in philosophy and in the philosophy of science. His book, *Freedom, Modernity, and Islam: Toward a Creative Synthesis* is a remarkable discussion of the philosophical roots of the concept of freedom in both the West and in Islam. And his work on the essence of emergence as related to developments in contemporary physics is indeed cutting-edge philosophy of science. Dr. Alam, Dr. Malik, Dr. Khuri, and Dr. Weislogel had a round-table discussion on the religion/science dialogue, which was televised by Noursat/Télélumière. As a result of their meetings with Mr. Nader and **Mr. Kallas,** General Manager and part owner of Noursat/Télélumière, the station decided to make a religion/science program oone of their chief long-term priorities. On October 20, Dr. Weislogel met with the members of NDU's LSI group, and in his closing remarks to the group Dr. Weislogel was genuinely moved by what the members had shared with him. In his own words, "the meeting confirmed my conviction that what we are doing at Metanexus can (and already has) really changed the world for the better."

Millennial Lecture Series

Dr. Joseph Bechara on
What does Athens have to do with Jerusalem?

At 5 p.m. on Friday, 20th May, 2005, **Dr. Joseph Bechara** spoke in Friends' Hall at the invitation of the Department of Social and Behavioral Studies, Faculty of Humanities, in the framework of the 4th Millennial Lecture Series on the Religion/Science Interface, with the Department head, **Dr. Doumit Salameh** in the chair.

Doctor Bechara is Chairman of the Physics Department of the Lebanese University and Director of the LU Franco-Lebanese Doctoral School for Sciences, Technology and Health (STS), as well as Director of the APpoLOS Research Laboratory, Faculty of Sciences. After graduation he obtained a scholarship for graduate studies and specialised with a Master in Optoelectronics and a Ph.D. in Laser Physics. After work in the U.K., Germany and Canada, he returned to Lebanon in 1994 and joined the LU Physics Department, founding a research laboratory in Laser and Optical Spectroscopy with a grant from the LNCRS. He developed a novel strategy for the development of research capacities in the Faculty of Sciences, culminating in the establishment in 2002 of a Master in Nanostructures and Smart Materials. He has authored and published much in these fields, supervising over thirty Master and Ph.D. theses. Dr. Bechara participated in the development and implementation of the New Physics Curriculum in the LNCRS Science, Technology and Innovation Programmes (STIP), as well as acting as coordinator for the University Committee for Scientific Research. He developed a project for a Transfaculty, Transdisciplinary Doctoral School for Science Technology and Health Sciences which was established in 2005. He delivers lectures on invitation, free of charge, on Physics, Environmental Science, History and Philosophy of Science, Lateral Thinking, Science Teaching, Evaluation and associated subjects.

Introducing the speaker, Dr. Doumit Salameh in the chair referred to ancient Alexandria, where the conflict between Greek thought represented by Philo's philosophy, and Christian theology represented by Tertullian, resulted in a rich mixture that prepared the way for the two dominant Christian Fathers of the Church, namely Augustine and Aquinas among others.

Dr. Bechara said that when preparing his talk, Tertullian's phrase about Athens and Jerusalem struck him as the perfect title. He went on to define scientific thought and religious thought and their relationship, adding that the scientific method could not have developed in a world dominated by pantheism instead of by belief in one transcendent Creator thanks to Judaism and Christianity in particular.

Dr. Bechara declared that he was not himself a religious believer, unlike other speakers in the series. But he did believe that religion, like science, had its distinctive and complementary role to play. For example, science could study cloning, at least with animals, but it was for religion to deal with the moral aspects. It could also oppose the prejudices that falsify science, which cannot be taken out of its cultural context. The work of science was to explain observable phenomena but it could not reach absolute truth. The reality behind phenomena was inaccessible to science.

The scope of religion lay in faith, and the object of faith was God, and its content was knowledge about God. The Church must do what it does best, and one thing it could do was to purify science.

Dr. Boulos Sarru', Dean of Humanities, wittily thanked the speaker for dealing with a sphere that always leaves more questions than it gives answers. Science and Faith crossed, diverged and crossed again.

Dr. Bechara dealt with questions from the floor, coming from academics who often did not share his personal attitude to faith but did share his belief in openness of mind and the need for understanding different opinions, and the very agreeable interchange continued during refreshments.

Cross Cultural Symposium at NDU

Hosting Professors from the American University, Washington, DC

Five instructors from the American University (AU) in Washington, D.C., joined their colleague **Ms. Brigid Maher,** *a Fullbright Scholar who is teaching this semester at NDU, for the Symposium organized by Ms. Maher and the Department of Mass Communication, Faculty of Humanities, from May 26 to 28, at NDU's main campus in Zouk Mosbeh. The guests presented a series of lectures and workshops in various areas such as filmmaking, photography, new media technology, public diplomacy, and media studies. Some faculty members and students from the Department of Mass Communication also presented their work during the Symposium. Many students, faculty members, and guests from outside the University attended. Following is a rundown of the Symposium's proceedings:*

> Thursday, May 26: **Dr. Doumit Salameh**, Acting Dean of the Faculty of Humanities, opened the conference on behalf of **Dean Boulos Sarru'**, and said that with the many things that Lebanon and the U.S. have in common, it only makes sense for there to be a genuine partnership between these two societies at various levels, and more specifically a partnership for a global human welfare based on human dignity, transcending but not ignoring race, creed, and other features of the cultures concerned. **Dr. Joseph Ajami**, Chairman of the Department of Mass Communication, welcomed the participants and guests and spoke about NDU's endeavors in keeping up with the communication industry's latest trends and technologies. Dr. Ajami also expressed his hope that this symposium would plant the seed for future collaboration with the American University in Washington as well as with other educational institutions worldwide.

The opening ceremony was attended by **Dr. Ameen A. Rihani**, Vice-President for Research and Development, **Mr. Suheil Matar**, Director of Public Relations, **Dr. Assaad Eid**, Dean of the Faculty of Architecture, Arts and Design, faculty members, students and guests.

In session one, **Professor Leena Jayaswal** from AU gave a visual presentation on the history of manipulation and lies that photographs have represented and the ethical choices surrounding the making and the interpretation of the single image.

In session two, **Justin Schauble** from AU gave a visual presentation on the new media technology and how it reshapes the way media outlets and individuals share news and ideas with the public.

In session three, **Dr. Rhonda Zahrana** and **Dr. Cynthia King** of

AU discussed Public Diplomacy, comparing it to traditional diplomacy and to propaganda. They also examined the importance of symbols, images, and messages in public diplomacy and their potential impact on political changes. Dr. King explored the role grassroots communication campaigns can play to prevent violent expression of social tensions, as recently in Venezuela, Ukraine and Lebanon.

In the afternoon, **Professor Randal Packer**, artist, composer, and educator, conducted a workshop on mobile web-log or "Mob-logging" as Artistic Reportage whereby he and some NDU students presented their visual account of a day spent with a sample of Lebanese citizens in the streets of Tripoli and in downtown Beirut.

Professor Leena Jayaswal, Chairperson of the Photography Department at AU, conducted a workshop about "Identity Politics in the Arts". The presentation showcased some artists' works that focus on identity as a central theme. Contemporary artists have been challenging the notions of culture and gender by investigating and critiquing stereotypes.

Thursday's events concluded with a 90-minute night screening that featured the works of the guest artists from the American University. Included in the session were a video of still pictures taken by Mr. Schauble, who is also a member of the White House Photographers Association, a video of Dr. Jayaswal's collection of photos from India, land of her ancestors, and a satirical video done by Dr. Packer in the aftermath of President Bush's second-term inauguration.

> Friday, May 27: the day started with a presentation by **Mr. Kamal Darouny**, Assistant Professor of Advertising, on Satellite Communications in the Arab World. He analyzed the change in habits imposed by the new superhighway and multimedia technology that affected the lifestyles of the peoples of the region.

Advertising and Marketing students presented their Senior Project to the audience, including individual presentations examining the methodology, creative concepts, media planning, promotional strategy and public relations aspects of the campaign.

In the third session on Friday, a follow-up discussion on public diplomacy's strategy and tactics for Lebanon and other countries in the Mediterranean and the Arab World was led by Dr. Zaharna and Dr. King.

The afternoon started with a presentation by one of NDU's graduate students, **Mr. Serge Dagher**, who talked about propaganda techniques of both Americans and Iraqis during the early stages of the American

invasion of Iraq two years ago. **Dr. Khaled El-Fakih**, Associate Professor at NDU, introduced the subject and the speaker.

Professor Packer's presentation unveiled the results of his mob-log created during his stay in Lebanon in which he transmitted photos, video, audio, and commentary on the current political situation in Lebanon. He also led a discussion on the role of the artist as mediator and the use of multimedia for social and political transformation.

In the evening, at the Auditorium, there was a screening session at which it was Notre Dame University's students' turn to show their creative work in the areas of documentary making, advertising, directing and acting. A lively discussion followed, led by the visitors from AU and moderated by Professor Maher. Among the participants was the newly appointed Cultural Attaché at the American Embassy in Lebanon.

> Saturday, May 28: Professor Justin Schauble started his presentation on how AU's faculty is using technology to communicate with the students. He also provided a guided tour of AU's wireless infrastructure.

The participants then broke up into two groups to evaluate the 3-day conference and exchange ideas for future collaboration between the two institutions. Recommendations will be submitted to Dr. Sarru', Dean of the Faculty of Humanities.

At the conclusion of this historic symposium, the co-organizers of the event, Dr. Ajami and Ms. Brigid Maher, summarized the proceedings and activities of the conference and thanked all those who contributed to its impressive success, especially the guests from AU, NDU faculty and students, the President of NDU **Father Boutros Tarabay,** who met AU's professors, the Director of Administration **Father Roger Chikri** and his staff, the Studio staff, the Advertising Club and other unsung contributors.

The visiting faculty joined the Department, Dr. Salameh, and **Dr. Christine Sabieh**, the Chairperson of the Department of Education and English, for a great Lebanese lunch at a local restaurant where they experienced another aspect of Lebanese culture. The American guests had spent an entire day before the symposium sightseeing in various parts of Lebanon and also spent two hours at Lebanon's leading TV station, LBC, checking its operations and facilities.

It has truly been a memorable symposium and Dr. Cynthia King, one of the visiting faculty, summed it up beautifully when she remarked "You Lebanese have a lot to teach the world."

North Campus News

A Workshop: Lebanese Architecture, by Writers and Historians

From left to right: Mr. Salim Karam, Bishop Paul Guy Njeim, Mr. John Mufarrej, Mr. Suheil Matar, Rev. Boulos Wehbe and Miss Louba Naufal.

In the framework of the University's Cultural Workshop series, NDU-NLC presented another remarkable seminar on Lebanese Architecture in Literature and History on Saturday, 5th of February, 2005.

The workshop commenced with the National Anthem. **Mr. Salim Karam**, Director of NDU-NLC, opened the event with a word of welcome, stressing the issues that bring about intellectual progress, especially those of our cultural heritage, issues that mold us into being who we are at the present. **Mr. Edgar Harb**, the PR at NLC, also had a word to say in presenting the professors and personalities and the social and cultural figures that lectured in this field and had left their personal mark.

Dr. Jean Touma, the initiator and coordinator of this seminar, emphasized the importance of conservation of the architectural heritage for safeguarding the human thought and imagination that inspired the writers and philosophers and the architects and engineers of our era.

Dr. Zahida Darwich Jabbour presented the audience with outstanding descriptive statements used by famous Lebanese writers and their vocabulary that commemorated the "Lebanese Home" in the Lebanese Literature and the minds of generations.

All the speakers stood on common ground for preserving the edifice of our heritage that maintained our Lebanese folklore and literary culture, whether in poetry (الزجل اللبناني) or in essay. This also conserved the link with our ancestors and brought vivid imagery of the past.

The workshop terminated with a set of recommendations focused on the need to expose our new generations to knowledge and information relevant to our cultural and architectural heritage and to the human aspect affirming the ties between the ancient and the present. These recommendations also stressed the need for restoring old architectural sites and buildings, supporting villagers in their hometowns and establishing stronger bonds between townspeople and their former neighborhoods, and, last but not least, prioritizing the humanitarian and social aspect over any other. There was also the further question of launching a campaign of traditional expositions and art exhibits and urging the Ministry of Culture to collect national treasures of the Lebanese folklore heritage such as popular proverbs and traditional songs and publishing them in books to better familiarize the public with their cultural and architectural heritage along with the varied forms of vocational and artistic craftsmanship whether in the arts or in architecture.

Report by: EDGAR MERHEB-HARB & SUZANNE DANDAN

Workshop on Drug Abuse

March 4th, 2005 – NDU-NLC

Under the auspices of HE Minister of Education **Dr. Ahmad Sami Minkara**, and in coordination with the Lebanese Social Society in Koura and the *Oum El Nour* association, NDU-NLC sponsored a workshop on drug abuse, causes and facets, the treatment and the social consequences.

Among those present were **Bishop Guy Boulos Njeim**, President of *Oum El Nour*, and **Mr. Jean Moufarej**, a member of the NDU Board of Trusties and President of the Lebanese Social Society, along with a cluster of specialized psychiatrists, psychoanalysts, and delegates from the Ministry of the Interior, all of whom provided valuable insight on how to offset this malady and counter its effects on our rising generations. Other civic institutions and representatives also attended.

After the National Anthem, the event was introduced by **Mr. Suheil Matar**, the NDU President's Counselor and Director of Public Relations, followed by the Director of NDU-NLC **Mr. Salim Karam,** who after welcoming the audience emphasized that this workshop was important for opening people's eyes to the needs of Lebanon's youth and the problems of their social integration.

Mr. Jean Moufarej pointed to the need to demonstrate assertiveness towards our national destiny, to support our free choices and to never compromise our integrity as a nation or society, especially in El Koura; "It is time that we fill in the gaps in this area, never to leave behind unattended matters, unconcerned due to negligence, selfishness or outside interests. Never submit to the will of others but always retain the determination to maintain our national liberty!"

Bishop Njeim talked about how *Oum El Nour* had been launched, how it progressed and how it developed into what it is today. He elaborated on its rehabilitation programs and the immense need for them, whether or not the public was aware.

Dr. Ahmad Sami Minkara himself spoke about the significance of good upbringing, stressing attentiveness to our children who are the future of our societies. There were other interesting lectures from **Dr. Ameen Albert Rihani**, PVP for Research and Development at NDU, **Dr. Marie Khoury**, **Dr. Mona Yazegi**, **Dr. Mario Aoun**, **Dr. Sami Richa** and **Dr. Naiim Aswad**, with a word from **Miss Betty Hindi** of NDU.

There were live testimonies by young ex-addicts who regretted their past and showed gratitude to the people who cared for them and helped them in overcoming dependency. **Miss Joel Moufarej** presented the views of young people and described how much they needed emotional support, not only from their families but also from the entire society.

The recommendations given by **Mr. Edgar Merheb-Harb**, PR NLC, were as follows:

- Given that there is a sickness in our society, it could be anywhere around us, in our schools or our own homes.
- Given that the most popular hang-outs for drug users are schools and universities, it is the duty of these institutions to establish means to advocate awareness, resistance, prognosis and rehabilitation.
- Promoting acceptance for drug victims by their families and societies without shame for having them institutionalized or treated.
- Establishing psychological counseling in all academic institutions.
- Establishing students' aid groups (Connection) to spread awareness and take personal tactful initiatives by means of "friend-to-friend" communication or word-of-mouth (Observatory).
- Inviting more clergy to bear responsibility for the youth (with due respect in this case to Bishop Guy Boulos Njeim).
- Supporting associations such as Oum El Nour, and promoting sports and social Clubs that collaborate in the mental and physical well-being of the young.
- Urging all students able to face the pressing unjust political and economic challenges to launch "Anti-smoking, Anti-drugs" campaigns through the media and in their local societies

REPORT BY: EDGAR MERHEB-HARB AND MRS SUZANE DANDAN

Shouf Campus Shorts

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1. From left to right: Dr. Roy Khoueri, Dr. George Eid and Mr. Suheil Matar.
2. Part of the attentive audience hearing about the future prospects at NDU of their high-school pupils.
3. Father Shawki Raffoul with other school directors.
4. Cutting the ceremonial cake.

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A Martyr for Lebanon

On March 18th, 2005, NDU Shouf Campus held a meeting to condemn the assassination of **Prime Minister Rafiq Hariri** under the title **A Martyr for Lebanon**. The principal speakers were media experts **Ali Hamadeh** and **Faisal Sulman**, who addressed instructors, administrative staff and students.

Mr. Faisal Sulman said that there was no counting the reasons for his grief at the death of Prime Minister Rafiq Hariri, but principally he had had one life which he had sacrificed for his country. This country had been worthy of Hariri and Hariri had been worthy of his country. If this comparison was easy to make, the fact remained that whoever had plotted against Rafiq Hariri was plotting against Lebanon. Those who were behind his murder had wanted to provoke strife and chaos in order to ruin Lebanon so it would never rise again. But what had happened was that all Lebanese, Christians and Muslims, had joined together in the movement of independence which had been sparked off by the crime and which would not be extinguished. The speaker then listed Hariri's many patriotic and humanitarian actions and attitudes.

Mr. Ali Hamadeh for his part insisted on how Rafiq Hariri was a man apart, open and democratic, taking criticism and rising above it while respecting the critic, always working for the independence of Lebanon and wanting to bring about change. The result of his murder was that now all stood by his side. The two speeches were followed by general discussion.

Honouring High-School Principals

As usual every year, NDU Shouf Campus invited the Principals of high schools in the surrounding districts to a meeting for general discussion, held this time on April 2nd, 2005 in the Al Mir Ameen Palace. The guests were welcomed by Campus Director **Dr. Roy Khouery**, NDU General Director of Public Relations **Mr. Suheil Matar** speaking on behalf of NDU President **Father Boutros Tarabay OMM**, V.-P. for Academic Affairs **Dr. George Eid**, and Director of Continuing Education **Mr. Edgar Barakat**. The NDU Department of Continuing Education was the object of particular attention, concerning languages, information and various skills.

The event was organised by **Mr. Farid Haikal**, official of the Admissions Office, and included the projection of a documentary throwing light on the various NDU faculties and academic, social and cultural activities. Finally a dinner was offered in honour of the guests.

Shouf Campus News

1. A joyful Debkeh: the Shouf holds its traditions dear.
2. Visiting a laboratory.
3. Consultations and advice.
4. NDU is Catholic, which means open to all.
5. Mr. Farid Haikal and Dr. Roy Khouery.

Shouf Open Doors

The Shouf Admissions Office under **Mr, Farid Haikal** held its *Open Doors* event on April 27th, 2005, at its campus at Deir el-Qamar to welcome secondary school students from the Shouf, Rashaya, Zahleh, Aley, Shweiffat, Saida (Sidon), Nabatiyeh and the Iqleem. The occasion attracted hundreds of students to meet the doctors of the various faculties, thanks to the cooperation between the University and the principals of the schools in the above-mentioned regions.

Those helping Mr. Haikal included **Dr. Dany Bedran**, **Miss Marina Bou Karoum**, **Miss Myrna Karam**, **Mr. Fady Khoury** and **Mr. Emil Khoury**. Success was largely due also to NDU students who played a major role.

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Lebanon in Times of Change

On MAY 11th, 2005, at the invitation of NDU Shouf Campus, the media specialist **Sarkis Naoum** addressed the teaching body, students and their friends on the changes taking place in Lebanon. He raised the question of what hope there was for the formation of a true State following the stagnation affecting the country between the years 1990 and 2005.

The speaker remarked that America had given Syria the green light to help Lebanon rebuild the State on the basis of the Taef Agreement, but many mistakes were made during the following 15-year period, with the result that the Lebanese had lost their will to restore peace among themselves, reach agreement and serve their national interests. Mr. Sarkis Naoum considered that elections based on local constituencies would best please voters and should be relied upon. He finally thanked Shouf Campus for the invitation to speak and wished the students a prosperous future.

Marcel Ghanem, a familiar face

On May 18th, 2005, **Mr. Marcel Ghanem** was the guest of Shouf Campus for a discussion with students to throw light on a number of topical subjects. After the playing of the Lebanese National Anthem and an introduction by **Dr. Fouad Chedid**, Mr. Marcel Ghanem lay stress on the full execution of Syrian withdrawal, seeing it as the realisation of the national desire common to all communities. He added that the present generation was not one marked with submission and frustration, but one that had been patient in its conviction about coming independence. Perhaps the sacrifice of Prime Minister Hariri had hastened liberation from domination and police regime. Mr. Ghanem considered that the present election law did not satisfy voters and that another was needed to ensure sane parliamentary representation.

After the talk there were questions and expressions of opinion from the floor, to which Mt. Ghanem replied. Finally he received a token gift from the University in appreciation of his role in public information and his affection and friendship for NDU.

ETE Seminars

In its series of ten seminars held at the Friend's Hall, Notre Dame University, Zouk Mikhael, the Department of English, Translation and Education endeavored to encourage teachers from all over Lebanon to adopt learner-centered education strategies and to continue to work with the student's well-being at the heart of the school day.

The third speaker in the series was **Dr. Christine Sabieh,** present Chair of the Department of English, Translation and Education.
Dr. Sabieh is well published in the field of CALL. She gave a presentation entitled, "Effective Use of Tools in the Classroom". Using the overhead projector, audio cassette player, television, VCR and computer to emphasize the positive ways that students can be motivated to learn in a pleasant atmosphere, Dr. Sabieh proved that tools must be used effectively in order to be useful. For those schools which are not equipped with state-of-the-art tools,
Dr. Sabieh emphasized how simple it is to use a blackboard or a whiteboard to their greatest advantage. As a creative example of how simple it is to introduce tools into the classroom,
Dr. Sabieh demonstrated that the movie "Saving Nimo" could be used to teach English, Maths and Science, as well as responsible citizenship. The 250 teachers present agreed that tools must be applied and then evaluated in order to ensure that students obtain the best education possible. Dr. Sabieh presented the same seminar to an interested audience at the NDU Shouf campus on April 20th.

Dr. Amal Yazigy, former Chair of the Department of English, Translation, and Education gave the fourth seminar on April 27th.

The title of her presentation was *Methods in the Classroom*.
Dr. Yazigy has long experience in the field of Methodology of Teaching as she gives courses on the Master's Level in such subjects as Teaching Reading and others.
In an inter-active session for a full auditorium, Dr. Yazigy began by defining the student-centered classroom and focused on its significance for all subject matters. She exposed different approaches to ensuring student-centered teaching of Maths, language, geography and history. In a student-centered classroom, the teacher's role is modified. The teacher must guide the students to learn; the teacher must be the facilitator of the student's quest. She emphasized that teachers in a student-centered classroom do not absent themselves from the learning experience, but they adapt the activities so that students are able to grasp concepts in their authentic form. In reality, teachers in a student-centered classroom must rise to the challenge of bringing learning alive to the media-loving students of today's world. Dr. Yazigy also gave her seminar to teachers on the Barsa campus of NDU on May 11th.

The last speaker of this year's seminar session was **Dr. Joyce Bahous.** Dr. Bahous is widely reknowned in Lebanon as an expert on Testing and Evaluation. She has not only published in the field but teaches courses on both the undergraduate and graduate levels. Dr. Bahous's session was entitled *Evaluation in Today's Classroom*. Beginning with the premise that critical thinking is a must in today's classroom,
Dr. Bahous outlined how to apply reasoning in the design and correction of a test. Testing and evaluating students is an extremely important task for teachers. The future of each individual student may rely on the professional attitude taken by the classroom teacher and the school as a whole.
Dr. Bahous provided examples of test items that could serve as a basis for professional test preparation. She presented a simple table teachers could use so as to ensure all aspects of their program are covered in an exam.
Dr. Bahous touched upon the importance of writing clear, informative comments for the parents. Report cards must be sources of information for parents and students. In her conclusion,
Dr. Bahous emphasized the responsibility each teacher has in distinguishing between a grade and an assessment. She also presented her seminar at the Shouf campus of NDU on June 1st.

NDU is planning a new series of seminars for the upcoming academic year. Approximately 1800 teachers attended this year's seminar series. For further information you may write or call NDU at csabieh@ndu.edu.lb <mailto:csabieh@ndu.edu.lb> or ext. 2425.

The ESU 5th Public Speaking Competition NDU Winner

On Saturday 9th April 2005, the English Speaking Union (ESU) Lebanese Chapter held its 5th Public Speaking Competition national finals at Notre Dame University, Louaize.

The theme this year was "Differences and Diversity". Universities had been invited to present two representatives aged between 18 and 20 to the finals.

This unique international ESU project is gaining in popularity for giving the opportunity to young national winners from all over the world to meet in London and express their views on topical subjects. Locally, this programme has inspired some institutions, such as the Makassed, to offer this project to their students.

Since it began this competition at the British Council Beirut in 2000, ESU Lebanon has moved the finals to a different university each year (USJ, LAU, Haigazian). Winners have been students from the following universities: Beirut Arab, AUB, LAU, USJ and NDU.

This year, the two Lebanese finalists are **Samia Ahmed Badih** from Beirut Arab University and **Hasan Younes** from NDU.

HSBC Lebanon is generously sponsoring this event for the second year running. This will allow the two finalists to attend the International Competition in London. There, an activity-packed programme is arranged for the participants every year, including attendance at live debates at the House of Commons, debating workshops, visits to the theatre etc. The finals take place at the end of the week and the International winner is then invited back to London in November to Buckingham Palace to receive his/her prize from the hands of H.R.H. Prince Philip, President of the ESU.

All speakers received a participation certificate and Librairie du Liban generously offered them a gift of a dictionary. It should be noted that at three out of five such competitions winners have come from NDU, namely Pia Zeinoun, Nayla Haber and now Hassan Younes.

NDU Founders' Day
'CELEBRATING THE CULTURES OF THE WORLD'
An Entertaining Cultural Event

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Over 5000 people participated in the NDU FOUNDERS' DAY on May 13, 2005 at the main campus, many coming from outside the University.

The day began with a Mass served by members of the Medjugorje Choir.

'Celebrating the Cultures of the World' was the theme of the day, with each NDU club portraying a specific culture in costume, dress and food.


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Cultural quizzes added to the fun, with gifts accompanied by much enthusiasm. Students, staff and faculty joined in the music, which highlighted the theme by featuring **Mr. Pierre Boutros**, seminarist, and **Mr. Elie Irani** on behalf of Nescafe in the Varieties sequence which was followed by the **Jazz Quartet** (**Nidal Abou Samra** and band). **Mr. Guy Manoukian** and his band were a huge success, in addition to Oriental music and **Fayrouziat** by **Ms. Rania Younes**, a Faculty member from the Music and Musicology Department.

Professional Dances were performed by the **Nameless** dance group offered by the Camping and Music Clubs, by the students of **Mr. Sami el Hajje** and by the **Salsa Promoters.**


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1. Nameless
2. Crowd at night
3. Manoukian and band
4. Advertising Club (day)
5. Beautiful faces (S)
6. Beautiful faces (D)
7. Fathers of NDU
8. Connections, anti-drug-addiction campaign

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Nescafe was the main sponsor, and many restaurants and caterers complemented the scene.

A student talent show crowned the whole event, and was highlighted by the famous **DJ Said Mrad**, who wrapped up the evening successfully past midnight.

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Activities performed by the students:

— **Music Bands**: Astronomy Band, Nemesis, **Ziad Taouk** and band, and Barsa Band
— **Dances:** Advertising Club: Italian dance, Debate Club: western dance, HTC Club: Egyptian dance, Social Club: Lebanese dance.
— **Songs:** Social: **Shaghig Filian**, **Tony Khalil.** Music club: **Sergio,** who launched his new CD album. **Advertising**: **Paula Brahim**, **Yvonne El Hashem.** The opera voice of **Salim Bannout** was especially appreciated.
— **Zajal:** Social Club
— **Games:** Scouts Club, Advertising Club
— **Fireworks,** Numchunko**: Hadi Hajjar**, Social
— **Poem: Samer Salem** (8 years)

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NDU Job Fair 2005

Fadia el Hagge, Mr Suheil Matar, Minister Kattar, Grace Khalil, Father Tarabay and Betty Hindi

On June 1st, 2005, The Minister of Finance, Economy and Trade **Damianos Kattar** opened Job Fair 2005 organised by the NDU Placement Office in participation with thirty firms, including banks, insurance companies, IT companies, services, employment offices and hotels. The Fair lasted two days and provided an occasion for contacts and presentations for orientation and guidance.

After the cutting of the ribbon, the NDU General Director of Public Relations **Mr. Suheil Matar** spoke about the question of employment opportunities for graduates as more important than any other issue although none of the election platforms brought it up. He called on students to insist on this matter with all candidates.

The NDU Placement Officer **Mrs. Grace Khalil** spoke of the role of NDU in helping students from its very beginnings to find jobs, taking the problem into consideration with every new specialisation launched. The Office, as a bridge between students and employers, was now working at a time of economic difficulty both locally and worldwide. Mrs. Khalil then thanked all the companies and professional and commercial institutions for their participation, activity and efforts in the way of contacts between themselves, the University staff and the graduates.

NDU President **Father Boutros Tarabay** said that the Placement Office had been founded to ensure effective cooperation with companies for training the students and providing them with employment with the purpose of keeping them in their own land of Lebanon. He pointed to the efforts of Minister Kattar for the long-delayed budget, as the home country could live only thanks to a dynamic economy able to absorb university graduates.

For his part, Minister Kattar said that the public debt could be met only by raising output and that those outside who were willing to help, and with whom discussion was engaged, trusted to the abilities of the Lebanese for a policy of repayment and to an increase of public and private production. He considered that the Job Fair was a first step in this direction and hoped that all the companies participating would organise yet another Fair centred in particular on training. The Minister insisted on the need for the Government to plan three to five years ahead and for the National Bank to pay attention to small and medium-sized firms. He wondered if Lebanon could absorb its graduates when it had only weak growth, driving many to the Arab and other countries with no intention of return.

1. The Lebanese participants at the Ataturk Museum in Ankara, together with a Greek participant, third from right.
2. The Whirling Dervishes at Konya.
3. The NDU group on their return to Beirut Airport.

NDU Students in Turkey

Nathalie Kobrossi

For six hectic days, seventy-five students from all over Europe and the Middle East gathered to make eye contact at ***Islam and Europe***, an international conference that took place in Turkey in October, 2004.

Seven participants from NDU attended the conference, **Dr. Eugene Sensenig-Dabbous**, Associate Professor in the Political Science Department, who was a speaker at the conference, students from the Political Science Department **Aida Daher**, **Nathalie Kobrossie**, **Gerard Saadjtian**, **Cynthia Karam** and **Olivia Penikian**, and **Mahmoud Younes** from the Biology Department.

Islam and Europe: Eye Contact was a great success. Panels, workshops and debates allowed students to build up an understanding of Islam and the West. Among the topics discussed were *The West in the eyes of Islam and Islam in the eyes of the West, The role of Islam in Europe, The role of EU in building the West-Islam dialogue* and *Turkey's role in Europe*.

This conference was a great experience. In addition to acquiring knowledge, we formed new friendships and also profited by doing some sightseeing in Istanbul, Ankara and Konya.

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What was really interesting was our trip to Konya, one of the oldest cities in history, situated in the southern region of the Anatolian plateau. It is the city of Maulana Rumi, the founder of Sufism or spiritual Islam with its distinctive whirling and circling dance practiced by the Dervishes. The Whirling Dervishes practice a spiritual dance which symbolizes the evolution towards God, with their right hand lifted upward to receive blessing from God and their left hand turned downward to give these blessings to the people while turning in circles from right to left in harmony with the accompanying music.

I noticed that European students were very concerned and eager to know about Islam. In my opinion, the stereotypes and prejudices they had concerning Muslims or Arabs were the result of the media, which often distort reality. However, at the end of the conference many were able to overcome this obstacle standing between Islam and Europe.

Our trip to Turkey was certainly one to remember!

NDU Graduate Student Soars High in Academia

Prof. Naji Oueijan

After **Miss Valerie Aoun**, a graduate student of English Literature in the DETE, Faculty of Humanities at NDU, presented her paper entitled, "Homer and Byron: An Iconographic Journey from Hades to the Gates of the Exalted Self", (See Abstract Bellow) in the 4th International Student Byron Conference, she soared high above twelve other graduate students from the following universities: Athens University-Greece; University of Liverpool, Cambridge University, and the University of Wales, Cardiff, UK; Princeton University, the University of Virginia, the University of Delaware, Pacific University, and Susquehanna University, USA. The conference, which took place between 17 and 25 May, 2005, in Messolonghi and Ithaca, the birthplace of Homer, in Greece, was attended by well-known scholars of Byronic and Romantic studies, such as Prof. Byron Raizis (Greece), Prof. Peter W. Graham, and Prof. Jonathan Cross (USA), and Prof. Malcolm Kelsall (United Kingdom). All professors lined up with their students to congratulate Miss Aoun on her academic insight and skillful communicative abilities. I was overjoyed when the same scholars and students lined up to congratulate Notre Dame University and me for having students with such high academic standards as Miss Aoun. Especially British and American professors showed interest in having Miss Aoun join their Ph.D. programs after her completion of her MA at NDU, and promised to arrange for scholarships and/or assistantships, if she chooses to attend their departments.

Besides, being a member of the organizing committee of the conference, I attended a closed meeting to discuss conference issues and the publication of the proceedings in a book edited by Prof. Malcolm Kelsall; it was unanimously agreed that all student articles, except the article by Miss Aoun, will be refereed before publication. Also, it was agreed that Miss Aoun would receive a special grant if she decided to participate in the 2006 conference. This gave me a great sense of pride and reinforced my determination to encourage other graduate students from the DETE at NDU to participate in international student conferences.

But amidst my jubilation, I was dismayed when I learnt that all twelve students were granted financial assistantships covering all their conference expenses out by their universities, and that only Miss Aoun had to pay a major part of conference expenses out of her own pocket money (I was able to arrange a modest grant of US$ 200.00 via a Byron scholar in the USA). I sincerely hope that NDU elite graduate students will one day have the same privileges as their fellow students in other universities around the world.

I whole-heartedly congratulate Miss Aoun, the DETE, the Faculty of Humanities, and NDU for proving to the world that some of our students can soar high in the world of academia.

1. Miss. Valerie Aoun presenting her paper.
2. Prof. Naji Oueijan presenting his paper.
3. Prof. Kelsall, Prof. Oueijan, and Prof. Graham
4. Miss Aoun amongst other participants.

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Miss Valerie Aoun's Abstract:

Homer and Byron: An Iconographic Journey from Hades to the Gates of the Exalted Self.

In his Epistle to the Ephesians, St. Paul wrote, "Thus it says, 'Ascending on high, he led away captives; he gave gifts to men.' Now this, 'he ascended', what does it mean but that he also first descended into the lower parts of the earth?" Greek Orthodox iconographers have extraordinarily captured this picture in the famous icon known as "The Descent into Hades", in which Christ is portrayed as descending down to hell and freeing Adam and Eve from death and opening wide the way to eternal life for mankind. Read outside of its religious context, the above icon is a representation of a Romantic journey into the depth of the human soul to the exaltation of freedom—that of the self—and this journey was taken by many icon writers in their quest to express a unification with their inner Self and ultimately their Creator. This presentation will attempt to deal with Homer and Byron as iconographic literary figures who through their literature have set out on a journey to find the tormented nature of their inner selves and to find a sense of human exaltation on this earth that might give them a glimpse of Heaven. It will also explore the voyage that starts with the messianic journey of Homer's Odysseus up to Byron's iconographic quest—through his different works.

My Abstract:

Byron's Virtual Tour of Lebanon

There is no doubt that the countries Byron visited during his first uncompleted Oriental pilgrimage had a notable impact on his personality and poetic career. Especially remarkable and influential were his visits to Greece and Turkey, both of which rendered him "a citizen of the world" and contributed enormously to his poetic career after his composition of *Childe Harold's Pilgrimage* and the Oriental tales. But Byron's initial plan for his Eastern tour also included regions like Egypt, Palestine, Lebanon, Syria, Persia and India. In a letter to John Cam Hobhouse, from Athens, in early February, 1811, Byron writes: "Dear Cam,—My firman for Syria & Egypt being arrived I am off in Spring for Mount Sion, Damascus, Tyre & Sidon, Cairo & Thebes." Byron, however, could not fulfill his travel wishes for lack of funds and for personal problems in his homeland. To limit the scope of this presentation, I will try to create a Byronic virtual tour of only a small but significant part of this Eastern region, Lebanon. I will base this virtual tour on Byron's knowledge of and interest in this region especially that in his major works he makes about 16 references to Lebanon, its Cedar Trees, and the Phoenician city of Tyre. I will also refer to the actual visits of contemporary famous travelers to Lebanon. This Byronic virtual tour will reinforce my assumption that had Byron visited this region his major works, especially the travelogues and his Oriental tales, would have undoubtedly undergone a tremendous expansion and change.

Deputy Pierre Jmeil and Dr. Wadih al-Hajj – The Lebanon of Tomorrow, a new country

On April 15, 2005, the NDU Youth Club organized a political meeting with **Deputy Pierre Jmeil** and **Dr. Wadih Al-Hajj** under the title of "Lebanon of Tomorrow."

Dr. Hajj said that the Lebanon of Tomorrow is a new country that we can launch through the building of institutions, the will to destroy corruption, the ability of the government to take control over its full territory, and the direct participation of the youth in political life.

Deputy Jmeil stressed that he wanted a united, democratic, and pluralistic Lebanon that maintained the privacy of individuals and opened the door through the parliamentary elections to produce another government that represented all sectors of the Lebanese people and organized a program that included all subjects.

Then Mr. Jmeil talked addressed the youth, saying that Lebanon needed its youth, who should focus on their abilities and capacities and work on a schedule to reorganize the country's situation in order to have a variety of job opportunities.

He affirmed that there was a need to maintain what was achieved on March 14th, with no return to mutual destruction, through the various political parties. In conclusion, he hoped that the elections would give every candidate and citizen an opportunity to rearrange their priorities.

Dr. Eddy Abillamaa on the future of the Forces

On the occasion of the 11th year of the arrest of Dr. Samir Jaajaa, the Debate Club at Notre Dame University arranged a meeting with the representative of the Lebanese Forces in "Kornit Shihwan", **Dr. Eddy Abillamaa**.

Dr. Abillamaa commented that, despite all that had happened, the forces that paid high prices during the war, especially the Lebanese Forces, kept their hopes high in order to rebuild Lebanon, to continue the communication principle that Taef was based on, and to correct the new constitutional mistakes that were made.

In a dialogue with the students, Dr. Abillamaa stressed that no group should be deleted. On the subject of turning the Lebanese Forces into a political party, Dr. Abillamaa said that this issue would be discussed later, affirming that they certainly existed as a movement. He also stressed the importance of having political alliances to execute the projects in the presence of all political parties.

Candidates come to NDU

At a meeting on Wednesday, 18th May, 2005, organised by the NDU International Relations Club at the main campus, the speakers were **Farid el-Khazen M.P.**, the Free Patriotic Movement's candidate **Attorney Ibrahim Kanaan**, the National Bloc's Kesrouan-Byblos candidate **Dr. George Abi Zaid**, and member of the Free Patriotic Movement Executive Committee **Architect Alain Aoun**.

They explained their electoral programmes, agreeing on the need for political and judicial change, for fighting corruption, for an economic plan to save the country and for restoring the state institutions. They pointed out that the 2000 electoral law was against the popular will, weakening democratic life, and alienated many Lebanese.

Deputy Mosbah Ahdab
A call for democracy

Dr. Khalid Fakih, Member of Parliament Mosbah Ahdab, Mr. Suheil Matar and Miss Maria Bteich.

On January 7th, 2005, Deputy **Mosbah Ahdab** was the guest of the Public Relations class in Friends' Hall at the NDU main campus. He was welcomed by **Mr. Suheil Matar**, NDU General Director of Public Relations, and the student **Maria Bteich**, and then introduced to the audience by faculty member **Dr. Khalid Fakih**. After expressing his thanks for the invitation, Deputy Ahdab spoke about the present situation and developments, describing the present order as a security regime rather than a democratic one. In his view it was natural that there should be differences of opinion among members of the opposition, but these should be settled by democratic means and not by recourse to intelligence services.

In particular, UN Resolution 1559 covered issues that ought to be resolved first among the Lebanese themselves and secondly together with Syria

(We regret that the report reached us with some delay, but we felt that publication was better late than never! – Ed.)

Tueni talks...

On Monday, 16th May, 2005, the NDU Public Relations class invited "Kornet Shehwan" member and electoral candidate **Mr. Gibran Tueni** for an open discussion under the title *Current Events and Lebanon's Future*. He talked about the elections and announced his candidacy. His opinions had not changed: on the one hand Syria must withdraw and on the other Christians and Muslims must sit at the same table to unite the country and revive their partnerships. Mr. Tueni stressed that the 2000 electoral law which had been imposed so the public had either to drop out of the political game or to make up for tis deficiencies. He approved the United Nations' desire that the elections should go ahead as planned but also demanded a new law for decentralised administration and a new administrative division.

Mr. Tueni called on people to put the war behind them for the sake of national reconciliation. He would urge the formation of a financial economic investigation committee drawn from all countries that helped Lebanon, which would open all files about how there were forty billion dollars of public debt.

Sports Office News

Lebanon' s Cup for the Universities at Notre Dame university -Louaize

Between the 15th and 20th of April, 2005, the NDU Sports Office organized the Lebanon Cup for Universities in Street-ball, Mini-football and Three Points.

The results were as follows:

Street-ball for the universities:
Semi-finals:
Louaize 1/Holy Spirit-Kaslik 1
12/10
Louaize 2/Sagesse 1 **8/6**
Finals:
1st Louaize 2 **15**
2nd Louaize 1 **12**

Street-ball for the Institutes:
Finals: 1st AUT **15**
2nd Louaize-Shouf **11**
The matches were directed by the referees **Elie Salameh**, **Roy Makon** and **Nadim Chamat**.

Mini-football:
Semi-finals:
Holy Spirit-Kaslik/Al Manar
2/2 (4/3 Penalty)
USJ / AUB **1/2**
Finals: 1st USJ **5**
2nd Holy Spirit-Kaslik **0**
The referees were:
Wissam Safetly, **Rabih Dib**, and **Hadi Hajjar**.

Three Points:
Universities:
1st Roger Bardawil/Louaize
9 out of 15 points
2nd Alain Sawaya/Louaize
7 out of 15
3rd Wael Melki/Balamand
6 out of 15
Institutes:
1st Johnny Ghsain/AUT
10 out of 15
2nd Joe Raaidy/AUT
7 out of 15
3rd Mario Raaidy/AUT
5 out of 15

The referees were **Michel Sfeir**, **Elie Salameh** and **Rana Sebaaly**

Mr. Georges Nader, head of the NDU Sports Office and the General Secretary of the FSUL, supervised the tournament in cooperation with Mr. **Elias Boutros**, **Mario Khoury**, **Bechara Barada'i** and **Joseph Matta**.

At the end, NDU President **Father Boutros Tarabay** distributed the cups and medals to the winners.

The NDU Tournament

The yearly NDU Sports Tournament was held between May 23rd and May 27 under the patronage of NDU President **Father Boutros Tarabay,** with the presence of the President of the FSUL **Judge Nasri Lahoud** and a large crowd composed of staff and students.

The final results were as follows:

Men's Basketball:
NDU/Balamand **85/65**

Ladies' Basketball:
Holy Spirit-Kaslik/NDU **47/45**

Mini-football:
NDU/Sagesse **5/2**

Men's Volleyball:
NDU/USJ **2/0**

Chess (with 28 players):
1. Serge Hovnanian
LAU **5.5 points**
2. Imad Singer
Lebanese International **5 points**
3. Elie Abou Jaoudeh
NDU **4.5 points**
4. Henri Chidiac
USJ **4 points**
5. Hussein Diya
UL **4 points**

At the end of the tournament, cups and medals were distributed to the winners by **Judge Nasri Lahoud** and by NDU Director of Sports, University Federation General Secretary and Lebanese Olympic Committee member **Mr. George Nader**.

NDU students united for Independence

In memory of April 13th, Notre Dame University students organized a meeting in the outer area of the university, where its different political movements distributed a united statement calling for participation in this national event at the Martyrs Square in dedication of this day and of the Independence that was always longed for, and in cooperation with the Opposition in the process of reviving the national economy and defeating fear in order to restore Beirut's former glory.

Experience never stops

Elias Karout

As a university student, you might think that you are going to use what you are learning. Then when somebody tells you that you are not going to use anything that you have learned your natural answer will be, "You are wrong!" Then you might ask yourself, "What if he is right? Why am I learning?" Well, actually you do use the things you have learned, but they are only guidelines to the actual learning process, which begins when you have landed your first job.

As a student I had the same point of view, but I always expected to use what I had learned. But then it really hit me, and I found myself learning everything from scratch. In the business world you have to use what you have learned as the basics for processing the job. However, processing the job is a whole new science in itself, and this science differs with each company, depending on the company structure and the corporate identity.

At the university level you are taught the different levels of the organization and what an account executive does. But there is a huge gap between theory and practice. This huge gap is created once again by the type of agency you might be working for. In certain small agencies the account executive is also the media planner and buyer, whereas in other agencies he performs what we see in theory. This scenario is widely popular in Lebanon, where in the big agencies the job of the account executive is the same as that seen in theory due to the presence of MBUs and Creative Cells, while in small agencies where there are no MBUs the account executive takes on the roles of both executive and planner.

Having been an account executive for the past two years, I have moved between companies ranging from small to regional and international. What is clearly noticeable is that the bigger you go the more accountability there is. Certainly, you will not grow as fast as in a small agency, yet the level of professionalism is clearly different. An account executive has to be able to write briefs and reports; he must be constantly reading, looking for new trends and and new theories and broadening his horizon.

The account executive is the buzzing bee and the ant of the organization. The advertising world is a very demanding and ever-changing world. You have to be both cordial and aggressive to succeed. The job of the account executive does not come down only to writing briefs and processing jobs; he has to be able to research new ways to enhance the client's potential for growth.

You will hear many comments on the way you are doing your job and about the quality of your work. Don't take it the wrong way, but learn to listen and to adapt. As an account executive you are the forefront of the organization and if

Social

Birth: Anthony Eid

The NDU Division of Computing Services is proud to announce the birth of **Anthony Eid**, son of **Fadi Eid**, Web Developer in the Division of Computing Services – Main Campus. Congratulations to the parents of the newborn! – **Armen A. Balian**, Head, Academic Computer Center, NDU.

I am Anthony Eid, i was born on April 4, 2005, at 9:05am, weight: 3150g., heigh: 51cm.

Correction:

We regret a mistake that crept into issue 33 of **NDU** *Spirit*. The article on page 67 entitled *Keeping Hunger at Bay* was by **Dr. Najat Yahia** and not by **Dr. Tony Hage**. We hope that they will accept our apologies.

you look good then the Agency looks good. So my piece of advice is - Make Sure You Look Good.

For an account executive to be successful he must be proactive, a reader, a conversationalist and a visionary.

Proactive: this means he must be able to push the client to go forward, to follow up and to get things done. But most importantly he must find new ways to his client's business, his agency's portfolio and his own portfolio.

Reader: the account executive must read to learn new theories, concepts and ideas which will help him create new things and ideas and have insights for the solution of a particular problem. In this world one is what one knows.

Conversationalist: society adores the conversationalist, the person who loves people, and this is the most important tool for an account executive. He has to love to mingle with people and talk to them. Doing so will enable you to build up your network of connections and to obtain power.

Visionary: perhaps most importantly of all, a visionary is a leader. He knows where he wants to go and how he is going to get there. Being a visionary allows the account executive or planner to see the direction the campaign is going to take and the steps that will have to be implemented to achieve the overall goal. A visionary thus becomes the leader, a position coveted by many but attained by only a few.

If you are aiming to become an account manager, there are a few simple rules you should never forget:

1. Always follow up on your job and double-check all your mails before sending anything.
2. Learn and train yourself to write presentations.
3. Learn and practice the art of public speaking and pitching. Shyness will get you nowhere fast.

I have learned that nothing comes easy and everything can go wrong in an instant, so keep your eyes open and your senses alert; the slightest mistake can cause you to lose your biggest client. Therefore be alert and keep in mind where you want to be and how you want to get there, and you will surely reach your goal. As long as you set your mind on something and use the right techniques you will achieve your goal whether in business or in your personal life.

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Why NDU?

Serge Dagher, NDU
Graduate & MA Student
Account Director, Horizon Advertising Agency

For almost ten years now I have been fighting hard, day after day, assignment after assignment, to prove myself in a competitive and highly aggressive industry called Advertising, an industry constantly facing changes, pressures, global trends and tough economic conditions.

Today, when I look back on what I have so far done, I feel that I have the drive and the potential to get to the top. My advancement was due sometimes to luck and at other times to smart moves that I made or to doors that were opened to me. Nevertheless, I cannot but acknowledge the paramount importance of the Advertising and Marketing program that I followed at NDU.

My years at NDU, the courses I took, and the teachers I had, all provided me with the tools, the knowledge and the curiosity to go further. I can still hear the real-life experiences that were related to me by professors such as **Mr. Kamal Darouni**. Maybe at the time not everything seemed relevant and clear, but today I go through many of these same experiences myself, and appreciate even more what was given to me.

To all Advertising students in NDU I would say that you should never forget that you are the industry leaders of tomorrow. So my advice to you is Read, Learn and Listen, and never underestimate the material or the teachers. It is only by being well prepared that you will be able to forge yourself a place.

NDU offers the market the best candidates for Advertising positions and to the best of the best I simply say: *Send your CVs!*

Media

Dr. Mahmoud Hammoud,
NDU Mass Communication Dept.

Two important events involving the media-government relationship have taken place over the last few months. Both shed light on the relationship between media and governments and on the ethics associated with such relationships. The first event involved a US journalist and the second event concerned the Arab TV news station *Al-Jazeera*.

In the first incident, television and radio personality Armstrong Williams told CNN that he had taken $240,000 to flog Bush's *No Child Left Behind* plan, the *USA Today* reported on Friday, January 7, 2005. The scandal enraged Democrat Party officials, who called this a case of "Bush wasting taxpayers' money for political propaganda", and they considered such behavior illegal. Furthermore, opposition Democrats, headed by Senate Minority Leader Harry Reid, said that they believed that "the act of bribing journalists to bias their news in favor of government policy undermines the integrity of our

Government Relationships in Media Developments

democracy." They considered such an act as covert propaganda to influence public opinion. Reid and the Democrats called on the White House to refund the public money.

Mr. Williams, a conservative Black commentator, justified his act by saying that Bush's school reform matched his own conservative views and that he was not bound by journalistic ethics usage because he owned a public relations company.

In the second incident, *Al Hourra*, a television station, which is aimed at Arab audiences to foster the US image, broadcast a video tape of a meeting between Ouaday Saddam Hussein, the late son of the former President of Iraq, and the former top manager of *Al Jazeera* news station. In the video, the *Al Jazeera* official was heard thanking Mr. Hussein for his directions and support. *Al Hourra* said it had obtained other video tapes involving the two officials.

Al Jazeera news station responded to the charges saying that it maintains its integrity by presenting all sides of the news and that the meeting was only a courtesy meeting which did not mean anything. It also stated that everyone knew that in order to operate news from Iraq any news organization was obliged to meet with Ouaday Saddam Hussein. The announcement by the station reminded its audiences of *Al Jazeera* coverage of the war in Afghanistan and Iraq and of the bombardment of the offices of the station in both countries during the military campaigns.

These two incidents show how delicate is the relationship between the media on one side and governments on the other side. While the US Government did violate its own laws by propagating its own policies, it did not accept a relationship between its adversaries and an influential news station such as *Al Jazeera*. However, irrespective of what governments may or may not think, the issue of taking money from the government to propagate its policies poses serious threats to the media's credibility and integrity. Although Mr. Williams apologized to his audiences for taking government money, he considered his behavior as bad judgment rather than as unethical. Similarly, *Al Jazeera* saw no ethical problem in having a relationship with officials of the former Iraqi Government.

The problem with these types of relationship is that they are done under cover and without public knowledge. They are revealed only by accident or by adversaries of the government in question. It is our belief that journalists should abide by a code of ethics that will maintain the integrity of the journalist's profession. In that regard, the media should act as a watchdog by keeping an eye on the government in the interests of the people. Governments may take their people into wars without justification when the media fail to play that role. The apology by *The New York Times* for not having questioned the US government claims concerning alleged weapons of mass destruction (WMD) did not help the people after the war had taken thousands of lives.

Honest and credible media can guarantee the proper functioning of governments in a democracy.

Extra-Dimensional Activities

at the School of Humanities

Kamal Darouni

1. My recent visit to Dubai

While I was passing by the Media City in Dubai, and then the Internet City, I felt as if I were a civilized gentleman coming from the jungle of the Amazon. I did have a thought: What the hell am I still doing in Beirut, the capital of knowledge, civilization, communication, creativity, you name it?

I begin to remember our prominent leaders' claims that Beirut is where the real democracy, multimedia and technology are all about. Well, to tell you the Gospel truth, I felt I was twenty years behind schedule.

Yes, Lebanon was the center of communication, trade, media and advertising in the Middle East just before the civil war which took place in 1974.

Unfortunately, today our role has been taken over by Dubai. I said to myself, "I have to do something about this situation." So, back at my normal teaching at NDU, I told my students, "You have to win back what belonged to you. It is now your right to put pressure on your handicapped government to build a media city like the one in Dubai. This will secure for you hundreds of jobs. Therefore a task force at NDU is on its way to be formed, having as its objective to create awareness and to act for a new ideology (Globalization of a Multimedia System having its Base in Lebanon). So watch out, guys, for the steps we are going to take!"

2. Interuniversity world competition

Our senior students in the Advertising and Marketing major will be competing with global and regional universities in a competition sponsored by IAA, NDU being accredited by this world organization. The topic is how to create Yahoo worldwide. I shall be acting as advisor for this contest, so wish us luck!

3. Werewolf

One of my students, Patricia Keyrouz, worked on her senior project for graduation and the topic was WEREWOLF Energy Drink. She was so much in love with her outstanding project that she went and got a patent for this new product, and wishes to manufacture it in Lebanon. She was graded 47 out of 50 on her project. Who can say more?

4. Workshop on IMC

All Advertising and Marketing students were invited to the seminar held at NDU on February 25th, sponsored by the Lebanese Advertising Association (LAA), for which I act as General Secretary. It happened to be my birthday and I am glad to have lived sixty years on this planet, out of which fifteen have been spent at NDU.

5. British Council

Two students from NDU are being selected to do a research study on the Advertising Agencies operating in Lebanon. The LAA will pay them 300 dollars each on a monthly basis until the project is completed. A seminar will be held in this regard, with Mr. Ibrahim Tabeth (CEO – DDB Advertising Agency) and myself. The date will be announced soon.

6. New book on Creativity in Lebanon

This will be my fifth book on Advertising and my last hope. It should be published in one year from now. NDU students will be contributing to this publication. The title will be *Best Creative Campaigns in Lebanon*.

America's Image in the Arab World

Dr. Najah Abdallah,
Assistant Professor, NDU

At no other time in history has America's image been as gravely tarnished as it is today. The extent of anti-American sentiment is growing and it runs very deep.

I am concerned about the image of the United States in the Arab world. I am especially concerned as a professor who teaches in the Arab world, as someone who teaches about image and knows the impact of image. I also know that this negative image is dangerous, for it affects the relationship between Americans and Arabs, and thus must be improved.

Steven Nader, Director of Foreign and Security Studies at the Progressive Policy Institute, wrote: "America is losing a different kind of war: the fight to gain and maintain a positive image in the Arab world. America's image is so badly distorted in many Muslim countries, especially in the Middle East."

It is important for the United States to pay attention to this problem in order to avoid millions of Arabs being alienated through a misunderstanding of United States policy. This is why the U.S. Administration launched a major campaign to improve its image in the Arab world after the September 11th terrorist attacks in the United States.

To win over Arab public opinion, the United States government has launched a new effort, an FM radio station called *Radio Sawa* (Together), and a television channel called *Alhurra* (The Free One), financed by Congress. *Radio Sawa*, a 24/7 commercial-free station, has been broadcasting entertaining contemporary Arab and Western pop tunes across the Middle East since March 2002. *Alhurra*, a commercial-free Arabic satellite television network for the Middle East, has been broadcasting news and information, in addition to reporting on regional and international events, since February 2004.

According to the *Washington Post*, the Bush Administration also set up a separate Department, the Office of Global Communication, in order to improve the U.S. image abroad (July 30, 2002). U.S. State Department spokesman Richard Boucher commented upon the efforts of the United States government to reach out to Muslim and Arab audiences, saying that the effort to create mutual understanding between the two regions "needs to be long-term" ('Boucher Reviews U.S. Public Diplomacy to Muslim World', August 27, 2002).

How can the negative image of the United States in the Arab world be changed?

To answer this question we need to know the real reason behind this image, or, as the French say, we need to know *le pourquoi de la chose*. We also need to listen to the people in all the countries involved.

As we know in the Arab world, the source of this anger is not American values. American values are highly appreciated by the Arab public, especially democracy, freedom of speech, and women's education. The main source of this anger is U.S. foreign policy, particularly:

- The Arab-Israeli conflict.
- Iraq.
- U.S. military presence in the Gulf.

To improve America's image in the

Personal and Institutional Communication Skills

Prof. Naji Oueijan

Arab world, an in-depth study of Arab public opinion is needed. A survey with a definite purpose needs to be developed to learn more about the specific reasons behind anti-Americanism in the Arab countries, and about how it can be reduced.

I believe in education and in the value of creating a civic society through education. The role of education is of great importance. I believe that the Arab countries need help to improve their educational systems. I also believe that through education we give people a chance to become informed and active participants in their societies. For example, creating U.S. cultural centers and libraries can be of benefit.

A strong strategy of engagement based on three policies will improve America's image:

- A policy of communication targeting the public at large.
- A policy of education targeting the younger generations.
- A cultural policy targeting both the younger and older generations.

This goal will be challenging but achievable.

We, in Lebanon, are becoming too materialistic and impersonal in our personal and institutional communication. We can stand outside and criticize, bring pressure, write memos and argue, and this might do some good, or we can get deep inside our selves to improve our inner communication with God first and our oral communication with our fellow men second and bring about a dramatic constructive change to our personal communication and institutional conduct. The choice is ours, all the reason why for those interested in the second choice I have listed some leading points bellow.

1. WHAT to communicate with each others depends upon our knowledge and perception; HOW we communicate is an acquired skill.
2. WHAT to communicate is not as important as HOW to communicate our message.
3. What matters is the way we deliver our message to our audience, be it one person or a group of people.
4. There are FOUR basic rules for personal and institutional communication:
   a. **Rule No. One:** In a group there is always one main speaker, and all the others are listeners.
   b. **Rule No. Two:** In our communication we should learn to CARE and SHARE for the good of all.
   c. **Rule No. Three:** We must learn that listening is an active process that demands concentration and control. We must know that silence is light, and that light is wisdom, and that verbosity is darkness and the weapon of the ignorant.
   d. **Rule No. Four:** Try to follow the above rules.

To prove the validity of the above rules I will provide the reader with the following fundamentals of communication:

1. Definition of COMMUNICATION:

- The prefix COM- in Latin means "WITH"
- The root MUNUS means a service performed for culture.
- Therefore, human communication is sharing experience publicly for the common good.

— To SHARE is to CARE, and to Care is to LOVE those you communicate with.
— In your personal life you communicate with those you share the best and worst of times—family members, relatives and friends—for almost half of your active life.
— In an institution those you communicate with are those you work and live with the second half of your active life.
— The level of give-and-take and advise-and-consent required for mutual satisfaction and decision-making becomes destructive rather than constructive unless we learn to CARE, SHARE, and LOVE.

2. Facts about LISTENING:

— Listening all over the world accounts for over 40% of our daily communication.
— In Lebanon, listening is not more than 20%. WE ARE ALL SPEAKERS.
— Children learn by listening.
— Nature demands that we learn first by our senses: Listening, watching, tasting, smelling, and touching. Speaking is not one of these senses. Speaking is an acquired skill. But how can you learn the skill if you do not learn how to listen?
— A few of us are good listeners. Why?
  • Studies indicate that most of us listen at about 25-45% comprehension because man can understand up to 400 w/m, and an average speaker communicates about 150-200 w/m. The time and space lags divert our attention in two ways:
    1. We dive into our interpersonal thoughts.
    2. We react before the speaker is over.
    3. In Lebanon No. 2 is more probable.

3. Qualities of a good SPEAKER:

1. S/he must be a good listener.
2. S/he must have self-confidence and control:
   Self-confidence is a result of knowledge.
   Self-control is achieved when the speaker possesses a non-offensive spirit when confronted.
3. S/he must have rhetorical sensitivity or a transparent humanity; i.e., s/he must understand and satisfy the needs of her/his audience.
4. S/he must have absolute honesty, an authentic desire to share experience, no hidden meanings, and an absence of hypocrisy, duplicity and verbal superficiality.
5. S/he must be humble:
   Man should fight the battle of PRIDE, the battle of:

   I
   ME
   MINE
   MYSELF

   PRIDE says: "Be superior, promote yourself."
   Christianity says:"Be humble, control yourself even when you are hurt."
   In Peter 1 Chapt. 2:20-24 we read: "For what credit is there if, when you sin and are harshly treated, you endure it with patience? But if when you do what is right and suffer for it patiently, endure it, this finds favor with God." In Prov. 28:25 we read "An arrogant man stirs up strife, but he who trusts in the Lord will prosper." Thus to fight the battle of pride
   a. Be a giver rather than a getter.
   b. Be a forgiver rather than a condemner.
   c. Be a forgetter rather than a prosecutor.

4. S/he must be wise:

King Soloman gives us counsel on some of the things wise men do:
a. They build: "The wise woman builds her house..." (Prov. 14:1)
b. They watch their tongues and heal rather than hurt: "Pleasant words are a honeycomb, sweet to the soul and healing to the bones" (Prov. 16-24).
c. They are slow to anger: "He who is slow to anger is better than the mighty" (Prov. 28-25).

Conclusion:

C. R. Swindell says: "Our world has become a large, impersonal, busy institution. We are alienated from each other. Although crowded, we are lonely. Distant. Pushed together but Uninvolved."
I say: "If we do not want to feel lonely, distant, pushed, and uninvolved, we must think of the above. We must listen, smile, and then speak."

Reading

K.J. Mortimer

If there is no art in writing, there is no pleasure in reading. One hears little now of people who are great readers, and by that I mean people who love to spend their time with a book in their hands. Now one may blame television, but after all there is nothing more boring than to sit passively in front of a screen where everything is shown in detail and there is no stimulus for the imagination. Yes, there are very occasional programmes where learning about history, the revelation of the sheer beauty of ballet or a certain excitement or "suspense" may hold one for a certain time, but nothing that may grip one for many hours like a good book.

The real reason for the decline in reading is the decline in writing. Of course, there never has been so much newsprint. When I was last in London, I saw newsagent's shops stacked to the ceiling with what must have been tons of newspapers and magazines. But after a quick glance I could only regret that all the paper had not been left as living forest in Scandinavia to host the nesting birds and the leaping squirrels, somewhere where shafts of sunlight pierced deep shadow and resinous "incense hung along the bough."

It is continually dinned into our ears that this is the Information Age. But it is not the Reading Age. The great books of the past, books of philosophy, religion, history or science, were also books of beauty of style. Who, having once read St. Augustine's *Confessions*, can ever forget "Late have I loved thee, Ancient Light!" or "My prayer used to be, Give me purity Lord – but not yet!" Just you try putting such thoughts in so few poignant words!

Allow me to expand on my meaning. If I want to enjoy reading, I might turn to Oscar Wilde's prose poem *The Nightingale and the Rose*. If I want some information about nightingales I will heave Tome XV of Pierre-P. Grassé's *Traité de zoologie* down from my shelf (good for the muscles) but, although I might find out I want to know, it is doubtful whether I find the literary style so deeply touching.

I have in my possession, yellowed and frayed, some cuttings from *The Observer* and the *Listener* that drew my attention anything between thirty and forty years ago. I read them for the umpteenth time with pleasure, even an article on such an apparently forbidding subject as English hedgerows. When I was in London a few years ago, I bought all the "quality" papers – certainly not the tabloids in which the most exhaustive research fails to reveal one literate sentence – but even so I did not find one article that I could force myself to read to the end. In fact, if any single one of them had been cut off in the middle, I would not have noticed it, so poor was the composition.

The blurbs on paperback best-sellers often draw attention to the lurid sex scenes to be found between the covers – love, one notices, seems to be out of date. In *Kai Lung's Golden Hours* by Ernest Bramah there is a scene where the story-teller Kai Lung is in prison, condemned to be tortured to

death. Through a tiny hole high in the wall he speaks with the beautiful Hwa Mei, the Golden Mouse. Finally by standing on tip-toe they manage to make their fingers touch. The delicacy of the author's pen perfectly matches the sensitivity of the occasion; this is the sort of description one remembers. When I was sixteen I read that whole book once a week for a whole year and I have never tired of it. There are not many TV series that I would like to see from beginning to end fifty times over.

There are two fairly recent books that I keep by my bedside and which I savour repeatedly. One is *The Day of the Jackal*, by Frederick Forsyth. You may well imagine that I am not the sort of person who generally devours thrillers, but this is a thriller with a difference, and the difference is superb writing. The descriptions are in such English that one's imagination creates the scenes in a way far from the passivity of watching TV. Sir Winston Churchill wrote of General de Gaulle, who in 1943 was on bad terms with the British and particularly the Americans, who refused to accept him: "But I always recognised in him the spirit and conception which, across the pages of history, the word 'France' would ever proclaim. I understood and admired, while I resented, his arrogant behaviour. Here he was – a refugee, an exile from his country under sentence of death, in a position entirely dependent upon the goodwill of the British Government, and now of the United States. The Germans had conquered his country. He had no foothold anywhere. Never mind; he defied all." It was said later that the trouble when dealing with de Gaulle was that if you disagreed with him he thought you an idiot and if you agreed with him he thought you a coward. Correspondents declared that when as President he was in a palatial hall with other heads of state, one had the feeling that the whole building was tilting to the side where he stood. Here is how Forsyth makes you feel the dignity that surrounded President de Gaulle: "...the usher stood back to let the minister pass into the Salon des Ordonnances ... the door closed behind him without a sound and the usher made his stately way back down the stairs to the vestibule. ... One of the floor-to-ceiling windows was open and from the palace garden came the sound of a wood pigeon cooing among the trees. (Minister Frey is then introduced into the private office of de Gaulle, who receives him with courteous solemnity and then reads the file the minister presents him.) From the top pocket of his jacket Charles de Gaulle took his reading glasses, put them on, spread the folder on his desk, and started to read. The pigeon had stopped cooing as if appreciating that this was not the moment." What a wonderful touch! But Forsyth brings all the scenes of rural France and of Paris to life with the same dexterity.

Another book into which I am ever dipping for the sheer delight of its style is *Nicholas and Alexandra* by Robert K. Massie, about the last czar and czarina of Russia. Whether Massie describes the beauty of palace gardens or the dazzling but empty display of the court life of Imperial Russia, one is *there*! "... in an atmosphere thick

with the aroma of steaming clothes and boiling tea, the peasants sat around their huge clay stoves and pondered the dark mysteries of nature and God. In the country, the Russian people lived their lives under a blanket of silence." "Over the years, the shrubs had grown into lush and fragrant jungles. When the spring rain fell, the sweet smell of wet lilacs drenched the air." What is more, the literary style of the diplomats and of others surrounding the czar is no less impressive. Something has gone out of this world.

Decline in writing has been accompanied by a decline of speech. In 1850, Foreign Secretary Palmerston made a speech that held Parliament in Westminster spellbound for five whole hours. Remember that in the British Parliament a member may refer to notes but may not read his speech. What was the subject? The people of Athens had refused to pay damages after burning down the house of a Portuguese Jew who, having been born in Malta, claimed British citizenship, so Palmerston had sent the British fleet to bombard the city. Queen Victoria, Parliament and public could not help feeling that this was going rather far, but in his famous speech starting with St. Paul's "*Cives Romanus sum* – I am citizen of no mean city," Palmerston triumphantly vindicated himself. Frankly, I would need a more interesting subject to be carried away by enthusiasm after hearing President George Bush or Prime Minister Blair speak for five hours. At the same time, one does not have to go back two centuries to find great oratory. I remember how we were electrified by Churchill's speeches in 1940 and his War Memoirs give fine examples of discourse by other Members of Parliament.

It is not only English that has languished. I have old French magazines with articles about the death of Lally-Tollendal or some obscure crime in the court of a 17th-century Hanoverian prince, stories in which I really feel no personal involvement. But once again it is the excellent writing by people of real culture that makes the articles impossible to put down before one has finished. On the other hand, when last year I spent a few days in hospital, I was brought a current copy of a French history magazine where there was an article about the Allied landings in Normandy in 1944. Here I did feel personal involvement, because I was eighteen years old at the time and following the news and also because Churchill's War Memoirs is another literary masterpiece which I never tire of re-reading. But simply, all was "information", with inserts listing the horsepower of German tanks and other details, which I no more enjoyed reading than I would have enjoyed learning about the length, weight in grammes, etc., of the sword that hacked off Lally-Tollendal's head. Not being a professional student of military history, I want my information to be served up in a way that makes pleasurable reading. Incidentally, I very much fear that the concern with scientific accuracy rather than style has spoilt the pleasure of reading the Holy Bible. (Query: why isn't the King James Version obligatory study in all courses of English literature throughout the world? In content and style it has had far more influence than any other book, not even excepting Shakespeare.)

Enough! Now I want to pick up *Immortal Poems of the English Language, The Day of the Jackal, Nicholas and Alexandra* or *Churchill.*

From law studies to art: The Great Masters made the right decision.

Samer Charabati
Comp. & Com. Eng.

Chassez le naturel, il revient au galop...

Nothing would express the spirit of the following biographical essays better than this French proverb. The idea is simple: history tells a lot of stories about people leaving their studies or jobs to devote themselves to a certain activity they are destined to. But when this activity is art, the story becomes particularly fascinating. And this minor detail, namely, the drastic change from the previous job to art, is often ignored or at least eclipsed in front of the significance of the artist's works and style. Examples would include the famous painter Van Gogh, who had been in turn an art dealer, a French tutor, a theological student, and an evangelist before beginning to paint; post-impressionist painter Paul Gauguin, an ex-stockbroker; composer Franz Schubert, an ex-assistant teacher (fortunately for romantic music fans); composer Hector Berlioz, who even left medical studies! More surprising is the coincidence that made the personalities presented hereafter leave law studies! Today, they all preserve the title of "Maître", however, not as lawyers but as artists; composers or painters, their contribution, innovation and popularity go beyond all superlatives.

Cezanne, Paul (1839-1906), French post-impressionist painter, "father of modern art". Cezanne began to study drawing and painting at the age of 17 in his hometown Aix-en-Provence, but his father, an established banker, opposed the pursuit of an artistic career. Cezanne entered law school and he was simultaneously enrolled at the School of Design. In 1861, he persuaded his father to allow him to go to Paris, but returned in the same year because his application to the Ecole des Beaux-Arts was rejected. Cezanne entered his father's banking house but continued to study painting. The following year, he left his job and went back to Paris, where he met Monet and Pissaro.

As his style matured, Cezanne gradually withdrew from his impressionist colleagues and worked in increasing isolation in Aix-en-Provence. During his lifetime, he did not achieve any great public recognition; his art was largely misunderstood and discredited. Ironically, Cezanne's innovation remarkably influenced the 20th century "modern" painters. Picasso regarded him as "my one and only master… Cezanne was like the father of us all" and Matisse hailed him as "a sort of God of painting". In 1999, one Cezanne painting, "Still Life With Curtain, Pitcher, and Bowl of Fruit" (1893-94), was sold at an auction in New York for as much as $60.5 million, nearly double the pre-auction estimate, and the fourth highest price ever paid for an artwork at a public auction (as of this writing). The previous record for a Paul Cezanne sold at auction was for "Les Grosses Pommes", which went for $28.6 million in 1993.


Matisse


Kandinsky


Schumann,

Matisse, Henri (1869-1954), most important French painter of the 20th century, one of the initiators of modern art through the Fauvist movement. Despite the fact that his mother was an amateur painter, Matisse's interest in art came late. After graduating from secondary school, he went for law studies in Paris and after a year became a clerk in a law office. At the same time, he began to sit in on an early-morning drawing class. But a severe appendicitis was necessary for Matisse to devote himself entirely to painting! During his recovery in the 1890, he painted to help pass the time, and the following year he decided to go back to Paris but this time to become a professional artist.

Influenced by Cezanne, Van Gogh and Gauguin, Matisse combined a primary color scheme with the primitive approach to visual experience, in which simplification and distortion are means of expression. This resulted in Fauvism for about the first decade of the 20th century. But Matisse pursued the expressiveness of color throughout his career. He achieved a balance between color, light, and form, presenting objects as pure forms in a two-dimensional manner. The ultimate step in his art was taken in his colored paper cut-outs realized during his last years when he was often bedridden. Of these cut-outs, the *Blue Nude* series is extremely popular. Unlike Cezanne, Matisse gained international reputation during his lifetime. He was also a sculptor and a decorator. He and Picasso rank among the most revolutionary artists of the 20th century.

Kandinsky, Wassily (1866-1944) Russian-born painter, one of the first creators of pure abstract art in modern painting. Kandinsky grew up in a rather wealthy family. He became an amateur performer on the piano and the cello, and also an amateur painter. In 1886, Kandinsky began to study law and economics at the University of Moscow, and in 1893 went on to earn the degree equivalent of a doctorate! During his studies, he furthered his visual education; he was sent on an ethnographic mission and, after a period of teaching at the university, he accepted a post as the director of the photographic section of a printing establishment. Only in 1896, when he was 30 years old, did Kandinsky decide to become an artist. He refused a professorship in jurisprudence at a university in Estonia, and, in what he called a "now or never" mood, he took the train for Germany with the intention of becoming a painter.

Kandinsky invented a language of abstract forms with which he replaced the forms of nature. He felt that painting possessed the same power as music and that sign, line, and color ought to correspond to the vibration of the human soul. His forms evolved from fluid and organic to geometric and, finally, to pictographic (*Tempered Élan*, 1944).

(For non-art fans Kandinsky's name would not seem as famous as that of other painters; however his paintings are extremely popular and easily recognizable especially for their geometric shapes. When I presented the interview for my engineering summer training at PESCO Telecom, I was caught by a Kandinsky poster hung in the entrance office of the company.)

Schumann, Robert Alexander (1810-1856) Great German composer of surpassing imaginative power, whose music expressed the deepest spirit of the Romantic era. His father, bookseller and editor, and his mother pianist encouraged the child's inclination for literature and music. Schumann began piano lessons at the age of 10, but when he was 18 his father had already died, and his mother was suspicious of a musical career, so


Tchaikovsky


Stravinsky

she decided that he should enroll at the University of Leipzig as a law student. In Leipzig, he met piano teacher Friedrich Wieck (his future father-in-law) and became his student, without applying himself seriously to law. The following year, he asked his mother to register him at the University of Heidelberg, a more motivating environment for law studies. But again the young man left his studies and returned to Leipzig, ambitious of becoming a virtuoso pianist. Schumann never realized his dream mainly due to a permanent injury to two of his fingers. It was his wife Clara who became a famous concert pianist and a masterly interpreter of his works. Ironically, Clara's reputation grew faster than his; after a performance, he was often introduced to the public simply as her husband! Schumann was also much involved in publishing music criticism; he discovered Chopin and later Brahms. He left compositions in most genres, but is mostly celebrated for his vocal and piano works.

Tchaikovsky, Peter Ilyich (1840-1893) Most popular Russian composer. The son of a middle-class mine engineer, Tchaikovsky received a good education and piano lessons at the age of 8. At 10, he was sent to the School of Jurisprudence, and while studying law and government he also took music lessons. He graduated at 19 and took a post at the Ministry of Justice, where he remained for four years, until he left his job and entered the newly established conservatory of St. Petersburg as a composition student of Anton Rubinstein.

As a Russian composer, Tchaikovsky stands apart from the nationalist group headed by Rimsky-Korsakov and Balakirev, known as the Mighty Five, who judged his music "not sufficiently Russian". The statement was withdrawn and elucidated later by Stravinsky. Tchaikovsky's music is extremely melodious, colorfully scored, and filled with romantic emotional fervor. If he is recognized for his ballets *Swan Lake*, *The Sleeping Beauty*, and *Nutcracker,* his fame rests on at least one masterpiece in every genre: his operas *Eugene Onegin* and *Queen of Spades* are widely performed, and the same goes for his symphonies No.4, No.5, and No.6 (with its vibrating solo part for bass trombone) and his orchestral works. Equally admired are the challenging piano concerto No.1 and the violin concerto. The piano trio *The Seasons* for solo piano and many songs are of equal quality.

Stravinsky, Igor (1882-1971) Russian-born composer whose work had a revolutionary impact on 20th century music. Stravinsky was raised in an artistic atmosphere; he took piano and music theory lessons. Although his father was a famous opera singer, he was determined that his son should become a bureaucrat. Stravinsky studied law and philosophy in the Faculty of Jurisprudence at Saint Petersburg University. Luckily, his classmate was Vladimir Rimsky-Korsakov, son of the famous composer, to whom Stravinsky showed his early peaces. Rimsky-Korsakov was sufficiently impressed and took Stravinsky as a private student.

By the age of 32, the success of his ballets *The Firebird, Petrushka, and The Rite of Spring* established Stravinsky as one of the world's leading composers. His music is sensationally glittering, sometimes barbaric; his striking rhythms were most widely imitated. Stravinsky embarked on a new style, "neo-classicism", music of the eighteenth-century viewed through twentieth-century eyes. He was nicknamed "the Picasso of music"; the two figures are the "modern" artists everyone has heard of.

Need for Speed

Nathalie Kobrossi

Are we on a racing track or is this what life is about?

I understand that we live in a fast world where everything is quick; everybody is in a rush and "everywhere" can be reached. It is the culture of "the most, the best, the fastest". But what I do not understand is that the FAST virus has also contaminated students and particularly **university students**.

At school, students dream of being older and get excited about finishing quickly to go to university, where in their opinion real life starts! Everyone is free at university: choice of major, schedule and lifestyle.

Once they are at university, students do not really enjoy their university years: overload of courses, summer semesters and the like. They cannot wait to **graduate**! They are as excited as they were at school, this time in a different situation. However, the reason remains the same – to finish!

Why are these "Speedy Gonzales-es" in such a rush? Is the job already calling them? However, the regret starts once one graduates and is not able to find a job. It is only at that moment that one will regret what one has been doing with one's life, just speeding up. University years are the best years in a person's life. There is no need for speed; one should live one's life here and now.

Speaking of **graduation**, see you guys there! Do not get me wrong. I really got the best out of my university years!

The mission statement of the Faculty of Engineering states that the Faculty endeavors to graduate engineers who understand the ethical, social, economic and environmental context of their profession and who apply their knowledge and responsibility to develop ways to utilize the materials and forces of nature for the benefit of mankind.

To achieve this, new programs in Civil, Mechanical, Electrical and Computer and Communication Engineering, now in their fourth year, have for objectives to prepare students to enter immediately the professional practice on graduation as well as to pursue graduate study. One of their new components, the Approved Summer Training at the end of the third year, made its debut in 2003-2004.

103 government agencies and companies hosted 153 NDU students.

F.E. at a Glance

Dr. Shahwan Khoury, Dean,
Faculty of Engineering

The outcome was considered to have been extremely successful by the hosts, as some have extended part-time work and/or promised future employment to trainees, and by the Faculty members who evaluated the students' training reports.

For graduate study, FE Alumni are continuing their education in Lebanon and abroad and their performance has been a credit to NDU.

Our graduates were instrumental in affecting a Memorandum of Understanding between the University of Ulm and NDU, whereby among other provisions five graduate positions are provided yearly to NDU graduates by the University of ULM.

The peer assessment of our academic programs and outcomes on the local and international level is one of many indicators that the administrators, committees and faculty members endeavor to strengthen and extend further.

Acceptance of student applicants to engineering has become progressively more selective and this has enhanced the faculty academic atmosphere, which is partly determined by the abilities and ambitions of the student body. Enrollment in the Faculty of Engineering is now 1005 students.

Student branches of international professional societies have been active in arranging for technical talks and seminars by professional engineers and for professional visits by members to engineering companies at their offices, plants and sites. There were about twenty-five such activities during the academic year 2003-2004.

Our co-academic members continue to provide instruction and project guidance for our students in the state-of-the-art laboratories and provide professional material-testing services. The number of commercial tests reached 1,118 in 2004.

Faculty resources are being increased while high academic standards are maintained. 100% of full-time faculty members are Ph.D. holders. Their research output is steadily increasing, with contributions to international refereed journals in the USA and UK and to international conferences held in North America, Europe and the Middle East. Research grants from the National Council for Scientific Research have been made annually to Engineering Faculty members in the areas of sea pollution, power systems and electrical energy quality.

University experience "can't be reduced to mere numbers." The development of this experience is guided by the vision for FE to be at the forefront of Engineering Education in Lebanon and the Middle East.

IEEE Lebanon Section Elections

From the Department

Dr. Elias Nasser, Chairperson of the NDU Electrical, Computer and Communications Engineering Department, has been elected to the position of Vice-Chairman of the Lebanon Institute of Electrical and Electronics Engineers (IEEE) section.

The IEEE is the world's largest professional organization and has more than 365,000 members. The vision of the IEEE is to advance global prosperity by fostering technological innovation, enabling members' careers and promoting community world-wide. The IEEE promotes the engineering process of creating, developing, integrating, sharing, and applying knowledge about electro- and information technologies and sciences for the benefit of humanity and the profession.

The IEEE is divided into geographical regions and sections. Lebanon is part of Region 8, which includes Europe and the Middle East.

The Lebanon section of the IEEE was established in November 2004. The elections for the Executive Committee took place in February 2005. In addition to Dr. Nassar as Vice Chair, the elected committee consists of **Dr. Adnan Alaoui** (AUB), Chair, **Dr. Hadi Sawaya** (USJ-ESIB), Secretary, and **Mr. Ghassan Shaaban** (*Dar El-Handassah*), Treasurer.

IEEE Activities 2004-2005

Ralph Ayoub,
IEEE Student Branch Chairperson

For the academic year 2004-2005 the aim of the IEEE NDU Student Branch was to increase the number of student members by a recruitment campaign in October 2004 under the title *To US, IEEE Is Essential*. New members were to be recruited from NDU North Lebanon Campus and Shouf Campus, where IEEE has not been available. This campaign resulted in a 50% increase in membership. It ended on December 10 with a conference at which Mr. Rami T. Al-Mushcab, Industrial Relations Officer in the IEEE Saudi Arabia Section, met members and others from different fields to enlighten them about the value of IEEE membership and about the importance of the newly-opened Lebanon section, confirmed just a week previously.

The IEEE also organised many seminars and collaborated in the two-day conference on Computer and Communications held on 22nd and 23rd April, 2005 at the North Lebanon Campus. More information may be obtained from the branch website www.ieee-ndu.org.

The Scientific Conference for Computer & Communication NDU, NLC

Information provided by **Dr. Ali Harmush**
Nour Jaffan, CCE student, NDU-NLC,
Ralph Ayoub, CCE student and IEEE student Branch Chairperson

The Scientific Conference for Computer and Communication sponsored by the Lebanese **President, Emile Lahoud,** and the Association of *"Al-Aazem wa Saada"* began on Friday 22/4/2005 at 10:15 am by the Lebanese anthem. After several speeches given by several guests of honor including President Lahoud's representative **Mr. Nassif Kaloush, Mr. Abd Ilah Mikati, Mr. Salim Karam, Dr. Shahwan Khoury, Dr. Semaan Georges** and **Dr. Ali Harmush,** the 1st session began at 11:15 am and was given by the two Army engineers **Muhammad Al Jebawi** and **Robert Mansour**. They discussed the following subject: *"Communication Systems Generally used by Armies"*.

Dr. Majed Khoder from MUT introduced a new subject about *"Nanotechnology Applications"* and **Dr. Clovis Francis** from the LU talked about *"Compatibility in Third Generation GSM"*.

The 2nd session started at 2:00 pm with **Dr. Sobhi Bou Chahine** from the BAU, where he handled the *"Low Cost Design of Microwave Power Meter"*. After him the director of signals and radars at the Beirut International Airport **Amin Jaber** explained the *"Navigation Systems used at Beirut Airport"*. The 2nd session was ended by the coordinator of the conference Dr. Ali Harmoush, who introduced the *"Controversy of the New Antenna Technology"*.

The 3rd and last session in the 1st day was started by **Dr. Khaled Mouwas** from the Communication Ministry, GSM office, who explained about "Ogero, DSL Technology". The last subject was handled by **Dr. Ali Assi** from AUT, who wondered about the possibility of ascertaining his dream in performing a Semiconductor Industry at Lebanon.

The conference continued on the 2nd day, Saturday 23/4/2005, at 10 am. The 1st session was opened by the speech of the representative of Moscow Technical University of Communication and Informatics MTUCI, **Dr. Philadimir Socholov**. After that, **Dr. Bashar Al Hasan** from LU talked about "Wireless Connectivity". **Dr. Mustafa Ziadeh,** also from LU, explained the concept of "Optical Amplifier Design". **Dr. Riad Saba** from UOB spoke about the *"Information Security; Opportunity or Nightmare?"*. The last session detained at 12:15 pm opened with the **Engineer Hiba Al Cheikh** from Jinan University, who introduced a "Miniaturization of Folded Dipole Antennas". **Dr. Elias Nassar** from NDU discussed the *"Biological Effects of EM Fields"* while **Dr. Ahmad Rafii** from CUT talked about the *"Distribution of EM Fields in Microwave Oven"*. The overall summary was read by student **George Eid** (CCE) at 1:45 pm.

Scientific Conference

The scientific conference for computer and communication was very motivating since it was a mixture of various important subjects. Although some of the presentations were at a high scientific level, students were able to understand and to gather information on very important subjects that will surely help them in their future. Moreover students had the chance to meet and chat with researchers from several universities.

Radiation from Cellular Phones and Human Health

Dr. Elias Nassar
Electrical, Computer and Communication Engineering Department

In recent years there has been a growing concern about the effects of electromagnetic radiation from cellular phones on the human body.

As the graphical representation in Figure 1 shows, making a phone connection involves two-way radiation between the cellular phone and the base station. The problem lies in the fact that part of the electromagnetic wave radiated by the phone impinges on the body of the person using the phone. Of particular interest is the energy that penetrates into the individual's head, which is the closest part of the body to the phone and therefore receives the highest level of radiation. This energy that penetrates into the head is known to cause heating of the head tissue and questions have arisen about whether it has cancerous effects [2,3].

There exist international standards that specify the maximum exposure levels for the energy radiated into the human body. The two main safety levels are published by the International Commission on Non-Ionizing Radiation Protection (ICNIRP) [4] and the Institute of Electrical and Electronics Engineers (IEEE) [5]. The two specifications are in terms of the Specific Absorption Rate (SAR) and are listed below,

> ICNIRP Maximum SAR=2.0 W/kg in 10 g of tissue.
> IEEE Maximum SAR=1.6 W/kg in 1 g of tissue.

The SAR is related to the amplitude of the electric field in the body and the properties of the body tissue. It is computed using the following formula:

$$SAR = \frac{\sigma |E|^2}{2\rho} \quad (W/kg)$$

where E is the electric field in V/m, σ is the conductivity of the tissue in S/m, and ρ is the density of tissue in kg/m^3.

Extensive research has been done and is still underway in order to obtain SAR values that result from the exposure of the human head to cellular phone radiation. These studies use either computer simulations of the phone-head interactions or experimental measurements on physical models of the head. Findings to date are summarized in reports published by the Federal Communications Commission (FCC) [6], the National Council on Radiation Protection (NCRP) [7], and the IEEE International Committee on Electromagnetic Safety [8] in the USA and the Independent Expert Group on Mobile Phones [9] and the Health Protection Agency [1] in the UK.

A Computer model can be used to simulate the electromagnetic wave propagation in and around the head due to radiation from a cellular phone.

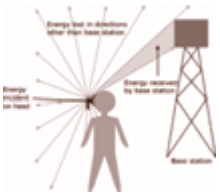
Figure 2 shows a plot of the magnitude of the electric field radiated by the phone and penetrating the head in a series of snapshots for several time instants starting from the top left to the bottom right. The time step is indicated above each plot [10].

Figure 3 shows the point SAR level inside the head when the phone is in contact with the head. The scale is shown to the right of the figure. Note that the highest levels are on the side of the head closest to the phone location.

In Figure 4 the SAR level inside the head is plotted versus location inside the head. The left side of the plot corresponds to the side where the cellular phone is located. The four different curves are for four different separations of the phone from the head, i.e, 0 cm (solid line), 1 cm (stars), 3 cm (square) and 6 cm (cross). We note from this plot that for a separation as small as 1 cm the SAR level drops by a factor of 2.

Several companies have designed protective devices such as caps and shirts made from conductive

Figure 1: Energy radiated by the cellular phone [1]
Figure 2: The progression of the field radiated from the cellular phone as it starts from the phone antenna (time step 80), penetrates the head (time step 320), is absorbed by the head tissue (time step 600) and finally decays to zero (time step 960).
Figure 3: SAR levels inside the head when the phone is in contact with the head
Figure 4: SAR levels inside the head for different separations of the phone from the head
Figure 5: Protective hat sold by handy-fashions.com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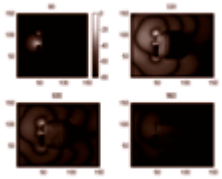
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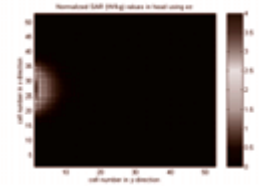
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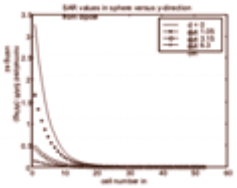
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materials such as silver that are meant to protect the phone user from radiation. A protective cap with flaps shown in Figure 5 was evaluated for its shielding effectiveness using a computer model of the hat. The SAR level inside the head with the hat on and the flaps open was reduced by more than 80% [11]. Several types of radiation shields were evaluated and results were reported by Manning and Densley in [12].

Recently maximum SAR values for different types of cellular phones were published and can be found on the internet [13,14]. It is agreed that the lower the SAR value for the phone the less its effect will be on the head.

Research is continuing worldwide concerning this issue but so far, except for a few studies mainly in Sweden [15], no clear-cut conclusions have been reached concerning the harmful effects of this radiation. One reason for this lack of conclusive evidence is the short period that cellular phones have been in use. For this reason international bodies such as the World Health Organization (WHO) [16] have recommended a precautionary approach to the use of cellular phones such as reducing the time the phone is used and moving the phone away from the head; this approach is recommended until further epidemiological study results are available.

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AC Versus DC Power Systems

Dr. Rabih A. Jabr,
Asst. Professor, ECCE Dept., NDU

Electric power system is the name given to a group of power-generating stations, transformers, switchgear and other electrical elements which are interconnected via overhead lines and underground cables. Power systems are designed to supply consumers with electric energy. In the early days, power generators produced direct current (DC), whilst today alternating current (AC) prevails. In fact it was Thomas Edison, America's most celebrated inventor, who first showed that electrical energy can be supplied from generating stations to end users via a transmission and distribution system. Edison's method used low-voltage DC. However, it suffered from a fundamental problem: at low voltage levels, the power loss in the line severely limits the distance at which electric power can be economically transmitted. In the 1880 Edison two-wire lighting system, the voltage had to be fixed at 100 or 110 V for successful operation of the incandescent electric lights. Consequently, the service area was limited.

The solution was in AC power generation. The outstanding advantage of AC systems rests on the demonstration made in 1821 by Michael Faraday that a time-varying magnetic field induces a voltage in a nearby wire. Faraday's Law implies that AC voltage can be stepped up or down by using a transformer. In 1886 William Stanley, with the backing of George Westinghouse, made the first American demonstration of an AC power system supplying electric lighting to twenty-five businesses. Stanley's creation used an improved transformer design which is the prototype for essentially all modern-day voltage transformers. In 1888 Westinghouse heard of Tesla's poly-phase AC motor and immediately realized its importance for the advancement of AC technology. Soon Westinghouse purchased Tesla's AC patents and employed him to work further on their development. Nikola Testa is widely considered to be the father of the AC poly-phase system.

Tesla's breakthroughs led to rivalry between the advocates of the Edison DC power system and the advocates of the Westinghouse AC system, but AC quickly prevailed. The three-phase systems which are now employed worldwide for generation, transmission and distribution of electric power are based on Tesla's seminal work. In modern energy systems, three-phase transformers allow each part of the system to operate at its optimum voltage. Today, generators produce power at a voltage around 11 kV to 30 kV. Using step-up transformers, transmission can take place at 115 kV, 230 kV, 345 kV, or even higher voltage levels. These high voltages result in a drastic reduction in power transmission losses. The reason is twofold. Firstly, for the same power, as the voltage is increased the current is decreased by the same factor. Secondly, power loss in transmission lines is mainly due to resistive heating of the conductors and is proportional to the square of the current. For instance, a 345 kV line carries one-third as much current as a 115 kV line if both overhead lines are transmitting the same power. Thus, for the same conductor size and power, the loss in the 345 kV line would be only one-ninth of that in the 115 kV line. In AC systems loads no longer have to be restricted to the vicinity of the power-generating station. Loads can take power at 22 V, 380 V, etc., as required by

the consumer, again through the use of step-down transformers. Another advantage of the AC as compared to DC is that it is more economical to construct a circuit-breaker to interrupt alternating current. The frequency of the AC system in Lebanon is 50 Hz. In Europe the frequency is also 50 Hz, but on the American continent it is 60 Hz.

One may wonder if DC power systems are still in operation today. In fact, DC transmission via cables has found an interesting use in modern power systems. The reason is that AC transmission of power is highly advantageous only when done via overhead lines. If the transmission lines are taken underground, the cables energized with AC voltage will suffer from large charging currents which effectively limit the distance of AC power transmission. The DC cable under the English Channel is an example which links the British system to the French system.

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National Grant for ECCE Dept.

The National Council for Scientific Research in Lebanon has approved funding for the following research proposal presented by **Dr. S. Georges** from the ECCE Department at NDU in the academic year 2004 – 2005.

Title: Design of an active power filter for power quality improvement of the Lebanese network.

Abstract: Power quality problems are becoming increasingly important in the Lebanese power sector because of the changing nature of customer loads. Manufacturing processes are becoming more automated and electronic customer loads are becoming more sensitive to voltage variations. In addition, the increased use of energy-efficient power electronic technologies along with stricter harmonic standards and limits are causing more harmonic problems than before. The main purpose of this research is to analyze, design and develop (in a later stage) active filters for reducing the harmonic distortion in the Lebanese power distribution network, and to increase the power factor at critical connection points. Topologies will be chosen on the basis of collective real-world data and the design of new control schemes will be based on a Pulse Modulation Strategy. The anticipated results of this research would show that the application of the active filters contributes greatly to the improvement of power quality in Lebanon and increases the efficiency of the transmission power systems by reducing technical losses, which means savings in the total cost of operation

Project description

Nowadays the use of static converters has become widely common, especially in the industrial and domestic fields. Acting as nonlinear loads, these electronic interfaces contribute to the deterioration of the main power quality, which is characterized by harmonic distortion in the supply voltages and currents. The presence of such undesirable harmonics may reduce the efficiency of the transmission power systems (by increasing their technical losses) and damage the electrical devices connected to the network (over-voltages, overheating, etc.). In the case of the well-known three-phase diode rectifier, the current Total Harmonic Distortion (THD) factor attains 31% for a highly inductive load, and can be much higher for a capacitive one. In order to increase the network efficiency and the reliability of the devices connected to it, harmonic distortion must be limited and devices that ensure a high power factor are to be considered.

Project objectives

The main goal of this research is to design, analyze and develop active filters that would eliminate undesirable harmonics, improve the quality of the electric power, increase the power factor at critical connection points, reduce technical losses in the Lebanese power grid and decrease the operational cost.

The proposed solution can be applied to solve power quality problems in other power systems.

MOBILE PHONE LOCATION

Jinane Mounsef, ECCE Department
Computer & Communication Engineer, M.E., Lab Instructor at NDU, Faculty of Engineering.

I. INTRODUCTION

The use of location information to adapt the applications to the current location and provide the user information that is relevant to the current situation is a fascinating concept. It is based on the fact that the relevance of the information is closely related to the location. In fact, the development of wireless communication systems available today for mobile environments and the evolution of smaller and more powerful mobile computing devices provide the prerequisites to access information anywhere at any time.

For these reasons, it is desirable to establish a mobile location service for cellular phones. Such a service should have the following requirements [1]:

- The location information must be unique within the wireless network coverage.
- The accuracy must be reasonable – within a few hundred meters.
- The position must be calculated within a few seconds after the beginning of the call.
- The location information should be shown on the map.
- Uncertainty in the location information should also be shown on the map, so that the system can ask for additional information to decide.

This article describes briefly the different applications and techniques in the mobile location field as well as their feasibility.

2. ENHANCED 911 SERVICE FOR CELLULAR SYSTEMS

This section gives a brief overview of the Enhanced 911 (E911) regulation for wireless service providers.

The 911 emergency calling system was introduced in 1968 and has since become a very important factor in providing effective emergency service. In the United States, approximately 260,000 911 phone calls are made every day [2]. In response to the increasing demand on the system, the FCC (Federal Communication Commission) started an initiative to make the 911 phone service more effective. This has come in the form of regulations requiring the telephone companies to add features to their phone networks to aid in the effective dispatch of emergency services. In this case, the 911 dispatcher provides information such as the phone number and address of the 911 caller. This is a great help in situations where a 911 caller does not know his or her location, is disoriented or even becomes unconscious during the call.

With the rapidly increasing popularity of wireless phones, more and more emergency phone calls are being made over the wireless phone network. In 1994 in the United States, almost 18 million wireless 911 phone calls were made [2]. The total number of cellular subscribers in the United States currently exceeds 33 millions

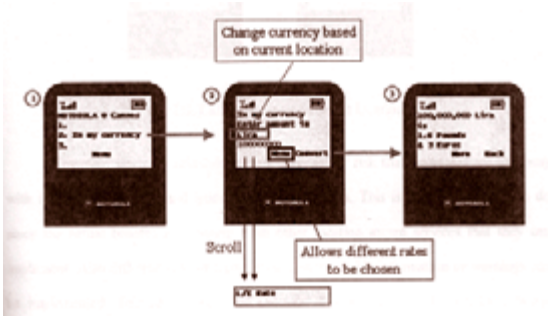

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Figure 1. Currency change using current location.
Figure 2. Calling 911 using current location.
Figure 3. Finding nearest hotels using current location.

and in a recent survey 62% of cellular users said safety and security were their main reasons for getting a wireless phone [2].

Despite this, most cellular service providers only support the most basic 911 services. As a result, the FCC passed in 2001 the following regulation: by October 1, 2001, all cellular service providers must be able to determine the longitude and latitude of a 911 caller within a radius of 125m.

3. APPLICATION AREAS

There are millions of handheld devices such as mobile phones and PDAs (Personal Digital Assistant) in use today. Because of the mobile nature of these devices, there are many occasions where it would be an advantage to know the current location of the device. This location information can be used to provide all kinds of value-added services that we could not have dreamed about before. These include new kinds of advertising, navigation, and information services. By using the location information, the applications can better adapt themselves to the environment and provide the user useful information that is relevant to the current situation of the user. Such applications that use the location information are called *location aware* and the whole concept is called *location awareness*.

a. Billing

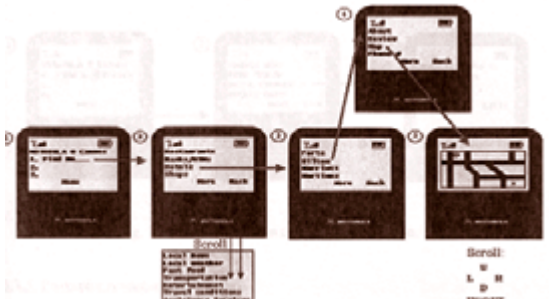
Location-based billing provides the possibility for operators to bill different rates based on the location. This could mean that you get cheaper calls at predefined areas, for example at home and at office. You could also change your predefined areas by sending a message to the operator. Other examples of billing could be automatic billing at theatres, cinemas, trains and busses. These services would be based on proximity awareness. An example of this kind of service is shown in figure 1 [3].

b. Safety

Safety area includes many possible applications. Most attention has been given to emergency call locating. Since FCC has ordered every mobile 911 emergency call in the United States to be located within 125m on the 1st of October 2001, this has created a need for the wireless operators to develop and take into use the location tracking services. Figure 2 shows an example of safety service. Also, different kinds of push services that provide information or warnings can be implemented. This could mean, for example, that, if there has been a toxic waste accident, all the people in the area could be advised to stay inside. [3]

c. Information

Information providing has endless possibilities in location-aware applications. Location information can be used to help in navigation while traveling or provide information about where is the nearest restaurant or flower shop.



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Tourist guides that use location information can show background information about the current position of the tourist. Other information services could include things such as traffic warnings or advertisements pushed to the handset as seen in figure 3 [3].

4. LOCATION TECHNOLOGIES

GSM (Global System for Mobile Communications) already has some rudimentary location capability. The system knows the cell site/sector where an active GSM user is currently located. For some location services, the granularity is sufficient. By combining this information with timing advance measurements, it is possible to fix the user's location even further. In fact, location-based services use one of several available position-fixing methods, all of which have their limitations. Some require the SIM (Subscriber Identity Module) card, or even the mobile terminal itself, to be changed, whereas others require changes at the network level. The ways in which the chosen method affects the global telecom network will have a direct impact on the operator's investments. Consequently, the aim is to minimize such an impact [4].

The different location technologies currently being examined by the wireless telecommunications industry are Enhanced Observed Time Difference (E-OTD), Time Difference of Arrival (TDOA), and Angle of Arrival (AOA). These techniques are called *network* based technologies since the network needs to be upgraded with additional base stations (antennas) that are used for time calculation of the signal transmission and reception. Therefore, distance is deduced. The other examined techniques are GPS and A-GPS. They are called *handset* technologies since the handset needs to be upgraded with a GPS system that communicates with satellites and determines the distance of the caller. The first category has in general a good indoor as well as outdoor performance. However, the main disadvantage consists in the huge expenses of upgrading the infrastructure. As for the second category, its main disadvantage consists of its poor indoor performance because of satellite invisibility [5].

5. Conclusion

Mobile phone location is a challenging problem. There are two main criteria that must be met when developing a mobile location system. The first is to develop a system that can reliably produce mobile location estimates under all circumstances. The second criterion is that the system should require little or no modifications of the base stations and preferably no modifications at all of the mobiles. The reason for this is the large investment that has already been made in existing GSM infrastructure. There are already thousands of base stations and millions of mobiles in use. Even a small modification of this equipment would be very expensive.

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Regional ACM Competition

NDU Computer and Communication Engineering Students Participate.

Charles Aad,
CCE student

"Programming is the ultimate sport of the mind": this is the slogan of the International Collegiate Programming Contest (ICPC) that brings together the brightest students of the world in a prestigious competition. The Association of Computer Machinery (ACM) has been organizing this event since the 'seventies, and this year a total of 4,109 teams representing 1,582 institutions of higher education participated worldwide. Only seventy-eight teams advanced to the world finals, held in Shanghai, China.

As undergraduate students from Notre Dame University, we had the opportunity to participate in the Arab and North African Regional Competition (ANARC), where only one team qualified for the finals. The regionals took place at Kuwait University, and our team, "Team NDU", consisted of three engineering students, namely **Aad Charles**, **Bechara Charly** and **Chemali Karim**.

A general view of the teams taking part in the ACM competition in Kuwait University.

We left Lebanon on Tuesday, 30th November in the afternoon and were back on Friday, 3rd December. We were given a great welcome by ACM volunteers from Kuwait University. We stayed in the Safir Palace Hotel, almost twenty minutes from the competition site. The hospitality of the organizers was amazing, for they were keen on assisting us in every detail and we were very well treated.

We ran on a very tight schedule for the three days and we didn't have much spare time. We participated in the opening ceremony and attended a talk on mapping the Internet and Intranets by **Bill Cheswick** and another talk about the contest rules and the judging system. Furthermore, we participated in an official training session for the teams. As for the contest, it lasted exactly five hours. We felt under a lot of pressure.

Each team received a set of nine problems and had to solve a maximum number of these problems on a single computer. Our team, bearing the NDU name, was taking part for the first time. We faced very challenging opponents and achieved "Honorable Mention", doing better than some teams participating for the second time! The awards were distributed in the evening in the Chamber of Commerce. A formal dinner was also including, taking the form of a farewell party for the teams. All the judges, participants, volunteers and helpers in this successful event were honored at this celebration. We headed back to Beirut the next morning.

We had the opportunity to meet students from the region and learn about their skills, experience and cultures. We also had the good fortune to meet the contest director, researchers from various countries around the world, and faculty members from renowned universities in the region. In addition, we had a close look at the Kuwait University campuses, which are really breathtaking.

Most importantly, we learned to plan our programs and to always test them with multiple inputs to ensure their correctness and validity. Furthermore, we developed our recursion skills, worked on an online judging system, and tackled new problems in the programming domains.

Last but not least, we would also like to thank our parents, Notre Dame University, the Faculty of Engineering with its Dean **Dr. Shahwan Khoury**, the EE and CCE Department and its chairman **Dr. Elias Nassar**, and the Faculty members. Without all their help and support, this dream of ours would have never been a reality.

The ICPC is held yearly. The number of participants is growing every year. We were pleased to face the challenge and to represent our institution in such a large-scale event. It was a new and fruitful experience that exposed us to new horizons in academia. We were the first to participate on behalf of NDU, but we certainly hope for our University to have further representation in the future.

MECHANICAL ENGINEERING AT NDU,

TODAY AND A LOOK TOWARDS THE FUTURE.....

Dr. Walid C. Assaf
Chairman of Department

Mechanical Engineering Program at NDU has developed into what it is now, thanks to the efforts of its faculty, students, graduates of the previous years (who number 141 since the start in 1995) and the support of the University.

The Department has grown to 230 students served by four full-time faculty members and three part-timers. All seven faculty members hold PhD degrees in the field of their specialties from Europe, the United Kingdom, Canada, Australia and the USA. Among them, five, or over 70%, are Canadian, Australian and US dual nationals.

Strong participation in professional activities by the faculty included presentations of papers in international conferences and advising in industry as well as participation in the LIRA-Program (Lebanese Industrial Research Achievements-Program). Faculty and students are involved in activities in the local chapters of the American Society of Mechanical Engineers (ASME) and the American Society of Heating, Refrigeration & Air Conditioning Engineers (ASHRAE).

This coming Summer and Fall 05 Semesters, the Department will host its first Fulbright Fellow, who will be working on *The Design of a Robotic Manipulator System for In-Service Oil Tank Inspection*.

Through careful choice of elective courses, students may graduate with a Bachelor of Engineering Degree in Mechanical Engineering with emphasis in one of the following four areas of specialization:

- Controls & Electromechanical Systems (Mechatronics)
- Manufacturing and Joining Processes
- Energy Conversions, Power & Environmental Systems
- Advanced Studies in Thermal Science and Solid Mechanics

Graduates of the program are employed in industry and construction. Some have gone abroad for advanced degrees in the Mechanical Engineering field as well as in Naval Science and Aeronautics.

Demand for graduates remains high and is expected to continue this way in view of the rising costs of energy and the increasing concerns on environmental issues.

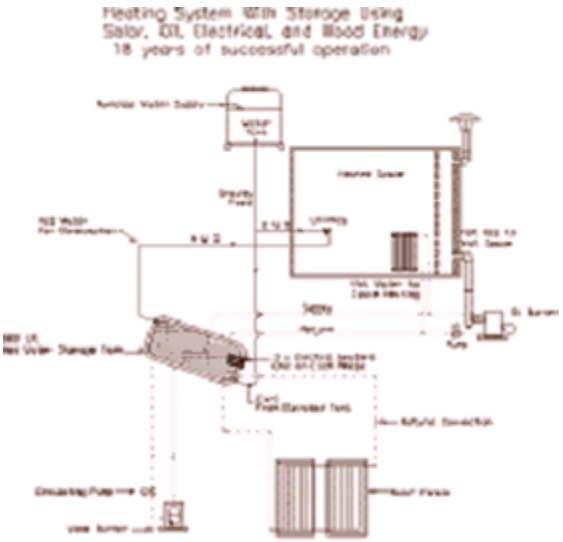
Mechanical Engineering at NDU is taking advantage of the common use of computer codes in design, manufacturing and controls and expects further pressures moving in this direction, from a change to complete automated laboratories for instruction to fully *programmable* class rooms!

Heating System with Storage

Dr. Walid C. Assaf

In point of fact, a home-made heating system with thermal storage and waste heat recovery was put together by the author from locally available materials and built-up units. After 18 years of operation this system has proven its worth in terms of comfort heating and an overwhelming inexpensive supply of hot water.

Central to this system, as shown in the diagram, is a well-insulated 1.8 cubic meter hot-water supply and storage tank, one square meter in cross sectional-area and 1.8 meters long. This tank is used to store heated water from several sources of heat energy.



Schematic Diagram of Operating System

First and foremost among these sources of heat energy are the six square meters of flat passive solar absorbing panels that supply heated water through a closed circuit heat exchanger immersed in the storage tank.

Second, three, 3-phase, 1000 watt each, electrical heaters are inserted into the storage tank and supplied by city electric lines and/or stand-by generator.

Third, a hot-water line is routed from the boiler-fuel oil burner unit to circulate through a heat exchanger adding to the energy stored in the 1.8 cubic meter water tank. (note: the hot gases leaving the burner are passed through adjoining walls in order to recover waste energy by heating the wall space during winter months before exhausting to the atmosphere.)

Fourth, a waste-wood burner is used to add heat to the storage tank. Waste wood is available from the adjoining four acres of forest surrounding the house.

A wealth of practical information has emerged from the experience of operating this system, not the least of which lies in the choice of materials and in the sequence of operation. A comprehensive engineering analysis that includes fuel burning and water-flow rates will be made available to those interested in the design and construction of such systems at a later date.

The American Society of Mechanical Engineers A S M E

Charbel Wehbe
President A S M E, N D U Chapter

A S M E committee: From left to right, Wissam Rashed (Student Programs), Charbel Wehbe (President), Dr. Ghazi Asmar (Advisor), Ralph Saade (Vice-President), and Jad Maalouf (Secretary).
Not photographed: Rawad Eid (Treasurer).

Founded in 1880 as The American Society of Mechanical Engineers (A S M E), today's A S M E is a community of 120000 members dealing with professional, educational and research issues of engineering and technology. The goals of this society are to promote and enhance the technical competency and professional well-being of the members, through quality programs and activities. The headquarters and service center are located in New York City, U S A.

As a member of the A S M E, you receive many benefits, such as a mechanical engineering magazine, the A S M E newspaper, and access to the publications, where you can find the latest technological information and a full database, which includes 21 technical journals. Also as a member, you receive up to 20% of discount on subscription to such materials. Furthermore, you can take courses and be up-to-date on cutting-edge technology via the continuing education program.

The N D U chapter of A S M E is one of only two chapters in Lebanon. The society's advisor is **Dr. Ghazi Asmar**, and there is a committee of five student members formed of a president, vice-president, treasurer, secretary, and student programmer. Each academic year a new committee is elected by student members.

The society's aim is to promote the engineering profession through conferences, field trips, and literature, and through involving students in engineering-related activities, so providing its members with knowledge and experience. As an A S M E member, you are entitled to all the publications offered by the organization; furthermore you can participate in the activities undertaken by the N D U chapter. The A S M E office located in the Engineering Faculty complex is open during the registration period to ease the registration process for the members. Currently A S M E has 28 active members as of spring 2005, and new applications are being processed.

Several activities were planned for the academic year 2004-2005. In the fall semester 2004, a field trip to General Manufacturing and Maintenance G M M (Nakad), a manufacturing firm, took place. In addition, two symposia were held by Mitsulift engineers and **Mr. Antoun Daou** from Rice University (U S A). These symposia were organized with the collaboration of another engineering organization on campus (I E E E). Also, a video CD of the mechanical engineering lab project was recorded and distributed to students and faculty members. Along with the academic activities, A S M E participated in the NDU Christmas fiesta as an extra-curricular activity to raise funds and encourage membership enrolment.

Many more activities were planned for the spring semester 2005, among which were field trips to the Litany hydraulic power plant, the Georgio Refrigeration Group, IVECO Truck Dealership, and Master Pack.

Solid Mechanics and its Applications

Dr. Ghazi Asmar,
Assistant Professor, Department of Mechanical Engineering

A student majoring in mechanical engineering at NDU is required to take courses which form part of a subject commonly known in engineering as Solid Mechanics. Every serious university possessing a mechanical, aerospace or civil engineering program includes, in its course curriculum, the study of this subject, which is necessary for the formation of skilled engineers and able researchers. In the Department of Mechanical Engineering at NDU, courses in solid mechanics range from elementary mechanics of materials to more advanced topics in fracture mechanics, without neglecting subjects such as vibrations and design. What, then, is solid mechanics and why is it of fundamental importance to would-be engineers and graduate students?

Loosely speaking, solid mechanics is the study of deformation of bodies – solid bodies – under the action of loads (e.g., forces and pressures), a sort of cause and effect on structures. One synonym of the word "mechanics" would be "behavior". Thus, solid mechanics is the study of the behavior of solids when they are subjected to loads.

Unlike scientists who try to understand and explain the phenomena which occur in nature with the help of science, engineers use that science to build things for the benefit of mankind. Moreover, they need to build them to be safe, reliable, efficient and durable.

Anyone who has observed an airplane in flight will quickly realize the importance of solid mechanics for such a complex system to function safely.

An airplane requires a means to give it forward motion, thus engines are placed on it. This constitutes the propulsion part of the aircraft.

It needs to be lifted off the ground and remain above ground, therefore, it acquires wings large enough to carry the structure in the air. This is the role of aerodynamics.

It needs to be steered and controlled while in flight and on the ground. Here is where avionics plays the predominant role.

Avionics is the integration of various hydraulic and electronic systems to provide guidance and control.

Finally, the many components that make up an airplane need to stay together, i.e., the structure has to remain in one piece, and this is where solid mechanics comes into play. Only through extensive structural studies and designs of the whole aircraft (fuselage, wings, landing gears, etc.), are engineers able to produce a machine which can safely fulfill its intended task. For example, every time a passenger jet plane takes off and reaches its normal cruising altitude, the entire fuselage expands due to the difference in pressure between the outside and the inside of the cabin, the inside remaining at a pressure close to 1 atmosphere and the outside being, of course, at a much lower pressure. If the fuselage were not strong enough to withstand the

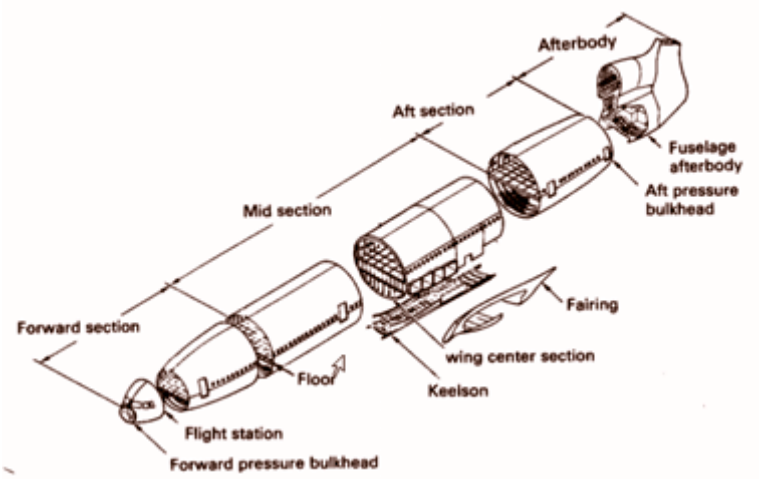


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Fig. 1. Sections of an L-1011 Lockheed Tristar Fuselage
Fig. 2. The Pantheon in Rome, Italy

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high stresses that develop as a result of such a deformation, it would simply break in flight and the plane would disintegrate.

Figure 1 shows the sections that are normally assembled to form the fuselage of a Lockheed Tristar passenger jet. To the structural engineer or the stress analyst, the fuselage represents what is known in solid mechanics as a cylindrical shell.

Shells are curved surfaces in space capable of resisting relatively high loads. Domes, cylinders and spheres represent common examples of shells. Shells are structures which derive their strength from their shape despite the fact that they may be very thin. The amazing capability of a chicken egg, which is a natural shell, to withstand large compressive forces at its poles without breaking is a well-known illustration of the inherent resistance of a shell to loading because of its form.

The Romans recognized the strength of shells although they did not, of course, have the engineering knowledge we possess today. Figure 2 shows a picture of the Pantheon in Rome, Italy, along with its dome, which spans a distance of 43.4m and rises to a height of 21.6m. Arches and domes were Roman structures many of which still exist today, no doubt thanks to the skills of the builders of ancient times but also because of their inherent strength. The same engineering principles that enable this impressive building to remain standing centuries after it was built now protect the hull of a submerged submarine against the crushing pressures of the ocean depths or allow the passengers of a large jet to travel in safety and comfort or even help a person with a missing limb to lead a normal life through the implantation of an artificial member, an example of the application of engineering for medical purposes.

From artificial limbs to submarine hulls to aircraft fuselages and tall buildings, solid mechanics forms an integral part of those engineering principles and is a necessary tool for the creative mind of the engineer.

A thorough knowledge of the mechanics of beams, columns, frames, trusses, plates and shells, all of which are ingredients for structures and machines intended to facilitate and improve the lives of people, is a requirement for any engineer involved in the design and analysis of such things.

Submarines, ships, cars, planes, trains and buildings are all structures which are designed to carry loads and which, consequently, are prone to failure, sometimes with disastrous results. It is, therefore, imperative to predict their behavior using tools from science, mathematics and engineering. Solid mechanics is an engineering branch which is indispensable for their safe design and operation. Who would fly in an airplane knowing that at any moment the wing may break?

Renewable Energy

Wissam Daou
Laboratory Assistant
BE Mechanical Engineering, NDU 99

Introduction

"We do not own the planet; we are just borrowing it from our children."

During the past 100 years we have consumed more of the earth's resources than our ancestors did in the previous thousands of years.

The materialistic and energy-hungry life-style has caused enormous damage to the earth's environment.

Many researchers and environmentalists are directing their efforts towards renewable energy sources as a replacement for fossil fuel and nuclear power. Harnessing the power of the sun becomes an attractive clean alternative to smoke-belching fossil-fuel machines.

This article, which is divided into three parts, addresses the issues involved in the utilization of solar energy and indicates the state of the art in Lebanon.

Part one *sets the scene for energy required to heat water and the conventional methods of water heating.* Part two *presents the effect of using solar water-heating in Lebanon and the availability of solar water-heating systems in neighboring countries.* Part three *lists the different technologies in solar systems in general and discusses vacuum tube systems in particular.*

PART ONE: Energy requirements for heating water and conventional methods

Consider a typical house of five people. The average daily consumption of a person is 50 liters of hot water at 60 degrees Celsius. With cold water coming from the supply mains at a temperature of 20°C, the energy required to heat up this quantity of 250 liters (50 x 5) of water is given by: $Q = m.c.\Delta T$ and this gives a result of 41830 kilo joules of heat (it takes 4.184 kilo-joules to raise the temperature of one kilogram of water one degree Celsius at room temperature. m=mass of water in kilograms, c=kilo-joules per kilogram degree Celsius, ΔT=temperature difference in degrees Celsius.)

Conventional methods for heating water require electric resistance elements, diesel burners, natural gas, heat pumps, and wood.

Considering the case of an electric water heater, the time required to heat up 250 liters of water from 20°C to 40°C by a 1500 W electrical resistance element is nearly 8 hours.

PART TWO: Solar water-heating in Lebanon

Assuming that 200,000 houses use 1500 watts electric resistance to heat water in Lebanon, these houses will be consuming 300 MW for 8 hours. This is equivalent to Zouk power plant running more than five or six hours on full load. Should the houses all shift to solar water heating, the effect on the economy as well as on the environment will be enormously beneficial, with great savings on fuel and electricity bills for the users.

Lebanon is located in an area in which solar energy is highly available and the use of solar water heating systems is commonplace. For instance, Turkey supplies 60% of its domestic hot water using solar energy. Southern Turkey supplies more than 80% of domestic hot water using solar energy. Other countries in the region can and do supply from 65% to 80% of their water heating requirements by the use of solar energy.

Solar energy available on a collector's surface is measured by KWH/m^2/day and is denoted by insolation level. This value varies between one day and another and mostly between one season and another. The following chart illustrates the insolation level in Lebanon.

Figure 1: Solar Systems on Roofs of Buildings at Mersin/Turkey
Figure 2: Insolation Level in Beirut Area - Reference: www.tecsol.fr
Figure 3: Flat Plate Collector - Reference: www.eere.energy.gov
Figure 4: Vacuum tube
Figure 5: Vacuum Tube System / Roumieh-Lebanon
Figure 6: Vacuum Tube – Principle of operation

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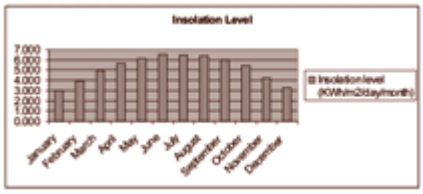

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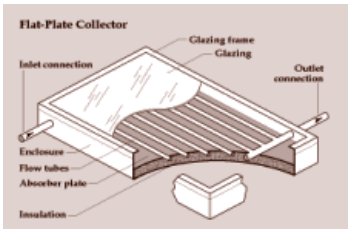

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These values are considered to be high values and when utilized can have a positive impact on both the economy and the environment.

PART THREE: Different technologies

Utilizing solar radiation can be accomplished using two basic methods. Method One is by transforming solar radiation energy into electrical energy by using photovoltaic cells. However, photovoltaic solar panels are still very expensive and the savings do not justify the capital cost of installing a complete system. In addition, storage systems (batteries) are considered to be environmentally unfriendly. Method Two is by transforming solar energy into thermal energy. Thermal solar panels are considered to be an ideal solution since pay-back periods can be reduced to three years. Domestic hot water heating contributes significantly to the total energy consumption in a typical housing unit excluding space heating and cooling costs. The table below illustrates the energy consumption in a typical house.

As can be seen from the table above, 45% of the electrical consumption is due to water heating.

How much can a solar system save?

From the solar energy data available for Lebanon, efficient solar systems can produce 70% of the hot water required per year. In addition, with a little reduction in consumption, this value can be as high as 80%. This value is confirmed by most of the families using solar water-heating systems.

Domestic Electrical Consumption per Month				
Appliance	*Number in thousands*	*Unitary Consump. In Kwh*	*Total Consump. In Tj*	*% consumption*
Lighting	680	371.5	909.4	14.5
Refrigerator	680	342.1	837.7	13.4
Freezer	680	77.8	190.4	3
Iron	680	205.2	502.2	8
Extractor	680	34.2	83.9	1.3
aElectric oven	680	54.0	132.1	2.1
Electric boiler	680	29.7	72.7	1.2
Laundry washer	680	97.2	238.0	3.8
Hair dryer	680	8.1	19.8	0.3
Radio	680	18.6	45.4	0.7
TV B/W	680	17.6	42.8	0.7
TV color	680	103.7	253.8	4.1
Table fan	680	18.6	45.4	0.7
Roof fan	680	10.5	25.9	0.4
Electric water heater	680	1166.4	2855.5	45.7
TOTAL	680	2555.2	6255	100.0

*Reference: *Estimation de la demande d'énergie électrique pour le système Libanais CDR, EDL, EDF (Juin 1992)*

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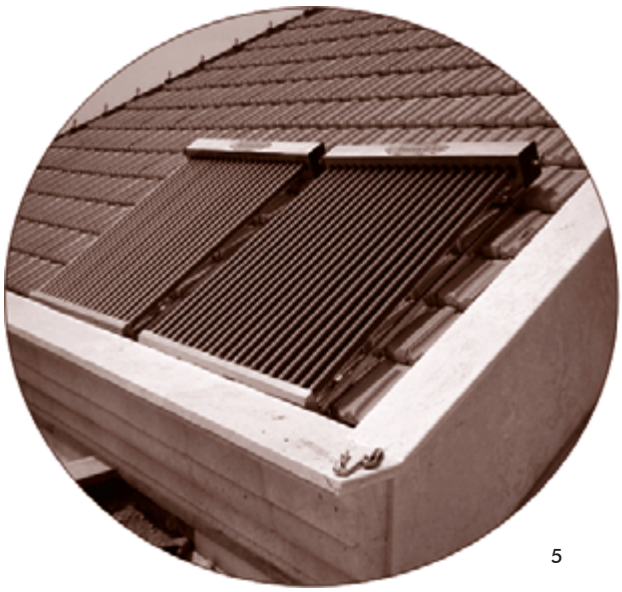

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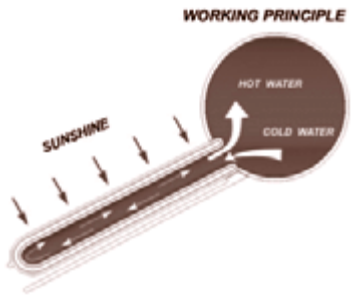

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Different Types of Solar Systems

Different types of solar water heating systems have been designed. However the most popular design is the flat plate collector. Recent systems are adopting the vacuum tube technology for residential applications.

A flat-plate collector is a metal box with a glass or plastic cover (called glazing) on top and a dark-colored absorber plate on the bottom. The sides and bottom of the collector are usually insulated to minimize heat loss.

Sunlight passes through the glazing and strikes the absorber plate, which heats up, changing solar energy into thermal energy. The heat is transferred to liquid passing through pipes attached to the absorber plate. Absorber plates are commonly painted with "selective coatings", which absorb and retain heat better than ordinary black paint.

A vacuum tube collector consists of a number of vacuum tubes connected to a storage tank or sometimes to a collector. Each vacuum tube consists of two glass tubes, one inside the other. Its walls are evacuated to minimize heat loss to the surrounding environment.

The tube is made of borosilicate glass having very low reflectivity. The inside tube is covered with a special coating which features excellent heat absorption and minimum heat reflection rates. Figure 4 presents a vacuum tube solar system at the roof of a typical house in Lebanon. Figure 5 illustrates the working principle of a vacuum tube system.

In Lebanon, due to the high insolation (term used for incident energy from the sun) levels, any type of system, if well installed, can provide very good results. In addition, due to the continuous increase in fuel prices and the increasing awareness for environmental issues, solar systems are becoming "a must and not a luxury" as it was viewed a decade ago.

Appreciation

The following letter was received by Dr. Shahwan Khoury, Dean of Engineering, It was sent by Joe Boulos, Chairman and General Manager of The RIGHT ANGLE, SAL.

Dear Dr. Khoury,

This is to inform you that Eng. Wissam Daou managed in a single day to repair the hot water system we have at home. For your perspective, the system is a sophisticated one (Grumman Sunstream-USA). It was installed 22 years ago by my late father but never worked, as the people sho installed it couldn't commission it properly. My father had given up on it at the time. Now since I came back to living in the same building, I decided to divert the system for my own family use. The first technical team I brought couldn't figure out why the equipment, seemingly still in mint condition, wouldn't deliver.

Finally I met Eng. Wissam Daou, who immediately committed himself to service us and confidently promised me we would have hot water available from the system the next day. Of course, I was skeptical at first. Then I watched Wissam, who reasoned methodically, eliminating various diagnoses of the problem until he found the right answer (related to the lack of pressure in the collectors).

Frankly, I was pleased with Wissam's spirit of service, technical skills and speed of work. I wish him all the best.

Best regards, Joe Boulos.

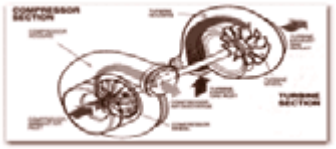

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Fig.1: Turbo Basics
Fig.2: Blow Off Valve
Fig.3: Wastegate

Turbo Accessories

Wissam Rashed
Senior Mechanical Engineering Student

Turbochargers, commonly known as Turbos, are devices which are used to boost the power output of engines. Throughout the years, turbos have undergone major changes especially in the automotive industry and in machines used for energy production. The demand for a greater amount of energy output or horsepower has led to such changes.

However, unleashing the beast in the turbocharger could cause detrimental effects on the engine; thus protective accessories are usually added in order to control the damage caused by overboosting.

This article discusses some of those accessories particularly used in car engines.

Turbo Basics:

As shown in Fig.1, a turbo is composed of two parts: a turbine and a compressor. The exhaust gases spin the turbine wheel which in turn spins the compressor wheel that compresses the incoming air, which allows more fuel to be burned in the cylinder, resulting in a greater power output. This means that with higher speed more power is produced.

Blow Off Valve (B.O.V)

A Blow Off Valve (Fig.2), commonly known as a dump valve, is a pressure relief valve. It gives the sound that characterizes a turbocharged car, a sound which many find charming. The purpose of this valve is to relieve the pressure of the compressed air coming out of the turbocharger and going into the intake manifold during the time it is closed, i.e., when the throttle valve is closed, meaning that the car is not accelerating or no pressure is applied on the gas pedal. It prevents the turbine from stalling (freezing or stopping), therefore reducing turbo lag (delay).

The inside of a B.O.V is essentially a spring. By varying the spring stiffness (hardness), different B.O.V's can be made causing an increase or decrease of the turbo lag. Of course, for better performance, the turbo lag should be minimized.

Wastegate

The sole purpose of a wastegate is to bypass some exhaust flow around the turbine section of the turbocharger to control maximum boost. It is usually controlled by a pressure actuator that is operated by the manifold pressure. The wastegate is normally held closed by a spring inside the actuator canister. When preset pressure limits are exceeded, the actuator progressively opens the wastegate allowing the exhaust flow to bypass the turbine, thus regulating the manifold boost pressure.

This article explained some effective and inexpensive ways to boost and protect a turbocharged engine. More expensive means could be used, for example, having a bigger turbo or using a different material (e.g., ceramics), or a bigger intercooler. Moreover, a turbo timer, a Fuel Cut Defender (FCD), an Anti Lag System (ALS also called a bang-bang), a bleeder valve or even the exhaust system could be changed and replaced with larger exhaust manifolds and hidders.

The Engineering Code of Ethics:

Towards Engineering a More Stable Community!

Dr. George Hassoun May 2005

Have you ever been stuck in a uni-directional traffic jam on a two-directional road when on your way to work?

If so, you would have certainly noticed one or more motorists leaving the line behind you, driving forward at full speed in the wrong direction, by-passing a number of vehicles, and then trying to pull ahead of an unsuspecting motorist!

Well … Welcome to the world of *"Queue Jumping"*!

Queue Jumping is quite common especially in under-developed countries, and not only on the road, but also in many other places: in the market (how many times have you been by-passed by a shopper who took your turn in the bakery or the bank, without the slightest qualm about his/her act!), in government offices (have you ever observed the behavior of the "Bayk's" cousin in the local Town Hall?), and even in higher education institutions (how many instructors do you know have not been contacted by a certain "Khaweja" asking for "a push" in favor of a relative or an acquaintance?)

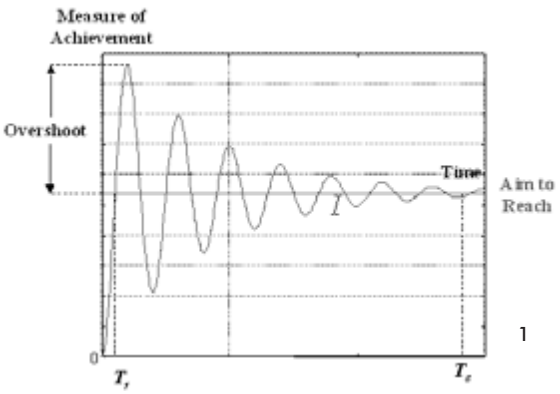
In the *Queue Jumpers'* mind, the idea of making a **gain in the shortest possible time** is of extreme urgency, especially as they are almost always "trying to reach their aims for a *good cause*, a 'Khedmeh', such as driving a friend to the airport, etc.." Ironically enough, *Queue Jumpers* may well be honest and sincere in stating that aim! What they fail to realize, however, is that by acting the way they do, they –

1. Disrespect and **place a larger section of the community at a disadvantage** (road *Queue Jumpers*, for example, take the turns of other law-abiding motorists waiting in line.)

2. Often exacerbate the problem at hand and **place themselves at a disadvantage, in the long run**, by adding another strain to the already over-strained system (e.g. further suffocating the traffic bottleneck, in the case of the road *Queue Jumpers*, resulting in further long-term delays.)

3. Often resort to extreme measures and **take great risks** trying to reach their goals (a dangerous head-on collision with an incoming car is a realistic risk for road *Queue Jumpers*!)

For those unfamiliar with Control Systems Theory, reaching a short-term gain at the expense of a long-term, wide-range penalty and a short-term risk is a well-known control system behavior (see Figure 1): the intended aim is initially reached within a short *Rise Time*, T_r (i.e. short-term gain - as exemplified by a short distance gained by the road *Queue Jumper*), but at the expense of a long *Settling Time*, T_s (i.e. long-



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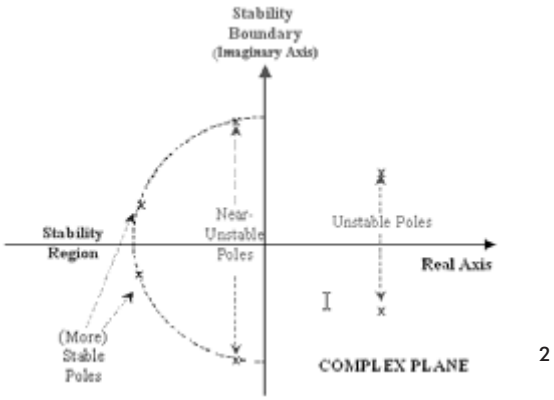

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Figure 1. Typical Response of a system containing one or more "near-unstable" poles.
Figure 2. Complex plane containing three types of poles: stable, unstable, and near-unstable.

term penalty – materialized by a long waiting period), and a high *Overshoot* (i.e. short-term risk – taken upon driving in the wrong direction!).

Although not unstable, this mode of behavior is very close to the boundary of system instability (which is evidently an unsatisfactory system behavior.) It is mostly due to the presence, in the system, of special entities (called "poles") located very close to the *Stability Boundary*, i.e. *Imaginary Axis* - in the so-called *Complex Plane*! (see Figure 2)

The striking similarity of the behavioral modes of *near-unstable poles* in the Complex Plane and *Queue Jumpers* (in our increasingly complex life) makes you wonder whether *Queue Jumpers* actually operate near the limits of stability and/or the limits of imagination?!

In this regard, it helps one to realize that, in Control Systems Theory, it is enough for the system to contain only one unstable pole in order for the entire system to behave unsatisfactorily!

Accordingly, a valid question could then be asked: Is it possible to identify near-unstable poles in our community and, if so, what could possibly be done about them?!

In Control Systems Theory, there are a number of schemes used to control the behavioral modes of near-unstable poles, including techniques such as *"Lead-Lag Compensation"*, *"Pole Placement"*, etc... As the name might suggest, the overall strategy of the latter scheme often consists of replacing the near-unstable poles by more stable poles located far from the Stability Boundary in the Complex Plane.

By comparison, it is clear that our community needs a significant amount of "pole placement", and who better than educators are well positioned to implement the pole placement control strategy in the community?

At this University, the Faculty of Engineering is doing its best to provide its students, not only with the technical and engineering knowledge they certainly need in today's competitive world, but also with a professional mode of behavior that stresses the importance of **long-term vision** as well as short-term objectives, in addition to emphasising the **interest of the community** that should go hand-in-hand with the personal interest. Moreover, students are consistently advised against running **unrealistic risks** that could endanger individuals as well as the community.

Among the tools used to stress these messages are professional codes of ethics. In this context, The Code of Ethics of the Institute of Electrical and Electronics Engineers (see enclosure), addresses several pertinent points:

The **care for the community** is clearly suggested in the preamble of the Code, as well as in the first, seventh, eighth and ninth tenets, where it is explicitly stated that engineers are serving the community, and as such, they are required to act responsibly towards others, to avoid injuring them and to treat them with fairness.

The **long-term vision** of the professional engineer is also highlighted in the first, second, fifth and sixth tenets of the Code where engineers are asked to accept (long-term) responsibility for their decisions, to avoid conflicts of interest and to have a futuristic

attitude by improving their understanding of technology and its potential consequences.

Additionally, **risk management** is also underscored in the first, second, third, sixth and seventh tenets of the Code, where engineers are warned against endangering the public, and asked to be realistic and correct their errors if they do occur.

Needless to say, codes of ethics are certainly ineffective in the absence of **honesty** (see third tenet of the Code), which is closely connected to *truth* – scientists' (and engineers') *most wanted target*.

It follows that if we're honest about transforming Lebanon into a true developing country, we need to *pole-place* its "near-unstable poles", even before they join the workforce. In this fashion, we could perhaps hope to build a satisfactory and safe future for our community, away from the near-instability that has haunted us for a long time!

Meanwhile, until most professions implement a code of ethics of their own, let's see if our re-emerging Lebanon can first implement and then enforce a decent traffic code on our roads, sparing us the morning headaches induced by chronic *Queue Jumpers* crossing us over on our way to work!

The Code of Ethics
of the Institute of Electrical and Electronics Engineers*

We, the members of the IEEE, in recognition of the importance of our technologies in affecting the quality of life throughout the world, and in accepting a personal obligation to our profession, its members and the communities we serve, do hereby commit ourselves to the highest ethical and professional conduct and agree:

1. to accept responsibility in making engineering decisions consistent with the safety, health and welfare of the public, and to disclose promptly factors that might endanger the public or the environment;
2. to avoid real or perceived conflicts of interest whenever possible, and to disclose them to affected parties when they do exist;
3. to be honest and realistic in stating claims or estimates based on available data;
4. to reject bribery in all its forms;
5. to improve the understanding of technology, its appropriate application, and potential consequences;
6. to maintain and improve our technical competence and to undertake technological tasks for others only if qualified by training or experience, or after full disclosure of pertinent limitations;
7. to seek, accept, and offer honest criticism of technical work, to acknowledge and correct errors, and to credit properly the contributions of others;
8. to treat fairly all persons regardless of such factors as race, religion, gender, disability, age, or national origin;
9. to avoid injuring others, their property, reputation, or employment by false or malicious action;
10. to assist colleagues and co-workers in their professional development and to support them in following this code of ethics.

* http:www.ieee.org

CIVIL ENGINEERING AND THE CHALLENGES OF THE CENTURY

Jacques Harb,
DCE Chairperson

On the 26th of December 2004, an earthquake of Magnitude 9 on the Richter scale shook the world. The Sumatra Great Earthquake was followed by a giant tsunami wiping out cities and villages from the surface. Major structures collapsed, desolation spread, and homeless survivors waiting for the relief aids from the international community have been pictured on every TV channel.

The civil engineering profession is facing major challenges. Are we prepared to face similar events? Do we have the ambition to resist forces of nature or live with them? Can Civil Engineers design strong rigid structures to resist Mother Nature or flexible structures to accommodate the movement? Can we conceive wave-breaker structures or an early warning system to protect our coastal cities from giant waves?

The after-shocks are always time for meditation. The Sumatra event, similar to the many earthquakes on the eastern section of the Mediterranean, raises the same question: Are we prepared? Did these populations living on a dynamic earth adapt their way of living to the local environment? The urban expansion of our Lebanese coastal cities encroaching the near hills is the answer. The local population has ignored all kind of geological hazards, such as slope stability, tsunamis, and liquefaction of sand. In the absence of a strict seismic building code that needs urgently to be implemented, the contribution of civil engineers in collaboration with insurance companies and control offices is the only remedy to reduce the impact of future disaster, loss of life and property damage. The table below illustrates some historical events that have occurred on the eastern section of the Mediterranean.

The recurrence of Tsunami waves along the coastal line is striking.

Table 1 Selected seismic events that affected the Eastern Section of the Mediterranean

DATE	LOCATION	MAGNITUDE (M)/ INTENSITY (I)	COMMENTS
?1350 BC	Coastal Lebanon	I 10	Destruction at Byblos and Ugarit? Possibly related to the eruption of Santorini although this may be much earlier (c 1628 BC). Tsunami
525 BC	Coastal Lebanon	I 10	Tyre destroyed (Tidal Waves)
140 BC	Coastal Lebanon	I 8	Tsunami at Tyre
306 AD	Coastal Lebanon	I 9	Tsunami
349 AD	Coastal Lebanon	I 10	Most of Beirut destroyed
Aug.502	Coastal Lebanon	I 9	Destruction from Tyre to Aleppo
6 July 551	Coastal Lebanon	I 11	Total destruction of Beirut, massive damage from Tripoli to Tyre. Tsunami. Coastline altered. Part of Ras Chekka falls into sea. Probably the largest recorded earthquake in Lebanon's history.
May 1063	Coastal Lebanon	I 9	Arqa in North Lebanon is destroyed and abandoned.
Aug. 1157	Bekaa Valley	I 8	Damascus destroyed.
Summer 1170	Bekaa Valley	I 9	Destruction of Tripoli.
June-July 1201	Levant Region	I 10	Widespread earthquakes from Cyprus to Syria. Tsunami.
20 May 1202	Bekaa Valley	I 10	Destruction at Tripoli. Homs and Baalbek.
Dec-Jan 1403-4	Levant Region	I 5	Repeated tsunamis.
21 July 1752	Levant Region	I 7	Tsunami.
30 Oct. 1759	South Bekaa	M 6.6*	Destruction at Safad and Qneitra. 2000 dead
25 Nov. 1759	Bekaa Valley	M 7.5*	Beirut and Damascus destroyed- More than 40,000 dead. 3 columns fall at Baalbek
12 Oct. 1856	Levant Region	I 6	Tsunami.
29 Sept. 1918	Coastal Lebanon	M 6.5	Occurred offshore; felt from Beirut to Zahle
16-May-56	Lebanon	M 6	Epicenter 50 km south of Beirut. 136 dead, 6000 houses destroyed, 17,000 need repairing. Panic in Beirut. Political crisis,

Source: PLASSARD, J. et B. KOGOJ, 1981 - "Séismicité du Liban", *Catalogue des séismes ressentis, Collection des Annales – Mémoires de l'Observatoire de Ksara*, Tome IV (Séismologie).

The September 11 terrorist attack on the WTC in New York is another landmark for the Civil Engineering profession. Existing sensitive structures, vulnerable to vibration, blasting and terrorist attacks are now a center of attention for retrofitting.

Our dynamic environment is dictating a more challenging conception of our structures. Our understanding of dynamics remains limited. The dynamic behavior of civil engineering material used in structures is attracting researchers' focus.

The Department of Civil Engineering now faces these challenges and struggles toward preparing future professionals capable of conceiving flexible structures that can adapt to their local dynamic environment. We live on a moving ground and the dynamic earth requires a better respect, knowledge and environmental understanding.

The Department of Civil Engineering is now operational with a modernized curriculum implemented during the academic year 2003-2004, which is compatible with the ABET (Accreditation Board for Engineering and Technology). The Department is ready for the accreditation process to initiate. Environmental Engineering courses prepare students to embrace environmentally friendly civil engineering projects. Students now are being introduced to three new laboratory courses: Environmental Engineering, Hydraulics, and Pavement Design.

The Department of Civil Engineering has been interacting with the local construction industry through the development and implementation of Laboratory Commercial Testing for quality control of concrete, steel, soil and asphalt material since the Fall 2002.

The professional Society of Civil Engineers (SCE), which gathers in the student body, is active to complement classroom teaching by professional activities such as field trips, guest speakers, laboratory projects and community services. The Department is also actively participating in the activities of the Water, Energy and Environment Research Center throughout the sequence of conferences and projects.

It is finally a dynamic universe and we recall some of the Bible words:

But the Lord was not in the wind:
And after the wind an earthquake;
But the Lord was not in the earthquake: And after the earthquake a fire:
But the Lord was not in the fire:
And after the fire a still small voice.

I Kings ch. 19, v. 11

Performance evaluation of Landfill Covers in Lebanon

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ABSTRACT
Thousands of tons of solid waste produced daily in Lebanon are being sent to dump sites and landfills. However, the major landfill of Nehmeh is reaching end-of-capacity and may have to be closed soon. One of the main concerns related to post-closure performance of engineered landfills is leachate generation. Leachate production is mainly due to water infiltration through the cover, in addition to the water expelled from the waste itself. Given the fact that leachate is a major contaminant source, the objective is to minimize the leachate generated, and as such, impervious barriers, typically compacted clay liners, are built to minimize precipitation infiltration into the waste. However, in dry climates, such as Lebanon, clay covers tend to desiccate and crack despite all the required maintenance and monitoring. As a result of the cracking and degradation of the cover, seepage rates increase drastically and the efficiency of the clay cap drops significantly. The reliance on geomembranes to provide a solution to the above problem has met some failure, due to the vulnerability of geomembranes to puncture, tearing and degradation.

This paper evaluates the long-term performance of existing "conventional" landfill cap systems and introduces the concept of "alternative" earthen covers.

Keywords: Landfill, leachate, clay barrier, hydraulic conductivity.

1. Background

Thousands of tons of solid domestic waste are being produced daily and the questions related to best-practice solutions are pressing issues, particularly in the Lebanon context. Since the end of operations at the sea dump sites in Bourj-Hammoud and at the Normandy, and with the looming end-of-capacity situation at the Naameh landfill, proper and appropriate waste management measures need to be selected and implemented.

Despite the recent advances in waste management/treatment technologies, landfilling remains the most frequently adopted solution. A landfill is an area designated to receive solid waste. The refuse is buried between layers of soil and covered with a protective cap, usually made of impermeable clay and a plastic sheet – called geomembrane (ref. Figure 1). An impermeable liner is also built at the bottom of the landfill to prohibit leachate infiltration into the groundwater (ref. Figure 2).

The popularity of landfills is due in part to the fact that other disposal alternatives do not necessarily handle the entire waste stream and as such some landfilling is always necessary, or because they generate by-products which are classified as wastes which require further treatment or disposal or,

most importantly, since landfilling remains the most economical option.

The modern-day landfills are engineered facilities with stringent design and construction requirements and specifications. Whereas the short-term performance of landfills and landfill liners during the operation phase of the facility has been examined, the post-closure long-term performance of landfills is still subject to investigation and improvements.

In a properly designed and engineered landfill the solid waste is confined in cells. The most likely mechanism for the transport of contaminants outside the landfill boundaries and liner is through water infiltration. It is therefore imperative that the influx of water into the waste itself be minimized. As such, the landfill final cover has for primary task to keep water away from the waste. Evidently, a proper and effective cover is critical to the long-term performance of landfills and should be the subject of focus and interest.

2. Current Situation

Current cover design criteria that carry the approval of regulatory agencies (i.e. US Environmental Protection Agency, EPA) emphasize waterproof barrier layers that separate the waste from the surrounding environment [Hauser, Weand and Gill 2001]. The performance and acceptability criterion of these barriers is based on their saturated hydraulic conductivity. In order to achieve a low saturated permeability, a clayey soil must be compacted at a water content "wet of optimum" (ref. Figure 3). However, in dry arid or semi-arid climates, such as Lebanon, the fine soil will eventually dry, shrink, and crack, allowing precipitation to percolate through to the waste and potentially contaminate the underlying soil and ground water. As a result, a cover design applicable in "wet" climates (Britain for instance), is actually unsuitable for arid to semi-arid Lebanon. A different cover design philosophy and approach is needed to suite the particular conditions typical of arid and semi-arid regions, so a one-size-fits-all approach cannot be justified.

3. Hydraulic Conductivity of Clay Barriers

Clays or, more generally, clayey soils are used in landfill liners and covers, given their typically low hydraulic conductivity. However, the performance of clayey soils as barriers is known to be affected by a number of parameters, including the water content at which they are compacted. Increasing the water content during compaction increases the compacted dry unit weight, γ_d, until reaching the maximum achievable γ_d at optimum moisture content, OMC (ref. Figure 3).

Beyond the OMC, γ_d decreases again. According to Lambe [Lambe 1954], under a pre-determined compactive effort, the soil at dry of OMC has a flocculated structure with relatively large voids. At water contents wet of OMC, the soil possesses a dispersed structure with voids smaller than for a flocculated soil structure. Accordingly, the hydraulic conductivity of clays decreases with increasing water content at the time of compaction.

Indeed, the permeability of a silty-clay/clay compacted at wet of

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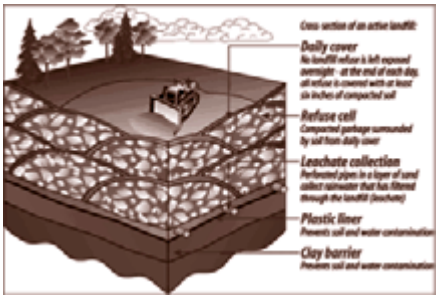

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Figure 1. The daily landfilling process (http://www.urbanservices.act.gov.au/index.html)
Figure 2. Landfill diagram (http://www.metrokc.gov/dnr/kidsweb/landfill.htm)
Figure 3. Variations in (a) dry density and (b) hydraulic conductivity with water content at compaction

optimum may be up to 10 to 1000 times less than the permeability of the same soil compacted at dry of optimum [Istock 1989]. Therefore if the soil is relatively dry during compaction, adequate hydraulic conductivity ($\leq 10^{-7}$cm/sec EPA standard) is very difficult to achieve if not totally unachievable. At the same time, if the soil is too wet, it becomes soft and weak and therefore problematic for field compaction.

Consequently, an adequate water content range and a minimum dry unit weight are typically specified. An adequate compaction effort is also selected to reduce voids, break soil lumps, and remold clods into a homogenous mass.

4. USEPA "Conventional" Covers

Based on the US Environmental Protection Agency, EPA, standards and specifications, Resource Conservation and Recovery Act, RCRA, subtitles C and D specify performance standards for engineered covers for hazardous and solid waste landfills respectively.

Subtitle D cover for non-hazardous waste landfills should consist of 450mm minimum clay barrier having a hydraulic conductivity < 1×10^{-5} cm/s and less or equal to the hydraulic conductivity of the base liner. The latter requirement is to avoid build-up of leachate within the landfill. The clay barrier should be protected by a 150mm minimum erosion or vegetated soil layer. Gas collection and drainage layers may also be necessary [Daniel 1995].

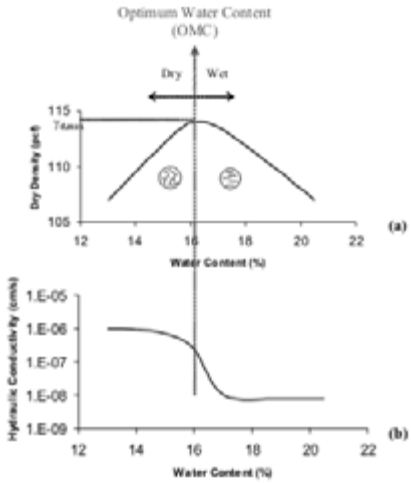
Subtitle C EPA's cover should meet the requirements for closure of hazardous and mixed-waste landfills, as promulgated in 40CFR Parts 264 and 265, subpart N. Under these regulations, the landfill cover should meet the following performance standards: [USDOE 2000]

- Minimize liquid migration.
- Promote drainage while controlling erosion.
- Minimize maintenance.
- Have a permeability equal to or less than that of the natural subsoil.
- Address freeze/thaw effects.
- Accommodate settling and subsidence to ensure maintenance of cover's integrity.

To meet the above criteria, EPA guidelines recommend that the covers consist of 600mm minimum low-permeability soil layer (hydraulic conductivity ≤ 1×10^{-7}cm/sec) overlaid with 300mm drainage layer (hydraulic conductivity ≥ 1×10^{-2}cm/sec). In addition, at least 600mm of top-soil layer should be provided [Daniel 1995].

5. Field versus Laboratory Performance of Clay Barriers

Laboratory tests on wet compacted clays may reveal very low permeability indicating a nearly impervious soil. However, when a compacted clay soil is exposed to atmospheric conditions, water evaporates, creating negative pore water pressures. Negative pore water pressures tend to increase the effective stresses and induce shrinkage in all directions. As a result, the soil layer cracks and



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seepage rate increases dramatically. The higher the water content during compaction, the stronger the effect of pore water pressure on effective stress during drying. Consequently shrinkage strains, and therefore desiccation cracks, increase with compaction water content [Istock 1989].

According to Daniel [Daniel 1995], neither a 150mm-thick nor a 450mm-thick topsoil layer was able to protect clay barriers from desiccation and cracking in a relatively arid area of California. According to the results presented by Daniel, the only possible way to avoid cracking of the soil barriers tested was by covering them with both a geomembrane and a layer of cover soil.

Distortion due to differential settlement is another problem that arises in field performance of compacted clay liners/covers. The tensile strength of clay liners is too low to withstand tensile strains greater than 0.1 to 1.0 % without cracking [Daniel 1995]. Based on empirical observations, 0.1 to 1.0 % strain correspond to 0.05 to 0.1 maximum differential settlement-to-length ratio Δ/L. Daniel pointed out that many, if not all, covers for municipal solid waste landfills undergo comparable distortions. For instance, the hydraulic conductivity of kaolinite may drop from 10^{-7} cm/s in undistorted conditions to 10^{-3} cm/s at 0.5% strain [Choo and Yanful, 2000].

Field measurements and studies on existing landfills revealed that many covers are not achieving the intended performance in arid and semi-arid areas [Benson, Daniel and Boutwell (1999), Dwyer (2001), Allen (2001), Khire, Benson and Bosscher (1997)]. In some places, percolation, i.e. "cover penetration", reached up to 60% of precipitation. [Khire, Benson and Bosscher (2000)]. Consequently new alternatives need to be investigated.

6. Proposed Alternatives

Alternative Landfill Cover Designs, ALCD, rely on physical and hydraulic properties of the soil and characteristics of the top vegetation to lower the water infiltration through the cover. These designs tend to optimize soil water storage, evaporation, and transpiration in an attempt to minimize percolation. Alternative soil barriers can be constructed with a moisture content that makes placement and compaction easier, less expansive, and less susceptible to eventual cracking.

Studies are now in progress at many sites in the US such as El Paso, Texas, Albuquerque, New Mexico, and Richland, Washington [Othman, Bonaparte, Gross, and Schertman 1995]. A number of alternative covers showed promise and will constitute the starting point for researches.

7. Conclusions and Suggestions

The RCRA "Subtitle D" cover is susceptible to desiccation cracking and animal burrows, which may create preferential flow paths and jeopardize the long-term performance of the cover. If a geomembrane is to be added, construction errors and punctures, in addition to large differential movements as the waste mass settles, may create tears and leaks [Foose, Benson and Edil (2001)], and thereby defeat the purpose of using a geomembrane.

The need to explore alternative earthen landfill covers for semi-arid and arid regions is clear and solutions which depend on innovative and adaptable systems should be considered.

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FAAD

‘Meeting the Challenge’

Dr. Assaad Eid, Dean,
Faculty of Architecture, Art & Design,
NDU – Louaize

It was in 1995 that the decision was made to integrate the three disciplines; Architecture, Art and Design, into one faculty. This was in line with a philosophy which had as its premises the following:

1. Architecture, Art and Design have common denominators: shape, balance, color, texture, rhythm, human factors, technology, methodology, etc.
2. Architecture, Art and Design have common driving forces: inspiration, research, communication, motivation, emotion, function, creativity, etc.

Six years after, FAAD gained the power to stand as an independent constituent of NDU. Today, the Faculty awards a variety of degrees along with a range of courses at both the undergraduate and graduate levels. There is no doubt that the Faculty has proved to be increasingly attractive to students. A most recent survey detects that FAAD has built up a reputation; 90% of its graduates have gained employment, locally and abroad, in areas related to the subjects they studied. The survey also highlights that this reputation may be attributed to those who led the Faculty through its first phase of development, and those dedicated faculty and staff members whose continued efforts and high commitment have enabled FAAD to achieve its educational goals.

Today, the challenge is far more paramount. The idea of ‘global education’ for a ‘global world’ is here and now. For us, the modern world is one where the East meets the West; and where Architecture, Art and Design have become common world languages. So, what is required for the development of a Faculty of Architecture, Art and Design in the twenty-first century? NDU is already well on the way to delivering an international education. We, at the FAAD, have set the foundations for an ever-growing institute that provides for an international, professional, vocational career and education. Most of our faculty members have studied in Britain, U.S.A and other European countries, and they are always in contact with these institutes and other well-established design centers of the world.

Our curricula have regularly been revised and updated. This continuing development of our programs has been guided by our desire to provide quality-learning experiences which are relevant to

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1. Dr. Assaad Eid
2. Meeting the Challenge
3. Students at work

current and future employment demands. To that end, we have also been able to capitalize on and develop our facilities to help stimulate industrial practices. Our aim has been, and will always be, to become a leading institute in partnership with industry.

On another front, we firmly believe that students of Architecture, Art and Design need to explore the relationship between their disciplines and technology. The ultimate goal will always be to help students meet the challenges posed by the untamed advance of technology, and accordingly bring about a fusion of learning between 'creativity' and the findings of technology.

There remains the most essential and effective element of development and growth – research. The Faculty's research activities are becoming more and more important, especially where both design and industry are concerned. Next year, the Faculty will host more visiting lecturers, guest speakers and practitioners, and will also hold a number of conferences, seminars and workshops so as students and faculty members engage in debate over a variety of issues and concerns pertaining to the areas of architecture, art and design.

Finally, the past couple of years have witnessed a massive expansion of higher education in Lebanon. Is this a challenge? The challenge for our Faculty is to remain one based on merit alone; not a question of quantity but of quality. FAAD had a distinguished past, and today it offers an exciting challenge to all who are connected with it. We have a battle on our hands, and we are going to win it. Make no mistake about it.

London Visit

Dr. Assaad Eid

During my visit to London, I had the opportunity to visit two British Universities, and to interview several teaching candidates. The overall outcome of this visit may be outlined as follows:

Sunday January 23, 2005:
Upon arrival I met **Mr. Stuart Brown**, a professional designer and photographer, who was employed at different intervals by NDU a couple of years ago. Mr. Brown expressed his willingness to resume his association with NDU whenever we deem necessary.

Monday January 24 and Tuesday January 25, 2005:
I held two long meetings with **Prof. Gabrielle Parker**, Pro-Vice Chancellor and Dean of the School of Arts at Middlesex University.

The discussions during those meetings focused on the following areas of concern:

1. Possibility of re-establishing joint collaboration study programs.
2. Collaboration on the research front.
3. Teaching and learning exchanges.

As for item (1.), Dr. Parker expressed mixed feelings about this issue, simply because NDU failed to comply with the terms set in Memorandum of Cooperation i.e. "validated M.A program" that was signed in 1999.

She is, however, willing to consider reactivating this link once Middlesex finishes reviewing its MA and PhD programs. She also made it clear that another institutional visit is required if such a plan is to be put in practice.

As for items (2.) and (3.), Prof. Parker promised to consider and support any endeavor or request submitted by NDU.

Wednesday January 26, 2005:
A long meeting at De Montfort University in Leicester was held between **Prof. H. Abdallah**, Head of the School of Architecture, Art and Design, **Prof. Taki** and myself. Ways of cooperation were discussed at length. We agreed to start working on two fronts:

1. Joint research programs
2. Teaching and learning exchanges.

It was agreed that Prof. Taki of DMU and Architecture Department at NDU start exchanging ideas on research areas of common interest. It was also decided to start faculty exchange upon studying thoroughly the course contents at both Universities.

Thursday January 27, and Friday January 28, 2005:
I spent those two days interviewing teaching applicants. The following candidates will be recommended for part-time engagement starting Fall 2005:

– Prof. Martin Pitts,
– Dr. Kate Dineen,
– Ms. Chloe Cheese,
– Prof. Carlos Sapotchnik
– & Mr. Stuart Brown.

Other teaching faculty from both Middlesex University and De Montfort University will be considered when we deem necessary.

Visit to London.

On another front, I had the opportunity to visit "Pulse House", a professional design firm run jointly by a British and a Lebanese. An agreement was set up to help NDU students with their training programs any time they happen to be in London. The agreement also considered financial assistance in return for services rendered by those students.

In conclusion, I firmly believe that the visit has set the proper foundation for establishing cooperative links between NDU and two British Universities. It has also provided me with the opportunity to recruit faculty members to better serve our students at both the undergraduate and the graduate levels.

Visit to Qatar

January 20 – 25, 2005

Dr. Assaad Eid

1. Dr. Assaad Eid and Mr. Robert Haddad with academics at the Qatar Ritz Hotel.
2. Mr. Robert Haddad and Dr. Assaad Eid with Sheikh Abdul Aziz al-Sulaity, Committee Chair of Tasmeem Doha 2005, Ministry of Civil Service Affairs and Housing.

1

I was invited to participate in the Tasmeem Doha Conference, scheduled from February 20 to 24 in Qatar.

Beside my participating in the conference, the occasion made it possible for me to explore ideas on how to collaborate with Virginia Commonwealth University (VCU). Accordingly, a series of meetings were held with **Richard Toscan**, Vice Provost for International Affairs (VCU), **Christina Lindholm**, Dean of the School of the Arts, and **John Geldart**, Design Center Coordinator at VCU, Qatar.

The discussions with Prof. R. Toscan and Dean Lindholm covered areas of common interests, i.e. program, faculty and students exchanges, especially for fashion and graphics.

Although VCU is somewhat restricted by its contract with Qatar authorities, both, Toscan and Lindholm, believe that there are areas where we might collaborate especially in the areas of "exchange".

Consequently, the first step for both of us shall be to look at the detailed curricula with course descriptions so as to signal out common areas and then figure out future activities.

As for students and faculty exchange, this, they believe, may work out on a one to one basis.

2

In the area of research, Dr. Geldart agrees to actively engage in joint research activities once we finish mapping areas of common interest.

Finally, in an attempt to put things in practice, Dean Lindholm expressed the wish to visit NDU for further discussion and clarification. A tentative date was set for June 2005.

Four Elements of Santorini Workshop:
Earth – Wind – Fire – Water
Oia 2005

Architecture & Environment Workshop, Santorini, Greece 17- 24 May 2005

The four elements: Earth – Wind – Fire – Water workshop was held at Oia, Santorini and was organized in collaboration with the Environment & Energy Program of Architectural Association Graduate School (Simos Yannas), Lebanon Notre Dame University Faculty of Architecture Art & Design (Habib Melki), and the School of Architecture of National Technical University of Athens (Thanos N. Stasinopoulos).

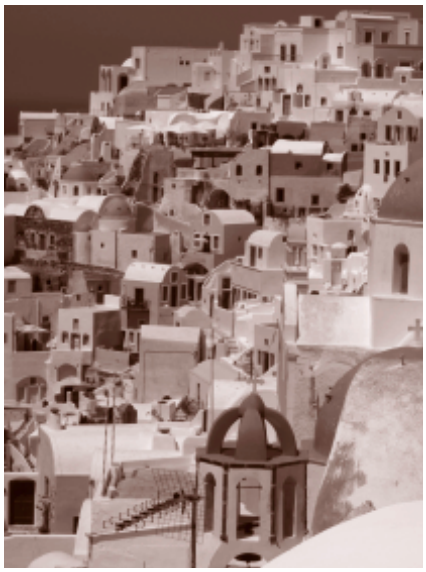
The Workshop was attended by over 40 students and teaching staff from the three institutions. The participating group, from Notre Dame University, Louaize was as follows:

Students:

Nadine Ayoub	20002101
Chadi Bteich	960114
Joelle Dahdah	20001661
Roland Darrous	20021512
Anthony Keyrouz	20011281
Imad Kfoury	20012576
Ahmad Sabra	983122
Antoine Wakim	20013218

Instructors:

André BECHARA
Jean-Pierre EL ASMAR
Nicolas GABRIEL
Habib MELKI



The purpose of the short but intensive seminar was:

a. to introduce students into the interaction of natural forces and human settlements that has created sustainable communities for centuries and
b. to get involved in an applied project in order to understand actual problems and search for applicable solutions.

Project Summary:

- Introduction to Location: Students and faculty members attended a guided tour on the historical sites and important landmarks of the Location. An academic brief on Santorini was distributed to all participants. The brief concentrated on basic information related to the geography, history, culture, climate, and most importantly the major features of the architecture and urban fabric of Santorini.
- General Thematic of the Workshop: The guided tour and the brief were meant to enable the students to deal with the general thematic of the workshop that was "The appropriateness of Architectural Choices with respect to the socio-economic, environmental, and geographic context of the chosen site".
- Energy efficiency concerns from the Past: The ingenious adaptability of predecessors was imitated in terms of sustainable exploitations of natural resources in current times.
- Jury and Team formation: The jury was composed of the faculty members of participating universities in addition to other invited jurors. Professors of the three participating universities distributed the students into 6 groups, each of which included members from the three universities as well as from the different levels of student status (ranging from sophomore to graduate levels). The main rationale behind this choice was two-fold; first, to ensure an academic exchange between students of different educational backgrounds, and second to provide the participants with a challenging yet unique academic experience.
- Certificates & Awards: On Monday afternoon, May 23, the jury evaluated and decided on the best project and awarded three winning teams according to presentation, creativity and applicability. Certificates were distributed to all student participants.

The Project

Signs of Mediterranean civilization abound in the city of Beirut. Over the centuries, it has known ups and downs like all turbulent societies. Constantly.
Two parts of the city have now converged like continental plates.

All the agonizing forces of the human stories that trigger changes on the Earth's surface and on the city itself can be read along the fault, like a physical sign of the convergence of two similar but different realities.

The present is nothing more than a phase between the past and the future that will form a layer of archaeological remains for the centuries to come.

It is in this prospective that the intervention must be seen.

Beirut is now enjoying a period of relative stability and can reflect on and invent solutions for its future. We also are aware and convinced that social justice and economic and environmental sustainability are essential conditions for future development.

Our proposal is divided into three main parts:

> The most southern part from where the city penetrates into the Beirut Central District (BCD), introducing new and unpredictable activities.
> Martyrs' Square, providing an opportunity to pause, reflect, meet, etc.
> The northern part, extending towards the sea, and

Jean-Pierre El Asmar

The design group below was short listed among six of 270 international entries to follow up on the second phase of the **International Urban Design Ideas Competition on Martyrs' Square** launched in June 18th, 2004, by SOLIDERE jointly with Union International Architects (UIA) and the UNESCO.

The design group consisted of:

Team Leader:
Jean-Pierre El Asmar, Architect, Senior Lecturer FAAD, NDU, (Lebanon)

Coordinator Italian team:
– Leonardo Checcaglini, Architect, independent researcher, Florence (Italy)
– Giuseppe Rinaldi, Architect Urban Planner, Florence (Italy)
– Antonio Cantatore, Architect, independent researcher, Florence (Italy)
– Matteo Lauriola, Architect, Florence (Italy)

University of Florence, Department of Architecture (Italy):
– Alberto Baratelli, Architect, Professor, Department of Design
– Chiara Di Carlo, student in Architecture
– Nicola Lombardi, student in Architecture
– Giovanni Rosi, student in Architecture
– Gabriele Sestini, student in Architecture
– Paola Somma, Urban Planner, Venice (Italy)

intersecting with the east-west entrance (here too, new functions and new perspectives will be introduced).

Access from Damascus Road:
This is the smoothest part of the proposal. The signs of the land fractures are becoming visible and recall the period which was characterized by strong tensions. These signs, already crossed by transversal directories of stitching, reach as far as the Square.

The lack of continuity in the volume of the buildings in this area serves as an introduction to the Square; here we find the entrances to the underground parking underneath the Martyr's Square.

Public buildings communicating with the Avenue du Général Chéhab house socio-cultural activities, and will receive those who enter the BCD.

A service centre will stand in the middle. Its main ring will be occupied by the urban and extra-urban public transport systems terminal. From this point four bus lines will lead in four different directions, thereby connecting the whole city. In addition small electric shuttle tourist buses will link the inside of Martyrs' Square with the "Tell" area, with the Archaeological Museum in the northern part of the intervention area, and also with the Corniche shoreline towards the Institute of Eastern Mediterranean Civilization. The "Saifi 2" residential complex and another similar one to the west will complete the mixed-use character of the area and will continue the rhythm of the urban fabric outside the BCD reaching finally the Square.

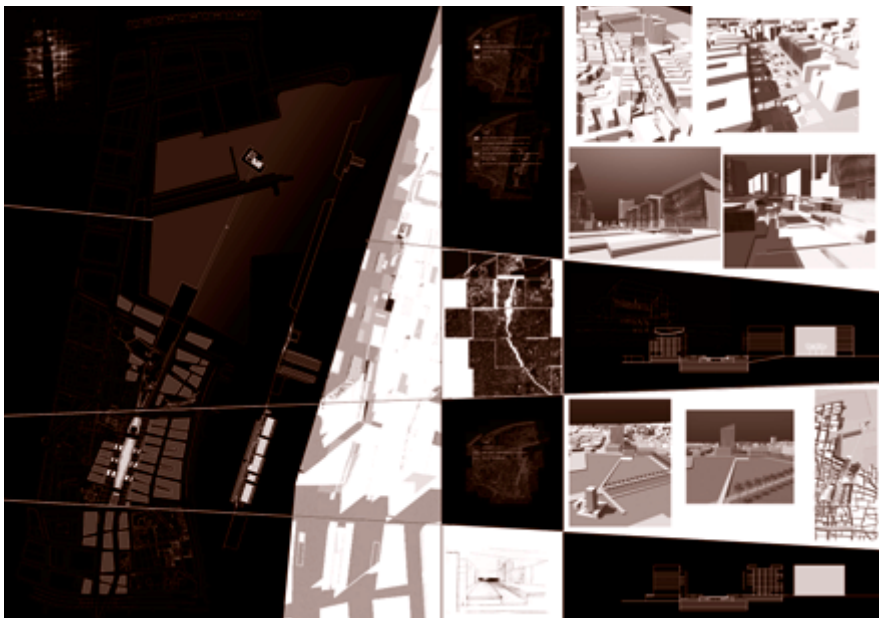
From this point forward, water flows along the axis until it reaches the meeting point and lays the foundations for a new common path.

The Martyrs' Square:
Martyrs' Square is a healing wound, whose sutures are giving it back to the city. Here the point of convergence is rediscovered, as well as the points of contact. Bridges are spanned, roads are opened, and all the elements that will allow access are pursued. These will allow exchange, crossing, and flow, from inside the BCD as well as between the BCD and the rest of the city.

The Square becomes at once a symbol of the conflicts that traumatized the city and the big event of today's reconstruction.

The space of the street, offering more possibilities of social interaction, is gradually transforming.

The place of past conflicts is transformed into a place for future gatherings. It becomes a moment of rest (once parked, we move in a different way) in which the perception of instability and conflicts (geological and social) generates a landscape of relation.



Various layers are participating in the definition of a place of exchange, where the public spaces appear to increase and multiply, taking advantage of the tectonic social movement. Streams of people are crossing each other while carrying out their different activities (walking, resting, selling, meditating, etc.); they interact like drifting plates.

The earthquake that followed human events is the beginning of a new human and physical geography. The ground is uplifted and mineral plates are also raised, gently bending and offering pathways for walking, benches for sitting, connection ramps between the various levels of the fracture, and also spaces hosting, between the different stone layers, exhibitions and refreshment facilities. The rebirth of small trees and fragrant shrubs between the fractures offers pleasant shade. Water flows, disappears and reappears with fluxes running on the rocky surfaces with the aim of creating through its evaporation the typical microclimate of an Arabian garden.

On the surface, and on both sides of the square, the buildings open to the surrounding city, rarefied shopping arcades, a few cafeterias, restaurants and walkways. Their main front elevations become a skin, a layer that pops up before the building itself, working as a double skin facade for climatic protection, and going down to reach the underground of the fault's fractures. A continuum of transparent tech-polarizing glass/steel screens, inclined due to the effects of the "earthquake", are placed in reality to avoid solar rays during the warmest hours. These panels will enclose a micro-climatic space as a buffer between the interior spaces and the exterior spaces of the building. This space is open at the bottom, as well as near the roof. This is an equipped public access, containing elevators, stairs, and linking walkways. These services sink underground, and connect the surface to the lower levels.

Taking advantage of the natural movement of the air and the abundant use of vegetation, this buffer zone will guarantee climatic comfort close to the buildings, above all near the shops at street level.

The monument of the Martyrs is placed at the northern side of the square, positioned in the centre of gravity with respect to the new proposal. It is shown to its best advantage by being on a block that will also provide access to the last phase of the archaeological path towards the "Tell" site. With this element our intention is to put a visual target, aiming at evoking the size of the old square, and clearly marking the following part of the Grand Axis.

Towards the sea:
Here begins a new archaeological area.

This is where most important transformations have taken place, and will become the influential factor of the activities and functions which are

essential to how the city sees its future.

From the Square and towards the sea the path crosses through distinct poles: glass towers and contemporary buildings towards the east, and buildings for archaeological research and the study of the Mediterranean culture towards the west. These buildings are all designed to respect preceding city stratifications. They will be elevated from the ground to allow them to be lived, following the approach adopted for the Garden of Forgiveness.

The skyscrapers to the eastern side and towards the sea trace the intersection between the Axis and the entrance directory from the northern shore. This entrance will not only be the technological and "media" front for Beirut, but a crossroad and a place of delineation, a target and a living place, the focus of the entire "Corniche" shoreline circuit and will offer the possibility to organize public events and exhibitions. This will be secured by buildings for ceremonies and shows, able to host important events as well as important festivals (cinema, music, etc.).

The waterfront, which allows water to invade the city modifying its edges, will be enclosed by this system; this will be enhanced from the privileged point of view towards the sea and the mountains of Lebanon, parts of the country's constituting elements.

A green carpet protruding over the coastal line, is a final effect of the action of the earthquake, and like the action of a wave uplifts the ground before it reaches *rue de Trieste*, and propels it into the waters invading new spaces. The expansion now goes towards the sea. A ramp will reach the Institute of Eastern Mediterranean Civilizations, connected to the ground, but half of it is suspended over the water, offering the opportunity to look back at the city by showing it to the world.

The Park and the Tell Heritage

The historical path is entirely articulated inside the BCD, suggesting a promenade starting from the Roman Baths, passing through the Garden of Forgiveness, to Martyr's Square, reaching the "Tell" area. This path is a park that alternates typical urban episodes with archaeological themes and landscaped areas (green elements, levelled ground). This path, is not intended to follow any chronological continuity; starting from this phase of planning the future, it rotates along the traces of past civilization, and collects and integrates contemporary structures. The new architecture becomes archaeology. The moments of contemplation (Garden of Forgiveness), of study of the past (Tell area - archaeological museum and the Museum of Mediterranean Navigation), of activities (Martyrs' Square and its axis), and for future planning (Institute of Eastern Mediterranean Civilization), have a specific identity and architectural character, being all part of one physically connected discourse.

CHADIRJI AWARD for Architecture Students in Lebanon 2004

SECOND PRIZE:

Elie Hawi, N.D.U, FAAD, Architecture Department

PROJECT:

ARCHITEC-TAOIC; A CENTRE FOR TAOIST ARTS.

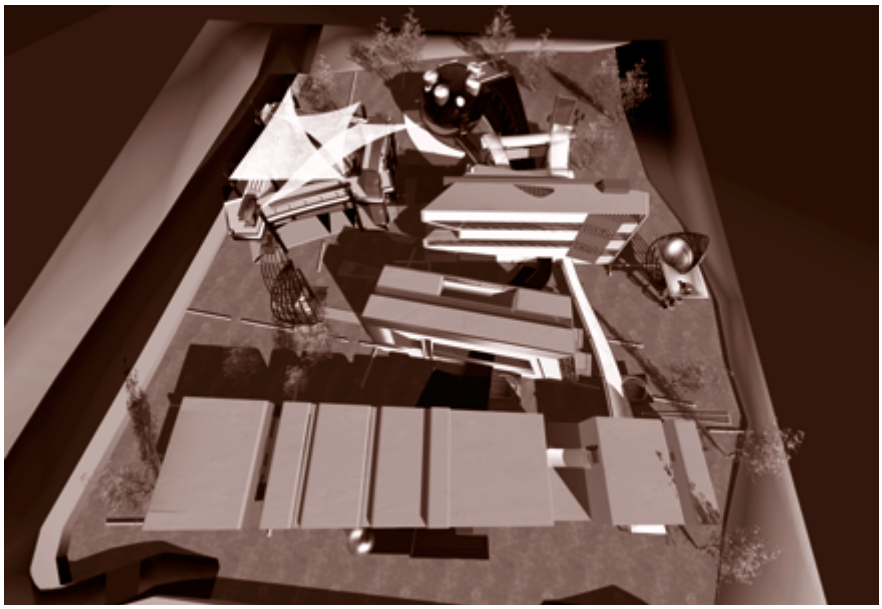
ARCHITEC-TAOIC is a word invented by E. Hawi to express the spirit of the project, which is an architecture shaped and moulded by Taoist concepts.

The project tackles the thought of Taoist philosophy, one of the oldest oriental philosophies, which affected the way of life, in all its details, of the Chinese population.

Founded by Lao-Tse (604-531 BC), Taoisim concerned the well-being of humans in a tendency to establish the equilibrium between nature and human beings.

Tao can be roughly translated into English as *path*, or *the way*. Basically, it is not definable; it is rather experienced. It "refers to a power which envelops, surrounds and flows through all things, living and even non-living; also it regulates natural processes and nourishes balance in the Universe."

Thus, the morphology of the



Centre of Taoist Arts resulted from the application of Taoist concepts in the design process, of which the most important are:

- **The Yin Yang** (symbolizing time and change, interdependence, conciliation between contradictions.)
- **The Five Elements.** (as the structure and cycle of nature)
- **Wu Wei** (Nothingness).

Finally, the result of that development was a project where E. Hawi negated the standardization in architecture by introducing forms, shapes and materials in a way to re-question human perception while enhancing the semiotic effect of architecture showing Taoist principles.

Global Message: A Landmark for human achievements

Herbert Marshall Mc Luhan argued in his famous "The Medium is the Message" (1967) that societies have been shaped more by the nature of the medium by which people communicate than by the content of the communication. Being a powerful communication medium, architecture, in this respect, has been and will always be a conveyor of messages and an embodiment of ideas.

In this ever-growing globalized world, one would question the paradoxical aspects of globalization especially if the ease of proliferation of values and ideologies is taken into account. The "One World" claim is faced with the increasing number of smaller nations, the annihilation of some borders balanced by the drawing of others, and the democratization of knowledge concurrent with medieval wars and terror.

Far from being morally critical, we intend to perceive globalization as the bonding agent of human values and architecture as a major medium to convey and celebrate the great achievements of human kind. Architecture, through the proposed design, is thus endeavoring to express the spirit of its time and to favor the emergence of a global feeling of belonging.

The site of the proposed design is in the Atlantic Ocean near Bermuda Island, a controversial location for a global-scale project. A site where the remains of the wrecked ship of all "minor / lesser belongings" will metamorphose into a floating monument. A monument for the new consciousness of the world community as a global village.

Floating on water, levitating above all roots, the proposed design will consider the use of cutting-edge technology and High-Tech materials such as Magnetic Levitation, the Aero-Gel materials, the Nanno-Carbon tubes, The Crystal Glass, etc.

THE GLOBE

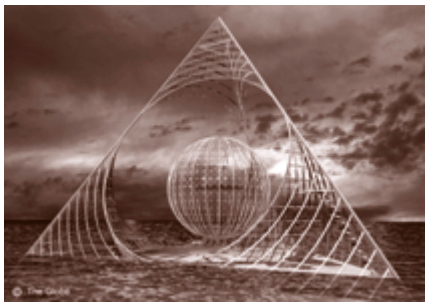
Abstract

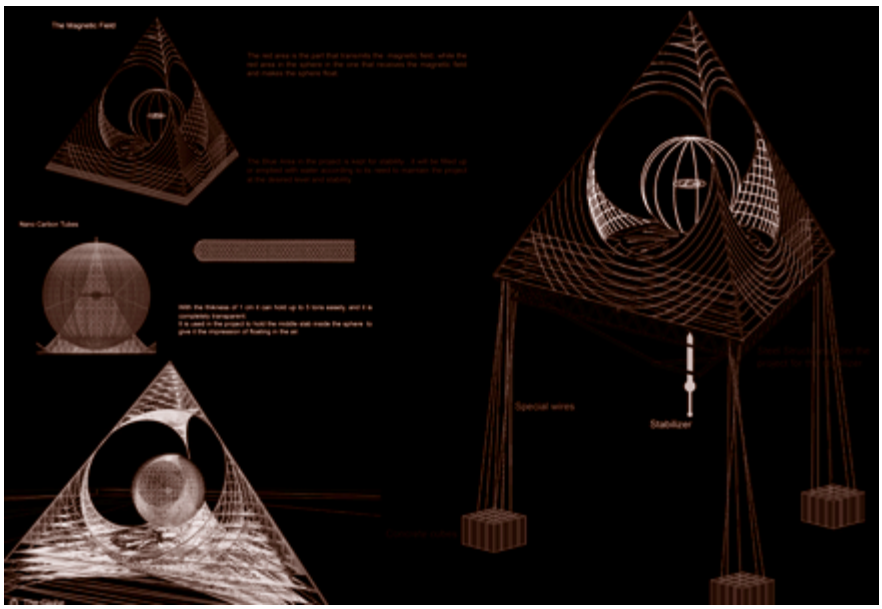
It is known that civilization is what man leaves behind, for instance cooking and hunting tools; drawings and writings on stone or animal skins or clothes; weapons; and farming instruments. All these things provide a glimpse into the daily lives and customs of past civilizations. Some of the most noticeable and interesting things are the buildings, homes, monuments, temples, and other structures that reflect the time in which they were built and in which they served their usefulness. For example, the Pyramids of Egypt, the Acropolis, Baalbek and many other monuments.

Structures usually serve a function, but they can also be symbols that identify a place or represent a cultural belief or value of a certain population. Such structures are called landmarks that characterize a locality.

Others serve as symbols or landmarks, such as the Eiffel Tower and the Statue of Liberty, but these are not representatives of the present century population, and their cultural values.

The main theme of the project is to make a building, a monument that reflects the beliefs, the way of thinking, the latest technologies, and the identity of our world.





Suspension of the Project

Many questions are to be answered for the justification of such a project:

- *The Egyptian pyramids and other structures have withstood the test of time. What modern-day structures do we think will be around in the year 3000?*
- *What did our technology lead us to that can be used in this landmark and represent our achievements?*
- *How can contemporary architecture express "as it has always been" the spirit of its time?*
- *And how can it then celebrate the human values that are relevant to Global culture?*
- *How can we Architects help emerge global belonging in response to the endangering local fanaticism?*

The proposed project is therefore perceived as a monument that celebrates mankind's achievements in their global dimension.

Description of the project

Formed by a tetrahedron with a 300m side, the sphere has a diameter of 100m, floating in the air all the time at 15m from water level by the use of the magnetic field.

The outer structure of the sphere is made of a satellite skin, connected to the whole world, so everything is updated instantly and covered with crystal glass that can be totally transparent and opaque at the same time.

A virtual show will take place inside the sphere, showing everything in a hologram form, so we can watch and experience all the achievements done till today, and by that we can watch the evolution of Humanity and the way it affected our life.

The elevator is about 15m in diameter, and is specially designed for the project, with no cables or rails, and it transports people from the middle slab at water level to the center of the sphere.

The Slab at the center of the sphere is made of transparent glass, hung by the use of nano-carbon tubes, completely invisible, 1cm thick and able to 5400kg.

This transparency will make us experience a new kind of space, as if we were floating at 60m above water level.

If we can adapt a global monument to different existing contexts, we would then help spread a global understanding of human values.

Rony Pierre Imad.
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Tel/Fax: +961 1 900200
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Professional Design Practice Lecture Series

As part of the learning process and the effort to simulate a true professional environment, the senior students of the Graphic Design program at FAAD heard a series of lectures throughout the months of April and May.

The first lecture was presented by **Mr. Ramzi Choueiri,** Managing Director of Reem Trading, on April 25 in the FAAD Design Studio. It covered paper properties, use and characteristics. Mr. Choueiri dealt with the paper production process, the different varieties and types of paper and their appropriate use in printing.

Mr. Jimmy Ghazal, a Design Dept. graduate, currently working with Quantum and Saatchi & Saatchi as well as freelancing, next spoke on his professional experience and his transition period from a student to a practicing designer. Mr. Ghazal presented his portfolio and the corporate identity he created for Aoun Supermarket.

The third lecture was presented by **Mr. Ghassan Chawraba,** a graduate from the London College of Printing and owner of Calligraph Printing Press. Mr. Chawraba covered the relationship between the designer and the printer. He showed examples of printing techniques, special effects and the proper preparation for such tasks. The lecture then covered some typical problems and errors that designers face when dealing with print houses to maximize the quality of the output.

Mr. Bassam Cordahi, accountant, delivered the fourth lecture, covering the fiscal system that the students will face as freelancers. Mr. Cordahi presented an overview to the students on their duties and rights once they are in business in relation to the Lebanese government and its Treasury Department.

Finally, **Mr. Jean Akl,** lawyer and legal counsellor, dealt with issues related to copyright law, trademark infringements, intellectual property protection and the counterfeits that every practicing designer will face. Mr. Akl also stressed the importance of brand identity and integrity from a legal and design point of view.

The overall feedback of the students was extremely positive, as any academic program must have its links and be rooted in the professional environment, to prepare the students adequately for real life professional practice.

Patchi Packaging Competition

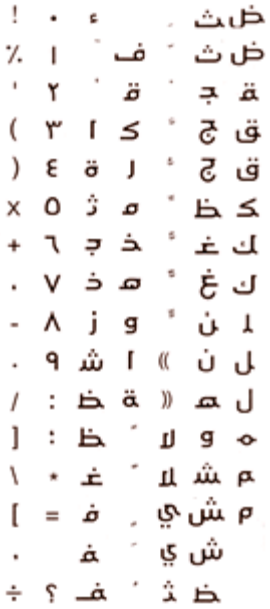
As part of the Packaging Course of the Graphic Design program and the links with the industry that the program is establishing, Ms. Rebecca Kelendjian, Marketing Manager of Patchi Industrial, visited FAAD to officially brief the senior students on the project requirements and the prices for the Patchi Packaging Competition.

This inter-university event was followed by a visit to Patchi premises in Siblin.

The students were welcomed by the Marketing Manager and Corporate Identity Consultant and then toured the production facilities, chocolate factory, printing house, manual packaging section and showroom. At the end of the visit, Mr. Choukair, CEO of Patchi, delivered the prizes to the winning students. Mr. Jean Mark Tarabay received the third prize, while Ms. Sevan Kouyoumjian and Ms. Tania Boutros received two special prizes for their remarkable combination of colours and materials. All visitors received a surprise gift prepared by Patchi. The board members expressed their intention to pursue collaboration with NDU on future projects, as they were very pleased with the outcome and variety of the projects.

GO GREEN Annual Competition (energy saving and rural tourism awareness campaign)

The Applied Typographic Design junior students took part in a competition launched by Schtroumpf / UNDP under the Go Green theme of creating awareness to save energy and promote rural tourism in Lebanon. The outcome of this inter-university competition will be announced on July 2005 in a forum at the Schtroumpf premises in Jounieh. This is the third year in a row that the Graphic Design students have participated in this event, with a success level on every occasion varying from first to third prize, depending on the category entered and the theme of each year.



Layout Arabic Type Competition

As part of the Advanced Typographic Design course of the Graphic Design program and the links with the industry that the program is trying to establish, the senior students have taken part in an inter-university competition to design a new Arabic typeface to be sold in the market on a CD bearing the University name and the students selected.

After a long process of design and preparation, the following students have their type designed featured on the CD: Carla Khater, Hisham Ghneim, Samar Zablith, Marie-Joelle Tayyah, Muriel Moukawem, Sandra Amine, Charbel Karam, Henry Dahan, Hala Abi Aad, Sevan Kouyoumjian and Lea Zahar.

The prizes were to distributed at the Layout premises in Beirut on June 17, 2005 and the CD launched in the market.

Profile Intermedia 7 Conference, Bremen, Germany

On December 3, 4, 5 2004, John Kortbaoui, Graziella Daghfal and Diane Mikhael attended the yearly International Design Conference: Profile Intermedia 7, Bremen Germany.

Profile Conference definition.

— Profile Intermedia Conference accepts each year entries from all countries and has international recognition.
— The conference subjects concentrate on the following: Design, Art, Music, Communication, Fashion, Film, Digital Media, Video, Photography, Architecture, Performance.
— Speakers at this conference are professionals in their fields. Guest speakers are invited to lecture and hold workshop sessions, which are organized in parallel to the conference presentations.

In the very fast film workshop competition, we presented a 5-minute fast film as a result of a three-day workshop on shooting and editing the theme 'Love Story'.

Many films were presented (around 12 films) and submitted for the competition.

Out of the films presented, three were nominated by a jury of seven assessors in the field of digital media and films. The nominees were classified to win the first, second and third prize. We, Diane, Graziella and John, won the second prize Silver Award.

We would like to mention that our participation has presented Notre Dame University, Lebanon to an international audience of 1000 participants from all over Europe, America and the Middle East.

An Ethno-Musicological Expedition Lebanese Folklore in Danger!

Ahmed Karkanawi
Musicology student

On Saturday, 21st May, 2005, students of the Musicology Department were launched on a scientific mission to gather and study the folklore songs of the fishing community of Batroun, led by the Reverend Professor Elias Kesrouani, Chairman of the Department. During our expedition, we spent several hours meeting and talking with the fishermen.

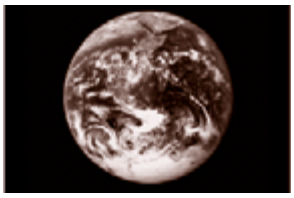
They talked about their concerns, their worries, their sufferings, the indifference of the government, the pollution of the sea, and the general bad situation they are suffering from. With the social bitterness leading to an extremely individualized society, the continued neglect on the part of the government, and the lack of any institutions taking care of the folklore, the musical traditions are struggling to survive and a priceless human legacy is in serious danger of extinction.

ARCHITECTURAL HERITAGE & METHODS of its PRESERVATION

Habib Melki
Senior Lecturer – Architect
NDU – Lebanon

Abstract
The evolution of Lebanese architecture shows an evident deterioration of the relationship between the built environment and the existing microclimate. Man's drive for comfort has always been, and will continue to be, an ultimate aim in his daily life. This factor was responsible for gradually switching from the traditional architecture to a variety of modern forms. While achieving this needed comfort, man slowly became dependent on new technologies for lighting, heating, cooling, all relying on fossil fuel or other polluting sources.

Traditional Lebanese architecture is a valuable reference for practical application and live examples in conservation and environmental awareness. But is this only historical heritage or could it also be applied to contemporary architecture? How strong is the relationship between Preservation and Energy Conservation? Is there a possibility of achieving comfort using the traditional ways?



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The advantages of energy conservation in buildings are financial, social and physical. However, due to the lack of public awareness on how traditional architectural values and contributes to contemporary energy saving, this study aims at showing:

1. The deterioration of the relationship between the microclimate and the built environment from the Lebanese "traditional" application to contemporary architecture.
2. How comfort, in all its forms, plays an important role in shaping human behavior and society.
3. How comfort can be maintained, economically and physically, when achieved through the preservation of the relationship with the surrounding microclimate.

Enclosure/Disclosure:
Preserving the Relationship between the Built Environment and its Microclimate

"The starting point of the future is the ending point of the past."
Tombazis, A. N., PLEA 2004

Enclosure
Enclosure according to Webster is defined as "the act or action of enclosing: the quality or state of being enclosed." I would like to translate it and think of it as "the isolation and deterioration of the relationship between man and his environment."

The Industrial Revolution has affected human life in different aspects and levels, especially human thinking. Through time, simple and raw natural materials in their pure natural state slowly gave way to synthetic and man-made products. Man enclosed and isolated himself, using technology as the means to provide comfort and security. He drifted into the magical world of the "new" and ignored the natural environment, not realizing the consequences to follow. His "enclosure" and isolation from what is around him, resulted in shaping societies that adapt and adjust with the change of time. Dependencies shifted from the use of renewable natural resources to machines relying on fossil fuel. This issue tremendously

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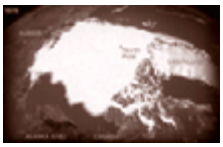

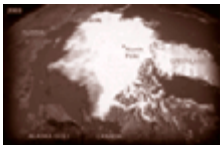

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Fig.1 Planet Earth, National Geographic
Fig.2 North Pole, National Geographic, Sept. 2004
Fig. 3 Integrated Structure. Kassatly, H. p. 38
Fig. 4 No High Ground
Male, the island capital of the Maldives, is threatened by the serenely blue Indian Ocean. If scientists' projections come true and sea level rises more than three feet, the Maldives and other low-lying atoll nations could be under water by century's end.
National Geographic. September 2004.
Fig. 5 Corpus Levant, 2004
Fig. 6 Vernacular Structure. Kassatly, H. p. 74

affected the building industry in the very concept of design and architectural approaches. The modern trend in architecture shaped by the industrial revolution broke the continuity of the old concepts. Technology for generating heat and light from fossil-fueled machinery has fundamentally reorganized the way buildings are designed. Sun, wind, and light have traditionally been the fundamental sources of form, order, and organization in the generation of buildings. The ability to produce heating, cooling and lighting by mechanical means has changed the way today's buildings are designed. One consequence is that buildings are now responsible for about half of all the fuels burned worldwide. Half the electricity generated in this country is used just to light our buildings. Burning fossil fuel to heat, cool, and light our poorly adapted buildings adds a concentration of CO^2 emission into the atmosphere – global warming. Over the next 100 years an estimate of the degree of warming is from 1.5°C to 4°C; it being borne in mind the life span of buildings is 50-150 years, it is clear that many buildings designed today will need to survive quite different temperature conditions in the future. (Edwards, B. 2002, p. 21)

Almost two watts per square meter is the rate at which these human-made gases are heating the earth's surface, as if two miniature Christmas tree bulbs (one bulb dissipates about one watt in the form of heat) were placed over every square meter of the earth's surface, burning night and day.

"At present, our most accurate knowledge about climate sensitivity is based on data from the earth's history, and this evidence reveals that small forces, maintained long enough, can cause large climate change.

"The stability of the great ice sheets on Greenland and Antarctica and the need to preserve global coastlines set a low limit on the global warming that will constitute 'dangerous anthropogenic interference' with climate.

"Halting global warming requires urgent, unprecedented international cooperation, but the needed actions are feasible and have additional benefits for human health, agriculture and the environment." (Hansen, J. 2004. p.42).

Disclosure

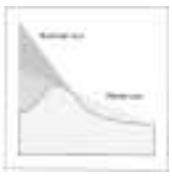
Disclosure on the other hand is defined by Webster as "exposure, discovery and revelation".

Reconciliation and unification between man and environment would be the term I'd prefer to use.

Throughout history, man has learned from his surrounding environment, passing to future generations successful solutions to problems. By trial and error he eliminated impractical applications and kept the ones that worked. As Hassan Fathi states:

"Successful solutions were passed on in form of traditions, rigid, and apparently arbitrary rules for selecting sites, orienting the building and choosing the materials, building methods and design. In this sense both the material and the way it is used is very important."

Microclimate concepts ensured old buildings fitted into their surrounding. Being in harmony with the environment, Lebanese vernacular structures were integrated within the natural setting, without causing major changes to the site. Excavation was minimal and, depending on the topography of the land, the structure was implanted (see figure 3). Climate was also a factor of site consideration. Wind patterns and the annual sun path played a significant role. Building location was considered so that future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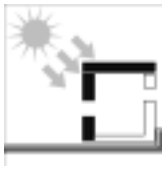
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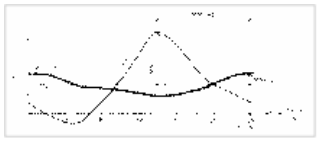
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development on adjacent properties would not block access to winter sunlight. This location also allows open space for winter activities or gardens to be exposed to as much winter sun as possible.

Thus it is essential to turn back and examine how our ancestors responded to problems of lighting, heating, ventilation and other questions pertaining to architectural design. The Lebanese vernacular architecture can serve as a valuable source for solutions that are perfectly adapted to our climate today. The introduction of new methods and materials to the traditional was not based on scientific experimentation, but for economic and social benefits of using the modern and "new". Another factor that played a key role in selecting the new material was the cost and the speed by which it is applied.

We need to explore: what is so significant in the Lebanese vernacular constructions prior to 1890, which led them to be uniquely generated by local materials and climatic conditions? Is it a mere link between our past and our future? Could they be a valuable source of inspiration that offers answers to simple forgotten questions? Much needs to be learned.

Responsibility

Where are we today and where are we heading in the future? What demands and needs drive us to develop as professionals, educators and parents? Power, financial security, happiness or a certain standard of living? How many of us can truly admit that the expectations of individual responsibilities towards the "self" are being fulfilled? How about responsibilities towards family? Better yet how about towards country and finally the ultimate responsibility towards the planet EARTH?

Responsibility sometimes doesn't reach beyond one's comfort and financial needs. We tend to ignore anything beyond these factors of security. But what is security? Is it an economic state of mind as well as the continued need to exist? Continuity from where and for what? Again it is inevitable trying to avoid the past and future:

"[It has] become apparent that human life is not limited to a single life span but goes far beyond. It is as impossible to sever its contacts with the past as to prevent its contacts with the future. Something lives within us which forms part of the very backbone of human dignity: I call this the demand for continuity."

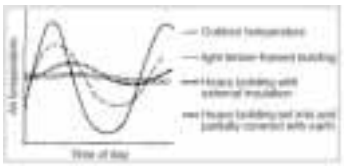
(Giedion, S. 1957, taken from: Madex D. ed., All About Old Buildings p. 30)

Even though global resources are diminishing at an accelerated rate, contemporary human civilization continues to depend on construction for its continued shelter and existence. 50% of all resources consumed across the planet are used in construction, making it the least sustainable industry in the world and causing difficulties for our planet to support it. Clearly, something has to change and architects as building designers have an important role to play in that change. (Edwards, B. 2002, p. 1)

Energy Use and Global Warming

Heating, lighting and cooling of buildings directly through the burning of fossil fuels (gas. coal. oil), and indirectly through the use of electricity, is the primary source of CO^2 (carbon dioxide), the main greenhouse gas. CO^2 emissions have been increasing since the industrial revolution and continue to rise in spite of international awareness, mainly due to –

1. rise in human population (currently six billion and expected to reach ten billion by 2050);
2. the legacy of older, inefficient buildings (the existing building stock globally is replaced at a rate of under 2% per year); and



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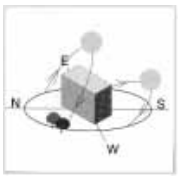

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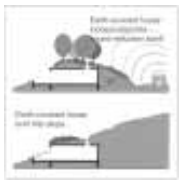

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Fig. 7. Site - A Green Vitruvius. p. 35
Fig. 8 East/West Orientation
Fig. 9 North/South Orientation
Fig. 10 & 11. Storing the heat and preventing the cold
Fig. 12 The periodic heat flow through a light and heavy wall of the same U-value:
- 10 mm polystyrene slab (U = 2.17 Wm^2K)
- 800 mm of dense concrete slab {also U = 2.17 Wm^2K),
Szokolay., S., taken from (Roaf, S. 2003).
Fig.13. Heat Transfer www.greenhouse.gov.au/yourhome/technical/fs17.htm
Fig.14 Heat Gain & Loose www.greenhouse.gov.au/yourhome/technical/fs17.htm
Fig. 15. Solar Path - A Green Vitruvius. p. 71
Fig. 16. Site Integration- A Green Vitruvius. p. 34
Fig. 17. Reducing north winds

3. rise in consumer standards, with the corresponding growth in air-conditioning, electrical gadgets of various kinds and increasing amounts of travel. (Edwards, B. 2002, p. 21)

The use of intelligent technologies and the shift from non-renewal resource exploitation to self-sustaining renewable practices is the key to a symbiotic relationship with the land. As one of the units of the city, the design of buildings, moderated by life-cycle assessments, can play its part in this. (Edwards, B. 2002, p. 2)

There are three options available to reduce CO^2 levels:

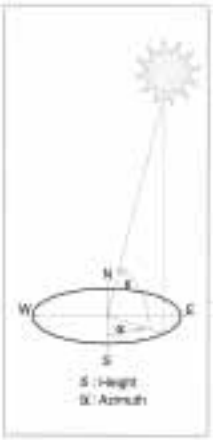
1. Nuclear energy, promoted initially as a clean energy source, has its own well-publicized environmental problems.
2. Carbon conversion is a valuable means of viewing the link between development and the carrying capacity of the land which supports it in terms of energy. The idea is based upon the ability of trees and forests to convert CO^2 back into oxygen, which occurs via photosynthesis; however in practice it is not feasible (every household needs two acres of woodland to convert its CO^2). (Edwards, B. 2002, p. 26)
3. Renewable energy generated from solar, wind and geothermal energy and, at a macro-scale, wave, hydro and tidal power are the main sources of nonpolluting but not always sufficiently exploited. Potentially, renewable energy could satisfy all of mankind's energy demands. The total energy of the sun far exceeds that required for human use. The problems, however, are to do with distribution, storage, conversion and application of this solar energy into a form useful for heating buildings, driving machinery and the countless other tasks which are now performed by burning fossil fuels. Renewable energy can be exploited for use in buildings in a variety of ways. (Edwards, B. 2002, p. 29)

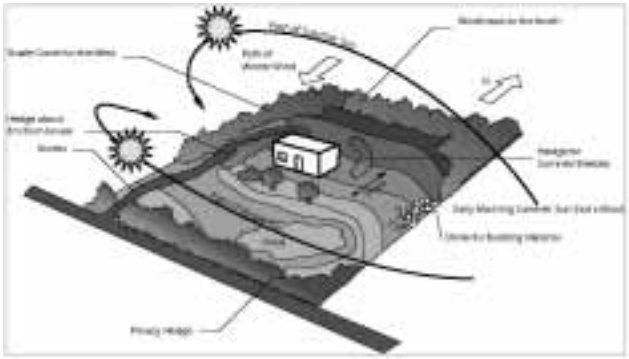
It is important to consider potential renewable sources at an early design stage. Sites can be selected on the basis of their access to energy sources, in addition to other early design decision such as orientation, building footprint and location on the site and the method of exploitation at the briefing and sketch design stage. (Edwards, B. 2002, p. 29)

Climate Change and Building Design

While designing buildings, the expected life span should be considered. With this in mind, adjusting to climate change in rules and regulations must be dealt with. Rules should be flexible to deal with such changes. Making provisions for future inclusions within the building must be considered, just as one must consider upgrading of a newly purchased computer for at least 2 – 5 years before new hardware is discovered and the old become obsolete. Maybe, when designing new structures, new and shorter life expectancies must be considered. However, the existing built environment should be dealt with as a starting point of a new transitional period, a period that will continue to have historic buildings as a model example of their specific time of climate responsive design while new developments deal with their present time-frame. As stated previously, buildings designed and engineered today will still be standing when climate change bites. By 2050, it is estimated that global temperatures may have

Fig.18. Solar Path A Green Vitruvius
Fig.19. Southern Exposure
Fig.20. Window Byblos
Fig.21 Natural Cooling & Window Cross Ventilation





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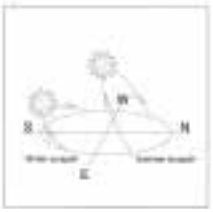

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risen by 2°C and by 2100 perhaps as much as 4°C. Once triggered, the rise is exponential (see figure 4). There will be pressure on building systems, on the building fabric itself, on land settlement patterns and on transportation. Apart from avoiding further building on flood plains, there are three principles to follow in designing buildings for climate change:

> the building shell and footprint is fundamental to long-term survival, adaptability and energy-efficiency
> one must build to a higher initial standard (better insulation, higher quality materials); and
> one must provide the means to upgrade building systems, especially in the areas of cooling and in the provision of renewable energy. (Edwards, B. 2002, p. 27)

Energy & Preservation

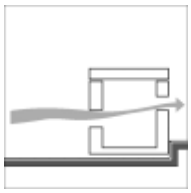
99% of houses currently being built are obsolete, because they ignore climatic requirements. "In the days of cheap energy, it might have made a kind of short-sighted economic sense to destroy old structures, but that era ended forever with the oil embargo of 1973.... The preservation and renovation of residential, commercial and industrial structures will itself be a major industry within a few years. The force behind this emerging industry is the philosophical transition away from a throwaway society based on an illusion that resources are unlimited – toward a new kind of civilization grounded in permanence, balance and order. Through historic preservation's leadership, it will be made obvious to all that two vital social goals – energy conservation and historic preservation – are self-reinforcing." (Sawhill J., 1981. p. 33)

It is possible to build a house that takes minimal amounts of energy to heat and cool, maximizes the use of daylight instead of artificial light, and minimizes the energy costs of manufacture of its components. As a general rule, copy the traditional architecture of pre-technological people who have successfully lived in that kind of climate for a long time. (Rich, B.)

Vernacular builders have to make sure that their structures are highly efficient. They can only use local materials and construction techniques that make economic sense. The running cost of their structures, especially energy consumption, has to be low because of the limited resources available. (Behling, S. 2000)

One main issue of the present times is the focus on the built environment. What pertains to the present times of major concern is how to deal with what exists 99% rather than new construction. With the current world population increase, resource shortages or sink limits (the ability of natural systems to absorb pollution) are creating a greater stress on the world's ecosystems. Society needs to adopt a strategy which brings improvement in living conditions without global disaster. Quality of life can be maintained but only through the adoption of the four Rs - reduce, re-use, recycle and recover. In the context of this study, only the re-use aspect will be addressed. (Edwards, B. 2002, p. 64)

Embodied energy is the energy consumed by all the processes associated with the production of the building. Once a building or city is created, it becomes a capital



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asset. Within its bricks and concrete lie resources and human investment which should be re-used over generations and across changing building-use priorities. This means that the building should be robust in form and construction, should be socially valued and should be well located. Re-use of the whole or re-use of parts is preferable to demolition or recycling. (Edwards, B. 2002, p. 65)

Re-use requires the architect to address the design task that fits the period of rapid social and technological change. Obsolete buildings un-adjustable to new technology are normally demolished, adding to future resource stress, disturbance, pollution and waste. Re-use also entails the rescuing of elements of construction (steel beams, timber, bricks, etc.) for use in other buildings. Not many new buildings are designed or constructed to encourage re-use. Cement mortars (absence of lime) are often stronger than the bricks themselves, thus preventing their re-use. Since the embodied energy of a brick would drive a car seven miles, the consequences are enormous for the millions of bricks created (and wasted) every year. (Edwards, B. 2002, p. 67)

So the re-use philosophy requires a change in how we design our buildings and a corresponding change in how we construct them. Architects could create a major demand for re-used components simply by specifying them. This would not only generate a market for re-used components but lead to buildings of greater aesthetic richness and social value. (Edwards, B. 2002, p. 67)

Preserving the Microclimate

A principal purpose of building is to change the microclimate. Early men built houses to keep out the elements, rain, wind, sun, and snow. Their purpose was to produce an environment favorable to their comfort and even to their survival. The microclimate on each building site is changed into several different microclimates as the result of the construction of the house itself. Inside the building, each room has its own microclimate which is a modification of one or more of the outdoor microclimates. Although traditional architecture was evolved intuitively over long periods, it was based primarily on scientifically valid concepts. The modern academic world of architecture does not emphasize the value of investigating and applying concepts scientifically and, therefore, has no respect for vernacular architecture. Now is the time to bridge the gap between these widely different approaches. Today more attention is being given to the relationship between climate and architecture, and several building research organizations are beginning to examine this relationship. (Fathy, H. 1986)

Climate and Vernacular Architecture

Throughout history, man has learned from his surrounding environment, passing to future generations successful solutions to problems. By trial and error he eliminated impractical applications and kept the ones that worked. As Hassan Fathi states:

"Successful solutions were passed on in form of traditions, rigid, and apparently arbitrary rules for selecting sites, orienting the building and choosing the materials, building methods and design."

Man is agile by nature and has survived by adapting to the changes of his environment since the beginning of time. The new

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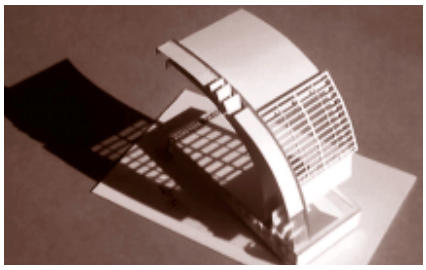

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challenge is to choose or adapt our technology to minimize our environment impact, whilst continuing to improve the comfort and performance of the homes we create. Historic buildings, in regards to architecture, were coherent to their surrounding microclimate.

Post-industrial architecture drifted away from the harmonious concept between the built environment and its microclimate, ignoring and disregarding the issues of dealing with the exterior and interior simultaneously. Relying more and more on new technologies has increased the gap by creating an isolation barrier between man and his microclimate. Heating and cooling technology has freed us from this as a necessity. Studying climates of the past will tell us how we should deal with it in the future. Microclimates can be modified to enhance human comfort levels, thereby using less energy. (Edwards, B. 2002, p. 3)

Lebanon has witnessed the disappearance and dissolution of its structural features since development erupted. These details range through perfect adaptation to site, intelligent use of local resources, energy efficient structures and adaptation to the climate. These corrupted structures today still reflect the old vernacular character and identity. The evolution of the Lebanese dwelling is directly linked to the environment itself; it is rooted to the soil and has a natural character that reveals its spirit. (Liger-Belair, 2000).

Resources of Lebanon and its Microclimate

Lebanon is well enriched by its various natural resources of land, sun, wind and water (four elements of nature) which served as a stepping stone and foundation for all the existing historic structures before the industrial revolution.

Lebanon is a country with the adequate features to pursue energy conservation in architecture. Geographical location, climatic conditions and soil types all exist within the environmental framework. Lebanon, known for having "300 sunny days", also has vast hydraulic and aeolian energy potential. Traditional energy sources, especially those that are petroleum-based, have become too costly for industry. There is an urgency to find other energy sources such as solar, hydraulic, and wind power. Besides being environmentally friendly, these are natural and readily available in Lebanon. There is ample evidence to support greater exploration of alternative energy sources.

The Mediterranean climate zone is the closest to an ideal climate (Behling, S. 2000, p.57). Lebanon in general is fortunate to be endowed with such a climate, which currently is not exploited fully. In fact, at present in Lebanon, most modern architectural designs tend to ignore the environment. It is with minor interventions that architects apply strategies of passive energy concepts within their design.

Passive and Low Energy Architecture has not reached a mature stage in Lebanon in spite of the currently ongoing efforts undertaken by the private and the public sectors. Human and natural resources, in addition to the rich cultural heritage in Lebanon, provide strong potentials for implementing climatic responsive design.

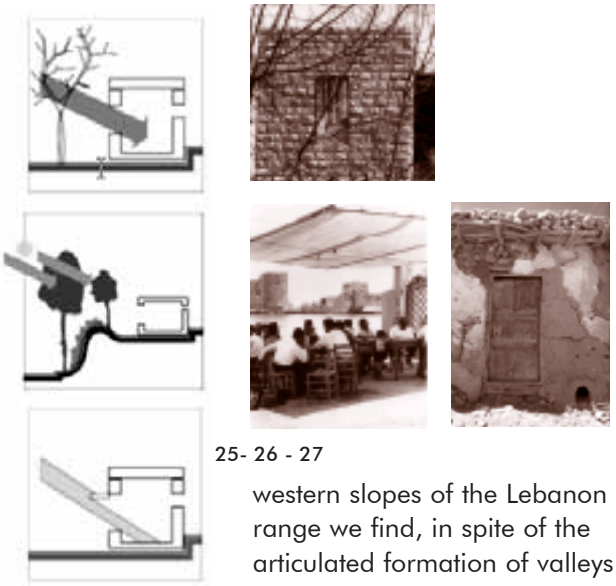

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Fig.22 & 23 Contemporary approach to windows.

Fig. 24 Shading. Kassatly, H. p. 48
Fig. 25 Passive Heating during winter season Fig. 26 Passive Shading.
Fig. 27 Sidon Café, Stafford, M., 1998.

Strategies in Vernacular Lebanese Architecture

Site Consideration

The performance of vernacular architecture is strongly affected by the site and the siting of the building in relation to its surroundings as stated in "The City Shaped" by Spiro Kostof.

Vernacular structures were integrated within the natural environments, without causing major changes to the site. Excavation was minimal and, depending on the topography of the land, the structure was implanted. Climate was also a factor of site consideration. Wind patterns and the annual sun path played a significant role. The influence of geography can be observed in the adoption of certain types of construction and the arrangement of the houses. In the Beqa'a the grouping of closed rectangular houses predominates; the detached house is rare. On the western slopes of the Lebanon range we find, in spite of the articulated formation of valleys and the mountainous character, the land determines house form and house orientation. The orientation of the houses is generally dictated by the topography. (Ragette, F. 1986).

Effects of Climate on Building Shape and Orientation

Generally, vernacular buildings oriented along an east-west axis are more efficient for both winter heating and summer cooling. This orientation allows for maximum solar exposure to the south for capturing the heat. This orientation is also advantageous for summer cooling conditions since it minimizes east-west exposure to morning and afternoon summer sunlight. This does not mean that all vernacular buildings were rigidly shape oriented. Different building shapes and orientations were designed to perform efficiently by combining effective openings, solar exposure, and shading into the building form. Depending upon the site, topography, and shape of the available space, orientations other than east and west may be desirable.

Envelope Area to Volume Ratio

Reducing external surface area - through which heat is exchanged - also reduces heating or cooling-energy. Compact volumes have less surface area to cool In hot climates, high rooms allow warm air to stratify well above your head, and increased air-volume takes longer to warm up. In cool ones, however, energy consumption is related to the size of buildings. But whether rooms seem spacious and restful or claustrophobically cramped is as much due to their quality as their dimensions (Day, C., 2002).

Architectural forms are dictated by the climate. The proportion of window area to wall area and how the gabled roof decreases in pitch is an example of this issue. The temptation to create up-to-date designs should not prevent a modern architect from being functional. Forgetting the environment into which he will implant his buildings will take the form out of its context. The techniques and equipment available to the architect today free him from nearly all material constraints. He is responsible to what surrounds the site, and, by building without reference to the environment, he is committing a crime against architecture and civilization. (Fathy, H. 1986)

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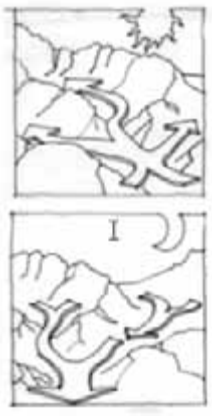

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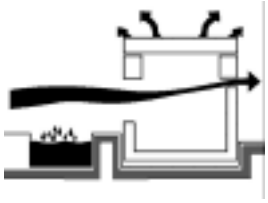

31- 32

Microclimate & Thermal mass:
Heavy walls in vernacular architecture constitute "thermal mass" which acts as a storage for thermal energy. Depending on the conductivity of the material, the heat is conducted through the wall and the rate of the heat flow depends on the thickness and the difference in temperature between the conditions on the two sides of the wall.

The insulation and thermal mass should not be confused. Thermal mass stores and re-radiates heat. Insulation stops heat flowing into or out of the building. Thermal mass is not a substitute for insulation and a high thermal mass material is not generally a good thermal insulator. (Roaf, S. 2003. p. 76).

At the exterior of the vernacular house, thermal mass such as masonry walls and roofs reduces the rate of heat absorption and slows internal temperature rise on hot days.

For optimum summer cooling, a vernacular structure's surroundings were designed to minimize summer sunlight striking external surfaces, and to prevent surrounding area heat re-radiation and reflection. The diffusion of undesirable summer direct sun and thermal impacts was achieved through use of vegetation i.e. deciduous trees which interrupt the summer sun's direct path, and ground covers which prevent ground reflection as well as keeping the earth's surface cooler, thereby preventing re-radiation.

North Walls
During winter, the north side of a building receives little direct solar impact due to shading from the winter sun, which is low in the sky, while the south side is exposed to the benefits of winter sun exposure. The area that is mostly affected by solar exposure receives the most sunlight between the hours of 9:00 a.m. and 3:00 p.m. during the winter months. In an east-west oriented building, a north-facing exterior wall will be a major source of heat loss since heat always moves toward the cold. Variations of reducing heat loss conditions in north walls include backing the building into a sloped hillside or providing a berm (the level area separating ditch from bank on a hill-fort or barrow), both of which reduce the exposed north area to the cold winds and heat loss. In spite of these factors during the winter months, north-side open space usually is rendered for outdoor summer activities during the day.

South Wall

Solar Path
A vital element in both the passive and active measures, the high summer pattern and the low winter pattern, play major roles in cooling and heating.

Southern Exposure
The major southern exposure utilizes the heat and transfers it to other parts of the structure, and should be considered strongly.

28

Fig. 28 Plant Material reflecting Noise Pollution
Fig. 29 Plant Material reflecting Northern Winds
Fig. 30 Daily Wind Patterns
Fig. 31 & 32 Cooling by Evaporation. Market in Tripoli. Stafford, M., 1998
Fig. 27 Mud House Kassatly, H. p. 142
Fig. 28 Ghazir. Stafford, M., 1998

Windows & Natural Cooling

Windows in historic buildings were sized and placed very accurately in order to allow the required amount of light as well as air circulation. Openings were minimized on the east and west walls where summer sunlight is most intense. The reason why the setting sun has a stronger effect is due to the added thermal impact of the earth reradiating the heat it has gained during the day. The summer sun is much higher in the sky and a good strategy was the use of deciduous trees that shaded the south face and roof during the summer. Windows were minimized to be consistent with interior requirements and were recessed. Different dimensions of openings were made to provide proper cross ventilation and benefit from the prevailing summer winds. Cross-ventilation was achieved by internal windows or vents between the rooms and the central space, which originally was permanently open. Furthermore, the very position of the central living space, be it the liwan or the central hall, ensured that it was the coolest space during the hot daytime. Shielded on its long sides by the adjacent rooms, the open end of the hall was turned either to the north or to the south in order to avoid deep penetration of the sun's rays. Color played an important role in the cooling of structures. Light-colored material was applied on exterior surfaces, reflecting excessive heat during the hot season. Other criteria played a role in selecting the position of the openings such as views, natural lighting and privacy requirements.

Shading

South-facing

South-facing openings can be a source of overheating during summer months. The potential for overheating was controlled by thick thermal mass walls and roofs. The thick, sometimes tapered, walls were carefully designed to shade the opening during the summer (sun higher in the sky) but not block sunlight during the winter (lower in the sky). The use of movable outside wooden shutters was also a means of shading.

Deciduous trees and scaffoldings that support deciduous vines (vines that lose their leaves in the winter) were another way to block sunlight in the summer and admit sunlight in winter until early spring as well as Overhangs as shading devices in the hot summer and to keep rain water away from walls, windows, etc.

Landscaping

- Deciduous trees planted on the east, south and west sides provide screening from the sun's rays in the summer, yet allow the solar warmth to penetrate during the winder.
- Evergreen hedges will provide a shield against winter winds.
- Plant material is kept away from the face of the building not only due to the destructive effects but also to the fact that it will keep the walls damp and thus lower its insulating value.
- Screening for sound pollution also should be considered.

Wind Patterns

This also is an element of both passive and active measures. The cool summer breezes as well as the cold northern winds must be considered. Daytime flow patterns after gaining heat are in the upward direction whereas the opposite occurs during the night.

Fortunately, the placement of the house parallel to the contours of

Landscape Elements	Cold Climate	Temperate Climate	Warm Climate
Ground cover or grass	negligible effect on all sides	on south	on east, west and south
Paving	on south	shaded if on south	shaded if on east, west and south
Shrubs against house wall	on east, west and north	on east, west and north	on all sides
Deciduous shade trees	negligible effect on all sides	on south and west	on east and west
Evergreen trees	on east, west and north	on east and west	on east and west
Windbreak (trees, Bushes, fences)	on sides exposed to winter winds	on sides exposed to winter winds	undesirable on all sides
Windbreak used to funnel wind	undesirable on all sides	on sides exposed to summer winds	where cross possible ventilation

Source: "Energy Conservation with Landscaping," by Richard Crenshaw. Federal Energy Administration with National Bureau of Standards. taken from Smith, Baird M., 1978.

the slope and open towards the valley in most cases also made it face the prevailing wind-direction and ensured the desired ventilation.

Within the house we find that an effort was made to have foul-smelling areas, such as kitchens and bathrooms, on the leeward side of the living areas.

Humidity

Evaporation of water in the air in order to get a cooling effect is useful only at a relative humidity well below 50%. Consequently, elaborate cooling devices in the form of indoor fountains and cascades are not employed. They are only found in upper-class buildings where they exist primarily for their decorative or acoustical effect.

Climatic Effects on Materials

- Lebanese architecture was determined by the use of materials and methods of construction extracted from its natural resources and existing land.
- Bekaa: in the Bekaa valley rural structures are built from sun-dried-bricks and/or from rammed earth that has been entirely or partially whitewashed. Stones are softened and malleable. (kassatly, 2000)
- North: volcanic eruptions covered the land a long time ago; therefore great quantities of lava and black basalt are used in their old structures.
- Mountain Lebanon: lime stone deposit on this area distinguishes the traditional Lebanese dwelling, generally the stone-built house. (Liger-Belair, 2000)

The causes that affect the deterioration of materials consist of external and internal factors. The external factors include the sun, which with its ultraviolet rays discolors materials, increases the level of heat and has a primary role in the freeze-thaw cycle and temperature variation during all daily, seasonal and annual alterations. On the other hand precipitation, whether snow, hail, sleet, rain, freezing rain, fog, etc., brings water and moisture very close to the building material and causes extensive damage by penetrating into any accessible opening (Nashed, 1996). Gravity is another major cause of energy loss just as biological forces such as birds, rats, fungus, vegetation, etc. The uncontrollable factors causing energy loss are the natural disasters such as high winds, tornadoes, earthquakes, hurricanes, etc. And finally the major cause of energy loss is MAN. Some of the factors inflicted by man are unnecessary alterations, neglect, war, vandalism, environmental pollution (acid rain) and theft. As for the internal factors of deterioration, moisture is the most detrimental to building elements. Other causes of internal decay are contaminated air, neglect and man.

Adobe construction is limited to the Beqa'a valley. Abundance of stone in the whole country offers the opportunity for good masonry construction. The availability of stone and its continual use for construction produced families of stone-masons who passed on their accumulated skill from generation to generation, evolving a mastery

and tradition of design in stone which is largely responsible for the homogeneous character of Lebanese architecture.

Climatic Effects on Cleaning Structures

Historic buildings when first built had a different microclimate than today's. Climate was different, with less pollution and population, etc. Today, however, besides destructive techniques of abrasive cleaning (sand blasting), pollutant elements of different materials may have a much harsher impact on the fabric if it is cleaned. The gradual build-up of pollutants on the fabric throughout its history may be the only thing that is preventing it from decaying any further.

A common practice in Lebanon is that whenever a structure needs cleaning, a "new look", the abrasive sandblasting method seems to be the only method and technique applied. Even though the technique may show a contrast of results, the abrasive methods always result in some loss of fabric and make the cleaned structure more susceptible and exposed to the unresolved pollutants.

Conclusion

This research not only arouses nostalgia but also gives the present generation old but everlasting ideas for an efficient building's construction. The evolution of the traditional Lebanese houses has seemed to come to an end. Not only is concrete improperly and excessively used but also the ecological architecture and equilibrium to the environment are not being recognized as before. Intelligent methods of construction as well as natural and architectural sites must be acknowledged by every Lebanese habitant. Although these vernacular structures have almost disappeared, we still can trace their evolution and be aware of their natural environmental character.

We spend most of our lives in buildings and the global human population is an urban rather than rural species. We have lost sight of the land, seasonal cycles, the struggle for food or warmth, and instead we have become interested in culture, sport and media. Architecture, too, has broken free of its old bonds to locally sourced materials, vernacular traditions, and the union between buildings and the land. Cities owe no allegiance to the carrying capacity of the landscape in which they are sited. (Edwards, B. 2002, p. 51)

Education is one of the most effective methods. Teaching our present generations about pollution and energy-efficient methods is not only important; it is vital. Exploring passive concepts used by old generations and improving them with the acquired scientific knowledge of the current generations, we can lay strong foundations for the future.

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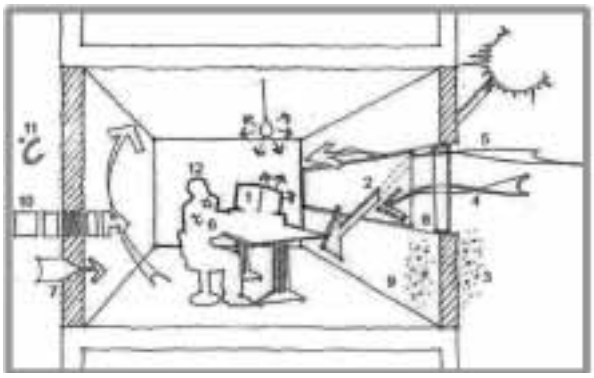
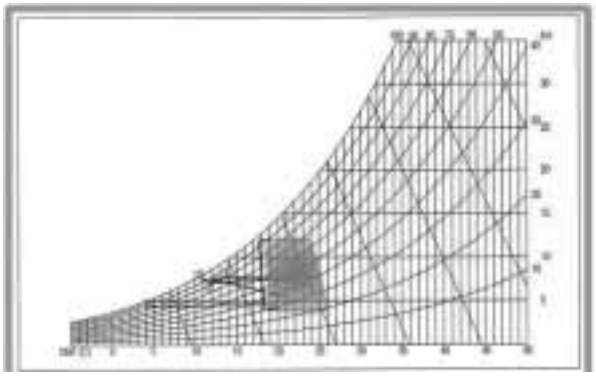
THERMAL STANDARDS FOR BUILDINGS IN LEBANON





Members from the Faculty of Architecture, Art, and Design and members from Prime Design are currently developing the final phase of the document: CLIMATE AND COMFORT - passive design strategies for Lebanon. The project is funded by the Global Environment Facility and is implemented by the United Nations Development Program (UNDP). The local executive agency is the General Directorate of Urban Planning, Ministry of Public Works.

The project promotes familiarity with issues related to climate responsive design as applicable to the Lebanese climate and building characteristics.

The study looks at issues related to climate, comfort, and building characteristics in Lebanon. The sections constituting the document cover the following:

Overview of the climate characteristics of Lebanon and an investigation of the related thermal comfort conditions.

Overview of the fundamental strategies related to passive heating and cooling.

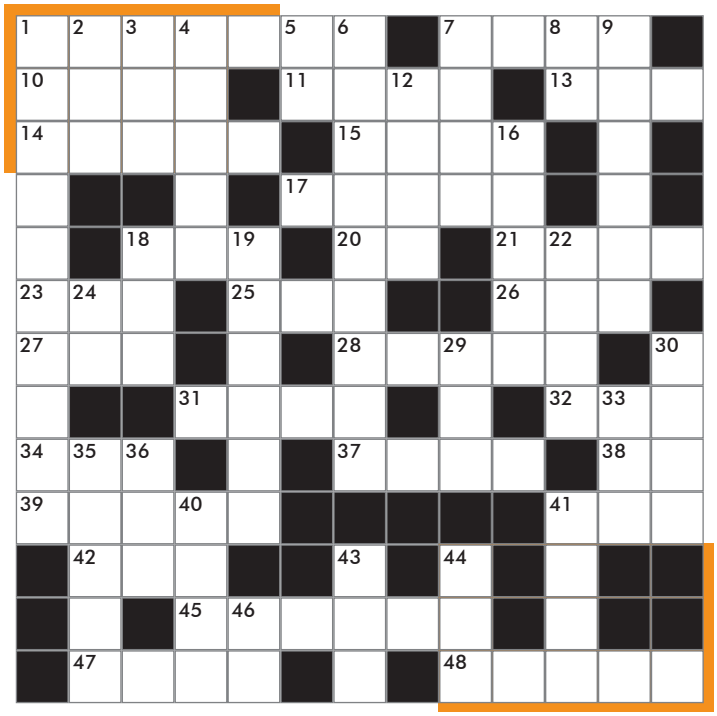
Investigation of the impact of building envelope design on indoor thermal comfort.

Something for your Grey Matter

Crossword

Across: **1.** fatness **7.** clot on wound **10.** jar **11.** opening **13.** encountered **14.** go in **15.** saturate **17.** where the rudder is **18.** imitate like a monkey **20.** Canaanite god **21.** heroic legend **23.** help **25.** distant **26.** handle on the head **27.** excessively **28.** 24-hourly **31.** Spanish painter **32.** distraction for Cerberus **34.** short sleep **37.** shout **38.** in the same way **39.** hail, salute **41.** exist **42.** interdiction **45.** dirk **47.** relax **48.** It can be grand or comic.

Down: **1.** cause of fatness **2.** recipient **3.** devour **4.** what one does in the arms of Morpheus **5.** small screen **6.** recent past **7.** wise men's guide **8.** midnight to midday **9.** get up from sleep **12.** born on Christmas Day? **16.** go down in submission **18.** Much _ about Nothing (Shakespeare) **19.** attempt 22 is profitable **24.** The father of the gods had an eye on her **29.** sick **30.** part of a church behind the altar **33.** Its blade dips in the water **35.** Ann _ Arbor University **36.** It comes in a pod **40.** extremities **41.** hurt **43.** years lived **44.** not an amateur **46.** in or close by



How is your English?

Give the feminine of- **1.** earl **2.** marquis **3.**boar **4.** gander **5.** drake **6.** dog **7.** stallion **8.** young bull **9.** ram **10.** abbot

Solutions to Issue 33

Crossword

Across: **1.** review **6.** leg **8.** emir **9.** peer **10.** sure **11.** G.I. **12.** elephant **15.** rally **17.** rue **18.** employer **21.** e.g. (exempli gratia) **23.** oil **24.** curses **26.** up **28.** trap **29.** proof **30.** ions **31.** access **33.** tie **35.** no **36.** roe **37.** SOS

Down: **1.** resurrection **2.** emu **3.** virile **4.** ire **5.** wail **6.** legacy **7.** Erin **12.** eye **13.** pall **14.** terrifies **16.** augur **19.** moss **20.** pi **22.** aspect **25.** Ra **26.** urn 27. posts **29.** pose **30.** iso- **32.** E.R. (Elizabeth Regina) **34.** Io

Solutions to crossword above

Across: **1.** obesity **7.** scab **10.** vial **12.** opening **13.** met **14.** enter **15.** soar **17.** stern **18.** ape **20.** El **21.** epic **23.** aid **25.** far **26.** ear **27.** too **28.** daily **31.** Goya **32.** sop **34.** nap **37.** yell **38.** as **39.** greet **41.** are **42.** ban **45.** dagger **47.** rest **48.** opera

Down: **1.** overeating **2.** bin **3.** eat **4.** sleep **5.** TV **6.** yesterday **7.** star a.m. **9.** besiir **12.** Noel **16.** kneel **18.** Ado **19.** effort **22.** pays **24.** Io **29.** sick **30.** apse **33.** oar **35.** Arbor **36.** pea **40.** extremities **41.** hurt **43.** age **44.** pro **46.** at

Feminines: **1.** countess (earl is the British/Irish title for a count) **2.** marchioness **3.** sow (female pig having had young) **4.** goose **5.** duck **6.** bitch **7.** mare **8.** heifer **9.** ewe **10.** abbot.