

## **Revamping Architectural Education: Ethics, Social Service, and Innovation**

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### **Abstract**

This paper explores architectural education within North America, Europe, and, briefly, in primarily former British colonies (originally involved with the RIBA and now the Commonwealth Association of Architects), while investigating contemporary calls for a restructuring of existing curricula in response to current unemployment statistics and perceived poor employment experience in the field of conventional commercial architecture for our youth. A focus on ethics (both personal and professional) and innovative teaching/research methodologies, in conjunction with expanded service venues, is espoused under the umbrella of a DArch (Doctor of Architecture), with a concentration on design and development rather than history, and an emphasis on a pan-disciplinary, social-service internship approach using live projects. The paper then advocates a radical suggestion to transform the three-year MArch and its various equivalents (e.g. the British Diploma/Part II and III) into an Architecture Doctorate (taught DArch), both retroactively and into the future, along the lines of what lawyers have done in transforming their LLM's into JD's (at the international level and retroactively), setting the groundwork for implementation building on progressive models. Variations on the theme include translating the British Part II into a MPhil in Environmental Design and the North American BArch into a MArch.

Various existing architectural programmes are compared and contrasted, and existing service-learning paradigms (Yale, Rural Studio, U Sheffield, Cranbrook, Stanford, to list a few) are explored and analysed in conjunction with visits to design schools and interviews with staff and students. Criticisms of current methods of architectural education are investigated and various alternatives purporting to meet these inadequacies are considered; in investigating current styles of architectural education the study aims both to identify failures and elaborate on cutting-edge prototypes, evaluating them against expectations.

Innovations in design education are assessed against their intentions. In particular, their proposed remedies to issues identified by activists such as Thomas Fisher and *ArchVoices.org* as the 'maltreatment of our youth' or by Garry Stevens as exclusiveness and concomitant lack of employment (often due to lack of experience and/or unbalanced geographic distribution) are appraised. Other concerns which the author believes can be addressed productively through a 'service-based teaching model' include inadequate remuneration for professional services rendered (relative to other professions), ostensible over-abundance or concentration of design professionals in urban areas, lack of client design appreciation and government regulation, and women leaving the profession (gender imbalance). Conclusions are supported by data collected from survey sheets and interviews (with other design professionals, social service 'clients', teachers, project managers, deans, students, and recent graduates) presenting results of the architectural 'teaching hospital' or 'internship as part of academe' model. Pertinent examples are located through web search, professional and academic literature, and word of mouth. The author's parallel experience with service-based teaching provides further background for this research, and dialogues with intern participants affording follow-up. Finally, a list of desired improvements to existing design education methodology is defined, with the argument of the paper building on the sample of programmes and individuals surveyed.

**Keywords:** Architecture, Education, Service-Learning

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*In school we are taught that architecture is not simply a job. It is a lifestyle. It is a way of looking at the world. It is a verb. It is a constant exploration where one looks for and finds inspiration in the world around them, and then applies that inspiration to create something completely new. And that thing we create is beautiful and makes a difference in the world. And though in school we may slave away on hypothetical projects that will never be built, we can rationalize that it is all done in preparation for that first 'real' job. But in those first few months of that first real job, interns often find themselves as far away from architecture as ever. Instead of creating beauty, we find ourselves staring at colored circles on a 13-inch computer monitor, trying to remember at what point things had gone so horribly wrong.<sup>1</sup>*

## I. INTRODUCTION AND SCOPE

This paper will explore architectural education within North America, Europe, and, briefly, in primarily former British colonies (originally involved with the RIBA and now the Commonwealth Association of Architects), while investigating contemporary calls for a restructuring of existing curricula in response to current unemployment statistics<sup>2</sup> and perceived poor employment experience<sup>3</sup> in the field of conventional commercial architecture for our youth. A focus on ethics (both personal and professional) and innovative teaching/research methodologies, in conjunction with expanded service venues, will be espoused under the umbrella of an ArchD (Architecture Doctorate), with a concentration on design and development rather than history, and an emphasis on a pan-disciplinary, social-service internship approach using live projects. The thesis will then advocate a radical suggestion to transform the three-year MArch and its various equivalents (e.g. the British Diploma/Part II and III) into an Architecture Doctorate (taught ArchD), both retroactively and into the future, along the lines of what lawyers have done in transmogrifying their LLM's into JD's (at the international level and retroactively), setting the groundwork for implementation building on progressive models. Variations on the theme include translating the British Part II into a MPhil in Environmental Design and the North American BArch into a MArch.

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<sup>1</sup> Hightower, J. Brantley [Lake/Flato Architects Inc., San Antonio, TX], 'Circles for a Living,' in *Architectural Internship Everybody's Issue*, 2002, National Summit on Architectural Education, University of Oklahoma, 2002, p. 28.

<sup>2</sup> Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook, 2004-05 Edition, Architects, Except Landscape and Naval* [<http://www.bls.gov/oco/ocos038.htm>--visited November 13, 2004]: 'Prospective architects may face competition for entry-level positions, especially if the number of architectural degrees awarded remains at current levels or increases...Many individuals are attracted to this occupation, and the number of applicants often exceeds the number of available jobs, especially in the most prestigious firms. Prospective architects who gain career-related experience in an architectural firm while they are still in school and who know CADD technology...will have a distinct advantage in obtaining an intern position after graduation.'

<sup>3</sup> Fisher, Thomas, 'The Intern Trap: How the Profession Exploits its Young,' in *Progressive Architecture*, Conn., Reinhold Publishing, vol. 75, no. 7, July 1994, p. 69.

# PRE-RECESSION DESIGN & ARCHITECTURE SALARY SURVEY – AUGUST 2005 (UK)

Prisma Management Strategies [[http://www.architects-online.co.uk/salary\\_survey.htm](http://www.architects-online.co.uk/salary_survey.htm)]

CATEGORY	DETAIL	SALARY (Low)	SALARY (high)	AVERAGE	MONTHLY CHANGE %	ANNUAL CHANGE %
ARCHITECTS	Partner or director	£44400	87500	65950	0.50	-0.19
	Associate	38750	47000	42875	0.29	1.18
	Senior (outside practice)	39000	48750	43875	0.00	1.15
	Project Architect	34250	39750	37000	0.34	7.66
	Team Leader	29250	39750	34500	0.36	4.96
	Junior Architect	24750	34750	29750	0.00	3.93
ASSISTANTS	3/5 yrs Post II	27750	33750	30750	0.41	17.79
	2 yrs Post II	18500	24750	21625	0.00	0.58
	1-2 yrs Post II	16500	22250	19375	-0.64	1.30
	Post Diploma	16250	22250	19250	0.00	20.31
TECHNICIANS	Partner or director	38500	87000	62750	0.20	-5.83
	Associate	37750	46000	41875	0.00	7.37
	Senior (outside practice)	38500	92500	65500	-0.38	10.54
	Technical coordinator	37500	45250	41375	0.00	6.09
	AutoCAD senior	28250	37000	32625	0.00	0.38
	AutoCAD junior	16650	25250	20950	0.36	-1.18
	Other CAD senior	26750	39500	33125	0.00	9.05
	Other CAD junior	16500	25500	21000	0.00	-0.59
	Junior	15750	20750	18250	0.69	0.69

## GUIDE TO PRE-RECESSION SALARIES 2005 (Architects, UK) – Hays Architecture [[hays.com/architecture](http://hays.com/architecture)]

Region	Partner/Director			Associate			Architect, 6 years experience		
	Typical	Minimum	Maximum	Typical	Minimum	Maximum	Typical	Minimum	Maximum
Central London	55,000	50,000	80,000	45,000	38,000	55,000	35,000	32,000	38,000
North Home Counties	45,000	38,000	55,000	38,000	30,000	45,000	35,000	32,000	38,000
South Home Counties	45,000	38,000	60,000	38,000	30,000	45,000	35,000	32,000	38,000
South West	40,000	33,000	48,000	37,000	30,000	42,000	32,000	30,000	35,000
Wales	45,000	42,000	50,000	38,000	36,000	40,000	34,000	32,000	35,000
West Midlands	47,000	38,000	55,000	38,000	35,000	40,000	30,000	28,000	36,000
East Midlands	45,000	39,000	50,000	38,000	35,000	39,000	30,000	28,000	32,000
East Anglia	45,000	36,000	50,000	35,000	34,000	40,000	32,000	26,000	35,000
North West	45,000	38,000	50,000	35,000	30,000	38,000	28,000	26,000	33,000
Yorkshire	45,000	40,000	50,000	37,000	32,000	40,000	32,000	28,000	35,000
North East	45,000	41,000	50,000	39,000	36,000	45,000	35,000	32,000	40,000
Scotland	40,000	38,000	45,000	35,000	33,000	40,000	30,000	28,000	33,000
Northern Ireland	44,000	38,000	48,000	37,000	30,000	40,000	31,000	28,000	36,000
National Average	45,077			37,692			32,231		
Increase from 2004 survey	5%			5%			5%		

Region	Architectural Assistant, part II			Newly qualified, CAD experience		
	Typical	Minimum	Maximum	Typical	Minimum	Maximum
Central London	24,000	21,000	27,000	29,000	26,000	31,000
North Home Counties	23,000	20,000	26,000	28,000	26,000	30,000
South Home Counties	22,000	19,000	24,000	27,500	23,000	29,000
South West	19,000	18,000	22,000	22,000	22,000	25,000
Wales	20,000	17,000	22,000	23,000	22,000	25,000
West Midlands	20,000	18,000	22,000	24,000	22,000	26,000
East Midlands	20,000	18,000	21,000	22,000	20,000	22,500
East Anglia	21,000	19,000	23,500	24,000	21,000	26,000
North West	19,000	18,000	22,000	24,000	21,000	26,000
Yorkshire	20,000	18,000	24,000	24,000	20,000	26,000
North East	18,000	15,000	20,000	18,000	15,000	20,000
Scotland	18,000	15,000	20,000	16,000	15,000	17,000
Northern Ireland	19,500	17,000	22,000	23,000	20,000	25,000
National Average	20,269			23,423		
Increase from 2004 survey	8%			1%		

**PRE-RECESSION MEDIAN EARNINGS BY AGE AND FIELD OF EMPLOYMENT (UK)**

**All the increases go to older architects.** Those in their 50s are now at the height of their earning powers (a median of £46,000 for 50-54 and £45,000 for 55-59) – a change from the way salaries used to level off. Over-65s saw the greatest increase, following a significant rise last year. **For those under 34 years old, pay is stagnant or falling.** <sup>4</sup>

Employment field (£)	<30	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65+*
Sole principals	n/a	n/a	32500	49000	30000	38000	39000	31000	18000
Principals in partnership	n/a	33500	43000	52000	55000	67000	53000	52100	60000
Private practice, salaried	26500	31500	35000	37500	39260	39750	40000	42000	n/a
Private in-house*	n/a	n/a	68500	57500	40000	60000	45500	54000	n/a
Local authorities	n/a	n/a	n/a	31250	33393	36701	39350	30948	n/a
Central government*	n/a	31900	36430	55427	35114	38000	45791	38090	n/a
Total	26775	32000	37000	42000	42750	46000	45000	40000	35000
% change 2004-05	-2.6	0.0	+5.7	+5.0	+6.9	+14.5	+12.5	+7.4	+16.7

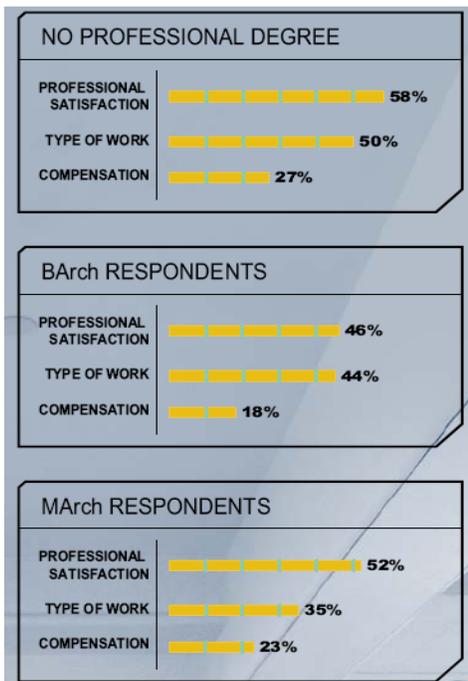
\* the size of these sub-samples is small; figures should be treated with caution

RIBA Journal, August 2005

**ICS INTERNSHIP & CAREER SURVEY 2003 (USA)**

Survey results from: [www.aia.org/SiteObjects/files/FinalReport.pdf](http://www.aia.org/SiteObjects/files/FinalReport.pdf)

**BArch and MArch graduates were equally likely to be satisfied professionally (52% vs. 46%), with the type of work they were doing (44% vs. 35%), and with their compensation (23% vs. 18%). Respondents with no professional degree were actually slightly more satisfied professionally (58%), compensation (27%), and type of work (50%).**



<sup>4</sup> Young, Eleanor, 'It's all right for some...Employment and Earnings,' in RIBA Journal, London, The Builder Group, August 2005, p. 34.

Various existing architectural programmes will be compared and contrasted, and existing service-learning paradigms (Yale, Rural Studio, U Sheffield, Cranbrook, Stanford, to list a few) will be explored and analysed in conjunction with visits to design schools and interviews with staff and students. Criticisms of current methods of architectural education will be investigated and various alternatives purporting to meet these inadequacies will be considered; in investigating current styles of architectural education the study will aim both to identify failures and elaborate on cutting-edge prototypes, evaluating them against expectations.

Innovations in design education will be assessed against their intentions. In particular, their proposed remedies to issues identified by activists such as Thomas Fisher and *ArchVoices.org* as the ‘maltreatment of our youth’<sup>5</sup> or by Garry Stevens as exclusiveness and concomitant lack of employment<sup>6</sup> (often due to lack of experience and/or unbalanced geographic distribution<sup>7</sup>) will be appraised. Other concerns which the author believes can be addressed productively through a ‘service-based teaching model’ include inadequate remuneration for professional services rendered (relative to other professions), ostensible over-abundance or concentration of design professionals in urban areas, lack of client design appreciation and government regulation, and women leaving the profession (gender imbalance)<sup>8</sup>. Conclusions will be supported by data collected from survey sheets (ANNEX 1A/B) and interviews (with other design professionals, social service ‘clients’, teachers, project managers, deans, students, and recent graduates) presenting results of the architectural ‘teaching hospital’ or ‘internship as part of academe’ model. Pertinent examples will be located through web search, professional and academic literature, and word of mouth. The author’s parallel experience with service-based teaching will provide further background for this research, through dialogues with intern participants affording follow-up. Finally, a list of desired improvements to existing design education methodology will be defined, with the argument of the paper building on the sample of programmes and individuals surveyed.

## II. THE CURRENT (TRADITIONAL) PARADIGM AND ITS ETHICAL DILEMMAS

*Internship is a problem that literally threatens the future of the profession. The program is a disaster area and the number of people sitting for the licensing examination has fallen frighteningly as a result. If this trend continues, this profession could simply cease to exist. One million dollars would fund a number of pilot programs aimed at creating a viable alternative system.*<sup>9</sup>

*The profession should aspire to the highest levels of intellectual, creative, technical, ethical, social, cultural, and leadership skills and values. To this end, there must be recognition, by both educators and practitioners, of their shared roles in providing appropriate experiences for students and young professionals.*<sup>10</sup>

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<sup>5</sup> Fischer, *op. cit.*, pp. 69-70.

<sup>6</sup> Stevens, Garry, *The Favored Circle*, Cambridge, Mass, MIT Press, 1998.

<sup>7</sup> Ordre des Architectes en Ile-de-France, *Les Architectes en Quelques Chiffres*, 2004.

<sup>8</sup> RIBA, *Why do Women Leave Architecture?*, July 2003 [<http://www.riba.org/fileLibrary/pdf/WWLARIBAResponse.pdf>].

<sup>9</sup> Kroloff, Reed, ‘The Best Gifts \$1 Million Can Buy,’ in *Architecture*, New York, Gary Gyss Group Publisher, December 2000, p. 6.

<sup>10</sup> <http://www.internshipsummit.org/index.cfm?pg=background&d=TaskForce>

In order to understand current critique of our traditional model of architecture education, a perfunctory look at the history of this 'strange religion'<sup>11</sup> is of heuristic value. While it is beyond the scope of this paper to examine every country and culture, a few representative models of architectural education are selected: Britain, France, and Germany (Europe), the United States (North America), and, briefly, Asia.

## II a. History & Background

Formal architectural education as such is a relatively recent phenomenon. The first individuals to actually call themselves architects were building designers in the mid-1500s; Brunelleschi in Italy is among the most well-known, and these architects took in apprentices to teach in exchange for their labour. The Academy of Architecture was founded in 1671 in Paris and evolved into the Ecole des Beaux Arts, the progenitor of modern architectural education.<sup>12</sup> Prior to this period building sponsors, clients and 'contractors' took credit for much of the building design and project management work (e.g. the pharaohs with the Pyramids and Luxor, bishops with the European Cathedral projects), with craft guilds largely disappearing with the advent of capitalistic enterprise and the free-market thinking of the Renaissance. It can be argued that much of current studio culture evolved from the Beaux Arts prototype of 'long hours, intense competition, the schematic design focus, the absence of users, the relative disregard for how things get built, and the emphasis on the development of prototypical solutions.'<sup>13</sup>

The first British school, the Architectural Association in London, was formed in 1847 by disgruntled architectural assistants, with King's College within the University of London (today's Bartlett School) and the University of Liverpool following suit. Prior to the 1931 Architect's Registration Act, anyone could call themselves an architect in Britain. Until about 1958 most architectural students were in technical colleges, considered of lesser stature than universities, and a large percentage of aspirants were still working their way through offices. The 1958 Oxford Conference called for a concerted effort to move into the universities, with programmes in architecture largely controlled by RIBA registered practitioners.

Unlike the once practitioner-dominated British model (now largely peopled by full-time staff), the French system has always been state-controlled. French architecture schools, for instance, cannot hire their own professors but are dependent on a yearly state-run competition. When students protested the exclusivity of the Parisian Beaux-Arts system in 1968, the renowned academy split into eight urban sub-schools, and the state obliged these schools to accept everyone who applied. In this sense a historic paradigm of exclusivity went from one extreme to the other almost overnight, without doing much to change the teaching structure today considered outdated and abusive: 'The hardest moment of studio was watching my friend's model dropped on the floor and stomped on by our studio professor.'<sup>14</sup> Additionally, the system now produces a surplus of largely unemployable young graduates.<sup>15</sup>

The German Bauhaus movement, founded by Walter Gropius in 1919, did much to temper the neoclassicism of the Beaux Arts with its emphasis on exquisitely drawn projects in traditional styles, the monument as building type, the jury system and 'charrette' (eleventh hour drawing round-up), and stringent competition system. Gropius said that 'design was neither an intellectual nor material affair but simply an integral part of

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<sup>11</sup> Steven, Garry, *The Favored Circle*, Cambridge, MIT Press, 1998, p.181.

<sup>12</sup> ArchVoices: Newsletter, Issue 10.15.2004, p. 2 [[www.archvoices.org](http://www.archvoices.org)].

<sup>13</sup> *Ibid.*, p. 3.

<sup>14</sup> *Ibid.*, p. 1.

<sup>15</sup> Ordre des Architectes en Ile-de-France, *Les Architectes en Quelques Chiffres*, 2004.

modern concepts of mass production and modern technology, which the Beaux Arts had refused to accept. Instruction at the Bauhaus was of a practical nature, providing actual work with materials in the shops and on buildings under construction.’<sup>16</sup> Gropius and his friend, Mies van der Rohe, emigrated to the United States in the late 1930’s (the Bauhaus was closed by the Nazis in 1933), exporting their ‘modernist’ model to Harvard and Illinois Institute of Technology respectively.

While Thomas Jefferson, the only U.S. architect-president, tried to introduce a professional architecture curriculum at the University of Virginia in the School of Mathematics in 1814, his attempt was unsuccessful for want of an appropriate professor and it was not until 1865 at MIT that formal architectural education was pioneered in North America. The universities of Toronto and Montreal in Canada started schools of architecture in 1876. While these schools initially adopted the Beaux Arts hypothetical ‘design problem’ or ‘esquisse’ paradigm, the advent of ‘modern’ European architecture, Frank Lloyd Wright’s ‘Prairie Style’, and the Chicago skyscraper idiom resulted in a closer affiliation with the applied arts and crafts rather than engineering (e.g. Eiffel or the Spanish system<sup>17</sup>), and a more non-competitive, individual approach to learning, exemplified in the University of Oregon’s architecture programme. With the arrival of Gropius and Mies, U.S. university-dominated professional education ‘expanded beyond the art of rendering to include utilitarian subjects such as mechanical engineering and structural analysis’,<sup>18</sup> Cornell University having been the first to adopt a five-year professional course of study in architecture (the BArch) in 1922.

On the Asian front, the British model has been largely adopted due to the expansive colonialisation in that area (e.g. Sri Lanka, India, Pakistan), with some exceptions (NUS Singapore, Australia, Hong Kong, China) modeled more on the American system by reason of their relative youth. French Polynesia and South-East Asia (RUFA Cambodia, Thailand) reflect the state-run Beaux Arts paradigm, and given recent strife, are still struggling to find a contemporary identity, despite a rich and remarkably extensive architectural heritage. Garry Stevens’ witty and sometimes seething history and analysis of architectural education in Australia suggests that the reason there are few Australian schools (of any sort) in the ‘world’s top 100 schools list’<sup>19</sup> has to do with a cult of mediocrity and denial amongst staff (faculty)<sup>20</sup>, although Cambridge’s Alan Short upholds that Australia’s RMIT University is exceptional.<sup>21</sup> China’s Tongji and Tsinghua Universities both use a live projects model stemming from the Communist era in which students and professors worked on state-run building projects with professors assuming responsibility for construction documentation and site monitoring. As architectural education evolves, providing more meaningful experience and opportunities for our youth, it can build on vast advances in technology and communications (the ‘information highway’), globalisation, extraordinary need for shelter and stewardship relative to the environment, [Chirac’s proposed] global U.N. taxation towards development projects, expansive NGO participation and contribution, and the world’s tremendous natural and financial resources hitherto largely inaccessible in the pre-internet epoch.

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<sup>16</sup> Association of Collegiate Schools of Architecture, *Architectual Education – A Brief History*, p. 2 [[www.acsa-arch.org/studentinfo](http://www.acsa-arch.org/studentinfo)].

<sup>17</sup> Echenique, Marcial, Interview with Author, Cambridge University, April 2, 2005.

<sup>18</sup> Association of Collegiate Schools of Architecture, *op. cit.*, p. 2.

<sup>19</sup> [http://ed.sjtu.edu.cn/rank/2004/top500\(1-100\).htm](http://ed.sjtu.edu.cn/rank/2004/top500(1-100).htm), <http://www.archsoc.com/kcas/bestunis.html>

<sup>20</sup> Stevens, Garry, *Studying Architecture in Australia*, p. 1 [<http://www.archsoc.com/kcas/studyingAus.html>].

<sup>21</sup> Short, Alan, Private Communication, November 2, 2004.

## **II b. International Degree Programmes, Structures, Examination, Registration, and Reciprocity: A Brief Digest and Comparison**

Whatever the structure of the educational experience, many more architects can be deployed in developing regions where there is dire need for design and construction expertise; it is an argument of this treatise that the world's poor are an excellent client base for 'star' architecture and/or sensitive design and construction, and that resources are both available and identifiable to this end, with misdirected stewardship being a primary impediment (funding might come from the construction industry and institutions like the AIA and RIBA, for example). In order to facilitate implementation, a comparative analysis of various degree programmes and international licensing organisations is useful. These structures share quite a lot in common while reflecting key differences at some level; many architectural schools and programmes cater to a diminishing clientele (e.g. the state 'monument' market, the ultra-wealthy private sector, the competition venue) and their modus operandi is undergoing extensive self-analysis, including a re-examination of the tenure system as well as basic licensing procedures. It is indubitably in practitioners' and educators' best interests to re-tailor architectural design education to meet the challenge of changing market demands, as well as the ethical response to current critique. As US professor Robert Miller of Clemson University's College of Architecture claims, 'the context in which architecture is studied imposes a significant influence on the substance and character of that study; in a discipline whose national academic tradition is just reaching 100 years long and which has been formulated largely from piecemeal adaptations of European programs, it is time for a redesign of that context.'<sup>22</sup> Thomas Dutton, Director of Miami University's Center for Community Engagement, calls for 'the restructuring of architectural education...as a project that defines itself integrally as part of a transformative redefinition of society.'<sup>23</sup>

The most common degree programmes at present are the five-year BArch (Cornell) and the three-year graduate MArch (Harvard, Columbia, Yale); in Britain the three-year Part I, two-year Part II, and one-year Part III (or year out in practice) Diploma course (UCL, Architectural Association), and in France the six-year Diploma course. In the US, candidates must obtain a balanced three years' practice experience in a professional office subsequent to study before they are allowed to sit for state licensure examinations. Upon passing these state boards, newly licensed architects then have to register in their respective states, which monitor yearly professional development coursework requirements towards the retention of their professional status. 'Architect' remains a protected title.

There are many variations on the theme; more and more the professional degree is some sort of Masters degree, and the University of Hawaii recently inaugurated a four year BArch followed by a three-year ArchD (first of its kind), with professional accreditation through the NAAB for the BArch (at the time of writing accreditation is pending for the ArchD). Currently a proposed six-year MArch is under study in the US, and MArch and MPhil/PhD degrees by Architectural Design or Environmental/Development Studies following the Diploma course have been inaugurated at the Bartlett/UCL and De Montfort University (UK) respectively. All but the French licensing system require some sort of internship experience, although more and more the European methodology is to incorporate a 'stage' (internship) into the academic experience, particularly in the 'grandes écoles'. Typically students must leave the academic environment to obtain this

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<sup>22</sup> Miller, Robert, 'The Analogue and the Real: Two Paradigms for Architectural Education,' in Carpenter, William, *Learning by Building: Design and Construction in Architectural Education*, New York, Van Nostrand Reinhold, 1997, p. 97.

<sup>23</sup> Dutton, Thomas, *Voices in Architectural Education: Cultural Politics and Pedagogy*, New York, Bergin & Garvey, 1991, pp. xxii.

practical experience and cannot access it internally. They are poorly remunerated if at all, and tend to work essentially as CADD operators. At present there is no state examination in France, with the degree or 'diplôme' according the legal right to practice.

Regarding reciprocity, the creation of the European Union has facilitated practice mobility, at least in Europe, and typically the 'favored circle'<sup>24</sup> from the 'top' North American schools are able to obtain some sort of equivalency status with their prestigious degrees (not with their professional licenses) in Europe. The US requires foreign candidates to sit for professional state examinations, and ordinarily, as with medicine, accepts foreign degrees to this end. Interestingly enough, reciprocity is not as hard to obtain as residency status via immigration or citizenship in North America and is a first step towards a 'green card'. A common way to bypass, and in some cases respect, legal licensure requirements is through the 'star system' or an association with a local architect or engineer, as with film crews, and some non-licensed designers get architects or engineers to 'rubber stamp' their drawings, circumventing the system altogether. Reciprocity can often be an insurance related matter, to complicate logistical issues.

Asian models tend to follow both the European and American models in some form or other as per their history, and a few institutions are beginning to grant a form of ArchD or PhD by design (Tongji, Hong Kong University, RMIT, Tokai and Nihon Universities, Japan) as with Western examples like MIT and Milan Polytechnic; globalisation is resulting in institutions like the University of Tsinghua in China and the National University of Singapore increasingly modeling programmes after their western counterparts. The Chinese 'Top 500 World Universities List' (© 2004 Institute of Higher Education, Shanghai Jiao Tong University)<sup>25</sup> includes the standard Oxbridge, Princeton, Columbia, Stanford, Harvard, MIT, Yale and Berkeley British-US selection as its 'top ten': for better or worse, Asian universities are focused on these 'top' western universities in formulating their pedagogy.

## **II c. Strengths**

A common argument in favour of current systems of architectural education is that design background provides a 'good base for many venues' no matter what one's ultimate calling. This argument might also be interpreted as a justification for studies which do not always lead to their intended career path due to scarcity of employment opportunities; for example, as Max Bond (former Dean at City College School of Architecture, NY) states, 'it takes a lot of power to build a building. But the question of opportunity goes even beyond the expense and money involved. Women and non-white architects are not trusted and seldom have the opportunity to do the things that others do. If they were, buildings might reflect more....diversity.'<sup>26</sup> That being said, the rigour and discipline characterizing most higher education tracks in architecture tend to inculcate a sense of seriousness, focus, and dedication in students.

While programmes vary, most provide, at the very least, holistic exposure to practical engineering fundamentals, design and practice theory, architectural history, free-hand/CADD rendering and drafting, programming and construction basics, environmental issues/solutions, and 3D/4D modeling representation.

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<sup>24</sup> Stevens, Garry, *The Favored Circle*, Cambridge, Mass, MIT Press, 1998.

<sup>25</sup> [http://ed.sjtu.edu.cn/rank/2004/top500\(1-100\).htm](http://ed.sjtu.edu.cn/rank/2004/top500(1-100).htm); see also Garner, Richard, 'Cambridge Rises Up the Ranks of World's Best,' in *The Independent*, 17 August 2005, p. 8.

<sup>26</sup> Bond, Max, 'Architectural Education and Society: An Interview with J. Max Bond, Jr.,' in Dutton, Thomas, *Voices in Architectural Education*, New York, Begin & Garvey, 1991, p. 89.

It is true that such skills are widely applicable, as to product design, project and construction management, set and fashion design, urban planning, sustainable development and engineering, aeronautics, interior design, and so forth. It is also generally held that architecture is one of the most inter-disciplinary, inclusive arts and (according to one's creativity and training) incorporates/facilitates all others, such as photography, cinema, the way people move through space (dance), sculpture (e.g. Frank Gehry), and music (performance environment, installations, and sound and light shows), to list a few. Sensitive design can positively impact peoples' lives in profound and uplifting ways, and the experience of an architectural education can be a luxury, providing substantial one-on-one contact with talented and committed professionals, travel to some of the world's great building sites and monuments, interaction with an exceptional peer group, and time to develop one's creative potential against the rich cultural backdrop and ivory tower setting of a university with its vast offering of performances, concerts, architect-designed buildings, museums, extra-curricular lectures, sport activities, and multifarious events.

## **II d. Weaknesses**

*[N]ot only has the field of architecture been marginalized by external forces, but...it has actively contributed to its own marginalization.<sup>27</sup>*

The 'ivory tower' setting however is often criticized for lack of real-world exposure and inadequate preparation for the hard reality of earning a living in architecture upon graduation:

'Architectural education is built upon analogic reality: the student is given a problem and asked to pretend that it is real. To pretend is to make believe, or construct fiction, and schools construct, pretend or analogue worlds on two levels: first, projects are inevitably hypothetical, a surrogate for the real world; second, there is complicit agreement that students be only expected to produce a pretend or artificial product, so-called "student work," while professors produce the real academic article—publishable, credible, and contributory work. Thus, students are twice removed from the domain of the real—a word that no longer enjoys fixed or precise meaning—even when given a project that takes as its problem the projection of a real building, for a real client, on a real site. This analogic environment of perpetual deferment sends certain subliminal messages: you will be an architect one day (not now); this is a pretend project (not a significant one); just do the best you can (after all, you're only a student). In this way, academia tends to make students into would-be architects, not real ones.'<sup>28</sup>

It may well be asked why the current paradigm is not catering to these needs better. Apart from the introduction of computer-aided design and drafting courses in the last few decades, the current model of architectural education has, to many minds, not changed rapidly enough despite a quickly changing universe and building environment: 'Transformation is necessary in architectural education. In the face of a postmodern world that is undergoing enormous economic, social, and ecological restructuring, architectural education seems to be profoundly mute, unable to voice direction, and worse yet, not even seeing the need to do so....Many express the rage of having been silenced, been made invisible, by the inertia and machinations of dominant ideologies and cultural-political practices that favor Eurocentrism, cultural chauvinism, competition, individualism, hierarchy, and patriarchy in architectural schooling. All say much....about the directions needed in architectural education in order to shift the dominant paradigm in such ways that the

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<sup>27</sup> Teiche, Hannah, *Engaging the Everyday*, First Prize, 2005 ArchVoices Essay Competition, May 2005 [www.archvoices.org].

<sup>28</sup> Miller, Robert, 'The Analogue and the Real: Two Paradigms for Architectural Education,' in Carpenter, William (ed), *Learning by Building*, New York, Van Nostrand Reinhold, 1997, p. 86.

marginal might come to occupy the center: to reconfigure the cultural-political terrain to make the experiences of gender, race, and class central to a reconceptualization of architectural education and pedagogy.<sup>29</sup> Additionally, CADD is seen as perpetuating problems presented by the ‘virtual’:

‘The subject of architectural discourse over the past 20 years has moved decidedly away from the concrete. In post-modern culture, real is suspect as a word and as a concept. As digital technology has eradicated the distinction between the original and the copy, we have reevaluated the hitherto prioritized status of the original and discovered virtues in its opposite: the fake, the imaginary, the artificial, the counterfeit, the double, the duplicate, the clone, the virtual. In so doing, we have come to question the value and existence of such qualities as authenticity and genuineness. The real, a condition to which these qualities accrue, has become devalued, if not irrelevant—if not undefinable. As for the medium in which we teach and which forms the most significant bridge between academia and practice, one can hardly imagine a less concrete analogue for architecture than CAD.’<sup>30</sup>

Furthermore, while the profession expected CADD to take much of the tedium out of drafting, the extended prep time required has apparently not made the draftsman’s load lighter. Despite obvious advantages CADD still requires ‘charrette’-intensive input and has turned a large percentage of architects into ‘illustrators’.

Professional development/continuing education is a relatively recent RIBA/AIA imposed requirement to maintaining registration and largely ignored by many practitioners and educators. It can be argued that the profession’s indigenous ‘pecking order’ or ‘star system’ (within and without academia) is self-defeating and reinforces low self-esteem among ‘non-stars’, neglecting the possibility that a variety of tasks are not only honourable and meritorious but fascinating, creative, and critical to the design process; only lately is the interdisciplinary character and potential of the field being promulgated and developed.

‘Harvard’s Joseph Hudnut made a list of all the subjects that he deemed essential for a sound and complete architectural education. When the list was complete he calculated the length of time it would take to learn everything on it—22 years. While this is ridiculously long, the pressures for the modern architect to know more and assume greater responsibility have had their effect, even when tempered with the realisation that all need not be learned in school.’<sup>31</sup> With multi-disciplinary team collaboration becoming more and more important, and given the adumbration that all cannot be learned in school, the extra-curricular agenda (‘internship’) becomes essential yet remains largely unaddressed by design schools, outside the British model, which none-the-less typically ‘leaves the intern and host office/employer to get on with the training experience by themselves with little monitoring or intervention’.<sup>32</sup> Sadly these internship experiences are often perceived as abusive by the interns, most often employed long hours as CADD draftspeople in production ‘factories’.<sup>33</sup> Rarely does the young designer glean much of client interaction, marketing, site supervision, construction documentation, and so forth. The design skills he or she has learned in architecture school (apart from CADD) are typically of little interest to the employer, and rarely sufficient to tackle a private client (apart from one’s parents—often the case of the ‘favored circle’).<sup>34</sup>

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<sup>29</sup> Dutton, Thomas, *Voices in Architectural Education: Cultural Politics and Pedagogy*, New York, Bergin & Garvey, 1991, pp. xxii-xxiii.

<sup>30</sup> Miller, *op. cit.*, pp. 86-87.

<sup>31</sup> ACSA, *Architectural Education – A Brief History*, 1997, p. 2 [[www.acsa-arch.org/studentinfo](http://www.acsa-arch.org/studentinfo)].

<sup>32</sup> *Ibid.*, p. 3.

<sup>33</sup> Annex 1 (*Survey Results*).

<sup>34</sup> [www.ArchVoices.org](http://www.ArchVoices.org)

‘The AIA (/ARB) has targeted the teaching of how buildings are made as the weakest aspect of architectural education, and there is some merit to this charge. Due to time constraints (among other things), approximately 90 percent of traditional studios result in what can only be called schematic design. Design development, construction documents, materials and methods, structures, etc., are generally taught as isolated subjects and transfer into studio designs is often negligible....Technology is most meaningful when integrated into the studio context, and there is no substitute for hands-on experience....Structure, detailing, design issues, and construction strategy are all debated in the hands-on atmosphere of three-dimensional reality. The best architects understand the logic and poetics of construction and the best way to teach this is to build.’<sup>35</sup>

While the live projects model has many advocates, it has to date few practitioners and few design/build proponents.

## II e. ‘A Strange Religion’ – Ethical Issues

*Our tendency to huddle within safe institutional boundaries has interrupted the call and response between architects and communities and has created a removed and debased version of our profession. We have developed a stunting tendency to look to our fixed institutional shape first and then try to find needs to serve within that underdeveloped shape, rather than look to community needs and adjust our institutions to serve them. Our inwardly focused approach to our profession has fostered the illusion that architecture is something closed, finite, and predetermined. Architecture has become an idol that mesmerizes and immobilizes architects. We have forgotten that architecture is inseparable from culture and social structures, and we are in danger of bureaucratically cloistering ourselves into irrelevance.*<sup>36</sup>

--M. Scott Ball

The ‘strange religion’ of ‘star architecture’ typically requires its adepts to put their craft above all else, and it can be argued that architectural education requires complete devotion. It has been said that ‘we should work to support those we love; in architecture we as often as not expect those we love to support our work,’ while ‘in the end, people form the most critical component of the quality of our lives in a given environment, not the places themselves.’<sup>37</sup> A rethinking of basic ethical issues (which places an emphasis on people over their physical environment), established ‘professional’ focus, and notions of power and prestige, necessarily entails a retooling of curricula as well as practice. In order to empower the intern (or ‘resident’), he or she needs to be regarded as valuable and devoted time to. This paper beats to the tune of a different drummer, attempting to re-identify priorities, and demystify and de-deify the profession, viewing it as service as well as art, or art with social and spiritual purpose, outlining significant potential remuneration for this approach. Architects like Charles Gwathmey and Richard Meier are the first to point out that being an ‘architecture guru’ carries with it a very high price, and that values need to be assessed and reassessed, particularly regarding one’s personal life, family, and human entourage.<sup>38</sup> In defending his position as a Jewish architect

<sup>35</sup> Carpenter, William (ed), *Learning by Building: Design and Construction in Architectural Education*, New York, Van Nostrand Reinhold, 1997, p. 46.

<sup>36</sup> Ball, M. Scott, ‘Expanding the Role of the Architect,’ in Bell, Bryan (ed), *Good Deeds, Good Design: Community Service Through Architecture*, New York, Princeton Architectural Press, 2004, p. 135.

<sup>37</sup> Harris, Melissa, ‘Social Dynamics and Built Form: Design Studio Investigations,’ in Carpenter, William (ed), *Learning by Building: Design and Construction in Architectural Education*, New York, Van Nostrand Reinhold, 1997, p.125.

<sup>38</sup> Von Boehm, Gero, *Architecture de la Lumière: Portrait de Richard Meier*, documentary film, 2004.

on a Catholic cathedral project in Rome, Meier, gesticulating towards the sky, expounds a spirituality which transcends religion.<sup>39</sup> It is my hypothesis that architectural education and internship today continue to make a dangerous cult and/or idol out of architecture and existing forms of practice, albeit inadvertently, and that the idol fails to 'fill the soul hole' along the lines of the larger spirituality espoused by Meier. Additionally, reinventing architectural training might include reprioritisation focusing on 'ethical intelligence'.<sup>40</sup>

'By restricting critical practice to the realm of architectural representation, deconstruction in architecture trivializes the experience of daily life and reduces the scope of social architecture,' Tony Schuman argues. 'Social architecture's concern for client, program, and process also provides a basis for linking architectural representation to social practice. Then conditions will be present for a full-throttle resistant architecture that exploits both the ideal (representational) and material (physical) capacities of architecture in the campaign to challenge the dominant power structure.'<sup>41</sup>

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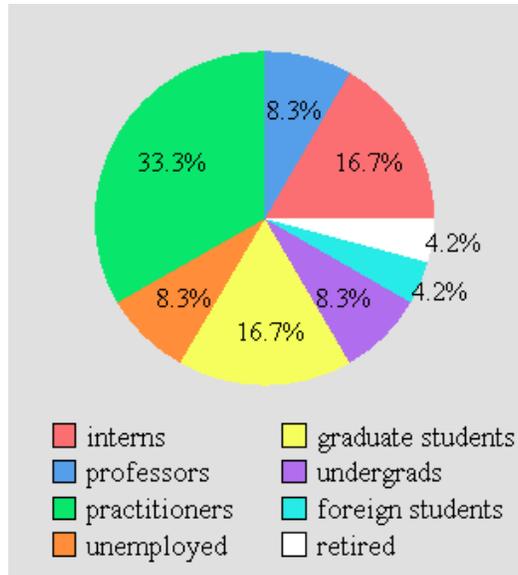
<sup>39</sup> *Ibid.*

<sup>40</sup> Wasserman, Aaron, 'Ethical AI,' in *The Phoenix*, Swarthmore, PA, Swarthmore College Press, Feb 10, 2005 [<http://phoenix.swarthmore.edu/2005-02-10/news/14631>].

<sup>41</sup> Schuman, Tony, 'Forms of Resistance: Politics, Culture, and Architecture,' in Dutton, Thomas (ed), *Voices in Architectural Education: Cultural Politics and Pedagogy (Critical Studies in Education and Culture Series)*, New York, Bergin & Garvey, 1991, p. 5.

<sup>42</sup> Fisher, *op. cit.*, p. 72.

### III. THE SURVEY



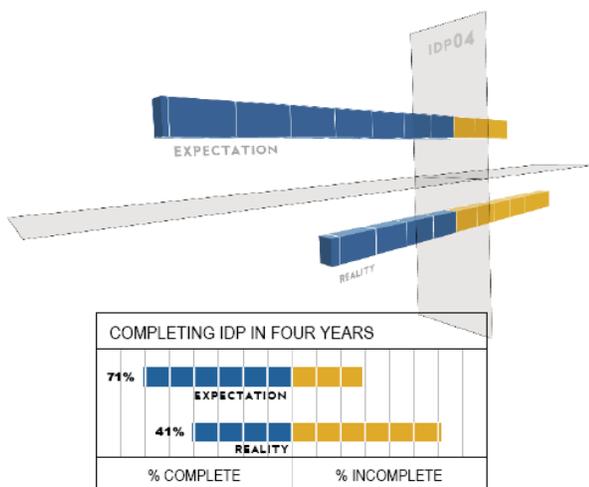
#### ***Characteristics of respondent group***

Beyond the survey of pertinent thinking through professional literature/websites and interviews (included as quotes throughout), two surveys were used in compiling data relative to issues raised thus far—one designed by the author (ANNEX 1A), and one ‘boiler plate’ model borrowed from *Architectural Internship Everybody’s Issue* (ANNEX 1B). Over one hundred fifty questionnaires were distributed to former and current students, interns, classmates, professors, and colleagues (see respondent pie chart above) by email, post, and in person. Of the forty-six respondents, 98% were unanimous in their support of an exposure to ‘professional practice as it happens in real life within the context of their architectural education’, with 78% espousing greater emphasis on project management, and 32% on construction, client interaction and designing to budget. Apart from a Sri Lankan architect and lecturer (Cambridge University IDBE participant, Eeshani Mahesan) who commended her work/study programme at the Colombo School of Architecture, Colombo, Sri Lanka most highly, every respondent had numerous criticisms to make, and all offered valuable suggestions. This section will attempt to analyse perceived strengths and weaknesses and summarise suggestions.

Thirty-nine of the forty-six participants broadly wrote that it was impossible to learn everything critical to the practice of architecture within the context of academe; while most enjoyed their educational experience, it was agreed that there was not enough course material on building technology, detailing, contract and construction administration, building codes, permit processes, value design, CADD, implementation, sustainability, post-occupancy evaluation, community involvement, professional practice, digital/virtual office structure and concepts, product innovation and sourcing, or ‘materials juncture’. Thirty-two per cent of respondents mentioned they would have preferred a more inter-disciplinary, collaborative ethos and greater contact with professionals; only 15% had had internship experience of some kind while still students (mostly ‘Commonwealth’ alumni), with others regretting the lack of opportunity. All agreed that continuous

professional development study was to be encouraged, although some found access difficult and/or expensive. Thirty-five percent had held jobs outside the design field at some point in their careers. Another 29% mentioned that they found academic design studio not only wanting in real-life experience but repetitive; just under 5% said they thought live projects would be confusing and/or ‘abusive’ of students. Despite variations, the vast majority criticised their schools for not having been practical or practice-oriented enough, with a few citing ‘uninspiring lecturers’ and lack of teamwork. Additionally, several respondents noted that internship, when available, could be unduly protracted, with the majority of US respondents having to take their licensing examinations more than once before succeeding.

**THE AVERAGE TIME TO COMPLETE NCARB'S IDP WAS SIGNIFICANTLY LONGER THAN THE THREE YEARS IT IS DESIGNED TO TAKE.**



71% of respondents expected to complete NCARB's IDP in four years, while just 41% actually did.

IDP is generally considered a three-year process; however, the findings of this survey indicate that 59% of those with a professional degree who complete IDP took longer than four years to do so. Forty-one percent of those surveyed indicated they completed IDP in less than four years, and 82% indicated it took them less than five years. When sorted by degree type, there was little difference between the MArch and BArch relative to time to complete IDP, but only 24% of respondents without a NAAB-accredited degree (vs. 43% for those with degrees) had completed IDP in four years or less, and 63% in five or less (vs. 85% for those with degrees). Additionally, 24% of those without a professional degree indicated that it took them 8 or more years to complete IDP (vs. 6% of those with degrees). Unfortunately, the data collected does not provide a method to evaluate internship length for the non-IDP interns.

**ICS Internship & Career Survey, 2003, USA**

**IDP = Intern Development Program (NCARB, USA)**

Survey results from: [www.aia.org/SiteObjects/files/FinalReport.pdf](http://www.aia.org/SiteObjects/files/FinalReport.pdf) @ [www.ArchVoices.org](http://www.ArchVoices.org)

‘Foreign’ students in general seemed most ‘grateful’ for their educational experience, commenting positively on the focus on art and theory, and in particular field trip and related travel experience. Ninety-five percent of contributors felt that social concern and activism were vital to contemporary academe, that the architectural degree process in no way should be lengthened, and that while architectural and related professional degrees involved years of study, respect and remuneration were not commensurate with training. One respondent, a senior MIT professor of architecture (Jan Wampler, FAIA), commented that: at the moment we are thought of as individual artists and we promote that image through the press we receive; there is too much teaching about current styles and not enough about basic knowledge. Our profession needs a strong knowledge base to work from as other professions have (law, medicine). We will never be respected until we are thought of as influential not only in design but for creative leadership.

Additionally Professor Wampler mentioned that he felt it was the architect's responsibility to 'preserve cultures around the world,' and that healthy internships meant giving interns 'jobs that are not boring (such as sitting in front of computers all day).' Finally, Wampler noted that 'we are the only profession looking out for the built physical world (and) we need to lobby for higher fees so that we are not taken advantage of and therefore not taking advantage of interns.' Currently he is making a film entitled 'Designing an Architect' in an effort to help establish new roles and a new image for the profession and 'to show the public what an architect can do'. One hundred percent of those participating in the survey initiative (ANNEX 1A) agreed that architectural education needed to evolve beyond current *modi operandi* and that the profession needed re-assessment.

Ripostes offered a plethora of ideas relative to improving design education, including the incorporation of systems thinking, specialisation (as in the medical profession), social projects and greater involvement in community planning, emphasis on creative leadership, teaching offices, general lobbying for higher fees, more real-life experience, work/study and design/build programmes, peer and professional mentoring programmes, ethics, professional practice and case studies development courses, practice academies and universities, ARE preparation sessions, obligatory 3D/4D computer modeling, mandatory construction experience, and video production, to list a few. The traditional model of architectural education was largely criticised for its failure 'to address life after school', or, as Garry Stevens has voiced:

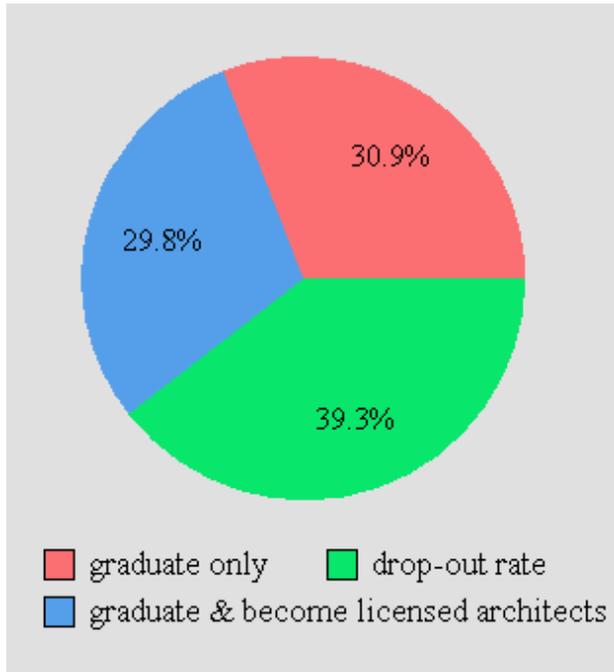
why architecture schools should have such fraught relationships with both the occupation and their universities. Neither American nor British practitioners have ever been reticent about criticising the schools, the fundamental and continuing failure of which is, from their point of view, their sheer and seemingly perverse inability to prepare students for the real world of practice. The studio system of education is, they say, a fantasy world in which incompetent professors who are the centre of petty personality cults encourage bizarrely unrealistic expectations in students, while avoiding the teaching of anything actually to do with the hard realities of life. Students learn nothing of the other members of the construction industry. They cannot draw and they know nothing of construction. The suggested remedies are usually along the lines of introducing more 'pragmatic' subjects such as management and technical courses or, significantly, a partial return to apprenticeship in some form.<sup>42</sup>

From other surveys conducted by the AIA and ArchVoices.org (page 22 & ANNEX 1B), 'the AIA estimates that only 30% of students entering accredited architecture programs go on to become licensed architects, although just over 60% complete their professional degree (compared to 98% and 95% for medical and law schools respectively).'<sup>43</sup> As alluded to later in Chapter V, more stringent acceptance rates might spare many individuals the frustrations of poor employment experience and misdirected energies down the road—particularly in France where virtually every candidate who applies to architecture school is accepted (this phenomenon is also observed by French medical schools, with the exception that 90% of medical students are weeded out through an examination process after their first year of study); additionally, the French university system is free (state-sponsored).

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<sup>42</sup> <http://www.archsoc.com/kcas/Historyed.html>

<sup>43</sup> <http://www.archvoices.org/index.cfm?pg=Careers&s=AltPaths>



**Percentage of entering students who become licensed architects**

The vast majority of survey respondents have revealed a desire for project management and a community participatory design process to be given more attention in design schools:

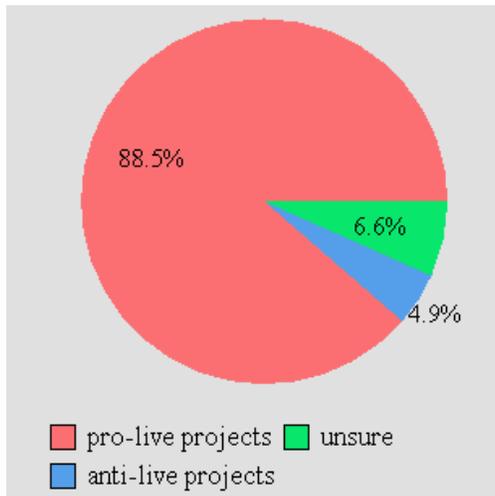
‘It’s one of the things I’d like to see in the education of architects; it is not our role to give immutable objects to people, but it is to find ways to include people in the creation and changing of the object....The role of the project manager, in fact, is to understand how people come together, and move from the idea of creating something to its execution. I think this is a role that architects should play. So we ought to learn more about managing the process of creating a building and sustaining its ongoing life. In so doing, our role as designers would become broader, the design of processes as well as of formal objects.’<sup>44</sup> (Max Bond, FAIA)

One of the most encouraging suggestions extracted from the study (during an interview) was to replace a studio year with an internship for academic credit at the graduate level (inside or outside academia along the lines of the British Part III model) and to introduce specialized classes moving beyond design development into construction management and real-life responsibilities (David Kelley, Director, Stanford Institute of Design<sup>45</sup>). Other thoughts included more staff guidance/advising, *remunerated* work programmes within schools (one respondent, an active licensed architect, noted that at the time of his graduation in 1975 ‘unemployment in the profession was at 85%’), better projection of and preparation for anticipated future concerns (e.g. ‘disruptive technologies’, disaster relief [Sri Lankan architect Mahesan]), the inclusion of communication and marketing skills (e.g. public speaking/public relations), and greater emphasis on

<sup>44</sup> Bond, Max, ‘Architectural Education and Society: An Interview with J. Max Bond, Jr.,’ in Dutton, Thomas, *Voices in Architectural Education*, New York, Begin & Garvey, 1991, p. 92.

<sup>45</sup>Kelley, David, Interview, Stanford University, May 17, 2005; see also:  
<http://www.time.com/time/insidebiz/article/0,9171,1034705,00.html>.

planning and infrastructure, particularly within the realm of crisis shelter/affordable housing design. Finally, close to 90% of respondents agreed that efforts to educate the public about architectural services and design along with student career programmes to generate awareness (within the university context), and closer contact with industry (e.g. pre-fabricated catalog building component design)—in conjunction with ‘socially aware’ live projects and/or design/build venues—were to be promulgated.



#### ***Survey summary relative to live projects advocacy***

One intern expounded:

‘If you were to take three architects, put them one at a time in the same room and ask each of them to talk about the white wall in front of them you would get three distinctly different answers. One architect might focus on the solidity of the wall. Another architect may emphasize how the plane of the wall meets the other walls, floor, and ceiling. The third architect might see the voids within the wall. The ability of an architect to look beyond the wood framing and gypsum, to see the wall as itself, to see the wall in perspective and to see what the wall lacks is a talent. This talent has fallen short when it comes to the profession’s own architectural internship.’<sup>46</sup> (Vanessa Van Beusekom)

## **IV. CURRENT INNOVATIONS IN THE PRACTICE-BASED MODEL**

While many modifications to the traditional model have been adopted since the founding of the Beaux Arts paradigm in the seventeenth century (notably due to the influences of the Bauhaus, skyscraper idiom, and British practicum), the inclusion of the practicum as a requirement for licensure is fairly recent and has typically been a post-graduate, pre-professional undertaking. Service-learning, however, involves students in real-life experience (live projects) while they are still students, and offers an enriching complement and/or alternative to today’s studio structure.

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<sup>46</sup> ArchVoices.org, 2005 Essay Contest [email from [www.ArchVoices.org](http://www.ArchVoices.org), July 2005].

## IV a. Service-Learning

Service-learning means a method under which students learn and develop through thoughtfully-organized service that is conducted in and meets the needs of a community and is coordinated with an institution of higher education, and with the community; helps foster civic responsibility; is integrated into and enhances the academic curriculum of the students enrolled; and includes structured time for students to reflect on the service experience.<sup>47</sup>

While these kinds of initiatives are now fairly common to most of academia (e.g. Swarthmore's Lang Center for Civil and Social Responsibility, Stanford's Haas Center for Public Service), they are only beginning to colour the architectural arena. Contemporary examples include Wampler's graduate studio at MIT and the University of Illinois at Urbana-Champaign, where over a two semester period, students in an architectural design studio undertook a challenge to design a low-cost yet energy efficient home for Habitat for Humanity. The driving force for creating this unique home was a complex set of values and choices rooted in civic responsibility to make homes affordable (for low income families) and yet use sufficiently sophisticated technology to ensure energy conservation. Students also participated in building the house and now engineering students are monitoring the energy consumption compared to conventionally built Habitat homes. Through this project the students were able to be creative and 'playful' while at the same time expressing their sense of responsibility that will be critical in their work-a-day lives (<http://brc.arch.uiuc.edu/Habitat/project.htm>).<sup>48</sup>

With organisations like *Architects Without Borders*, *Habitat for Humanity*, and *Architecture for Humanity* publishing projects in need of architectural designers on their web sites and sponsoring related real-world student competitions, studio focus on live projects is becoming a more common phenomenon, particularly in the United Kingdom. At the University of Sheffield School of Architecture, the *live project* has become a pioneering educational initiative:

Architecture students work in groups on live projects with a range of clients including local community groups, charities, health organisations and regional authorities. In some cases the projects involve actual building, in others design of urban masterplans, in others consultation exercises. In every case, the project is real, happening in real time with real people. The projects draw on the School's exceptional research base as well as the commitment, vision and resources of highly talented students.

The Live Project sets real constraints, responding to budget, brief and time. In each project there is regular contact with the client and a final presentation, normally accompanied by a report. The projects place a large responsibility on the groups to deliver; as opposed to most student projects these live projects are public and accountable... Too often architectural education establishes a set of remote values which then go to define the profession; these centre on the myth of the architect as individual, male, hero-genius clinging to a set of ideals that are often removed from the concerns of the everyday world. In contrast, the Live Project develops collaborative techniques, skills in communication and participatory practice – all approaches that are essential and absolutely relevant to the future practitioner. The Live Projects also get the students out of the ivory tower of academe (in our case this is a real tower with the studios on the 17th floor of the tallest building in Sheffield) and into the real world; in this the projects establish an awareness of the social responsibility of the architect... The aim is to produce work of exceptional quality that empowers community and students alike.<sup>49</sup>

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<sup>47</sup> American Association for Higher Education, in *Service Learning and Education*, Office of Volunteer Programs, University of Illinois at Urbana-Champaign, 2002, p. 1 [<http://www.union.uiuc.edu/ovp/sle/>].

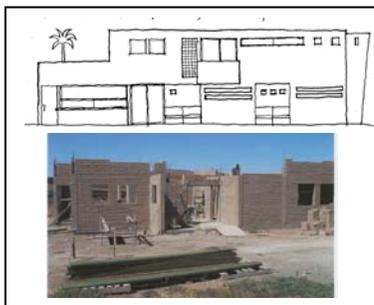
<sup>48</sup> *Ibid.*, p. 1.

<sup>49</sup> [http://www.shef.ac.uk/architecture/main/gallery/gal/diploma/lpw/Live\\_Projects\\_Intro.htmCTS](http://www.shef.ac.uk/architecture/main/gallery/gal/diploma/lpw/Live_Projects_Intro.htmCTS)

The service-learning approach takes many forms. For example, a live project might be run as a student competition in the context of academia, or students might organize a competition for a needy client (e.g. [www.ArchitectureforHumanity.org](http://www.ArchitectureforHumanity.org)). Additionally, students can submit live-project work as competition entries or enter competitions for 'live project' material. The ASD in London has been working on live projects in Kosovo, India, West Belfast and the former Soviet Union, Stanford in Mexico and Guatemala, and the Greenwich Design Group (University of Greenwich) is a design office run by students and staff to design *and build* real projects, giving students unparalleled working experience. Another remarkable example is that of the University of Alabama's Rural Studio, also structured on the design/build model. The Colombo School of Architecture and University of Moratuwa Faculty of Architecture in Sri Lanka recently undertook 'live project' service-based studios providing sensitive design solutions as contributions to the tsunami reconstruction effort, with NGO's to implement the designs.

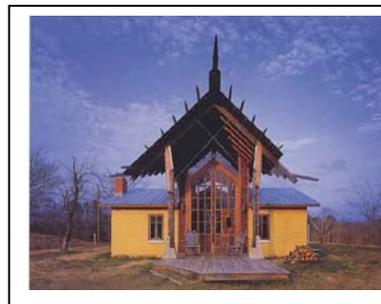


*Tsunami Housing Design Exhibition, Colombo School of Architecture & U Moratuwa,  
Colombo School of Architecture, Sri Lankan Institute of Architects*



*Rancho Santa Marta, MX, Stanford U*

<http://news-service.stanford.edu/news/2001/july11/rancho-711.html>



*Goat House, Rural Studio U Alabama*

<http://www.ruralstudio.com>

Schools which aspire to the paradigm include the Bartlett School UC London, the Welsh School of Architecture, and the Mackintosh, among many others with budding programmes. While the live projects or 'clinic' model is not new, it has only 'gotten off the ground' in the past decade, despite the concept's existence in the 1960's:

Another interesting trend that emerged in the 1960's was the notion of the free clinic for urban problems and architectural design. The movement really began with 'CDCs,' or community design centers. As architecture, along with other professions, woke up to social responsibility, the non-profit CDCs began to provide architectural and planning services for the disadvantaged, usually in urban areas. Some CDCs were born of negativism--for example, to stop a thoughtlessly planned freeway--while others grew out of positive motives such as creating playgrounds or low-cost housing. At any rate, by the late 1960's it became clear that the market for non-profit design services was larger

than originally thought and extended beyond minorities to many segments of society. This gave rise to the ‘clinic’ notion, a logical extension of the original CDC. The clinic may be in a school of architecture or exist as a separate but related institution. Normally it is staffed by members of a school's faculty and provides students an opportunity to work on ‘real’ projects with ‘real’ clients, often with local architects. Successful CDCs are now operating at several schools. Although many are located in large urban areas, rural problems deserve equal attention, and the challenge has been taken up wherever resources permit.<sup>50</sup>



*washington u designs for habitat for humanity*

## **IV b. Practice Integrated into Education**

Service-learning is unquestionably a form of practice integrated into education, and often includes an exchange programme of some sort as an important complement. It can be argued that universities have remarkable and under-utilised resources for potentially providing multifarious and desperately-needed services to underprivileged groups, the developing world, and/or in crisis situations. To this end, the Center for Social Innovation at Stanford's Graduate School of Business supports ‘social entrepreneurship’ with a focus on live development projects, and has sought and procured substantial funding to further the initiative. The medical school internship/residency model (or teaching hospital) is an age-old form of practice integrated into education—yet a question often raised is whether these services compete in quality with professional assistance provided outside the teaching environment.

In the architectural arena, with services targeting the ‘third world’, a strong case can be made that such benefits would otherwise not be available to many of these client groups. It is the professional mentor's responsibility to ensure quality production and legal protection. Stanford has had the occasional experience that some clients do not ‘understand’ or aspire to the universities' notion of ‘quality’ and prefer to part ways after the design development phase, building their projects independently and ‘ameliorating’ the design as they go according to their own standards. Some of these clients do an exceptional job while others fail altogether. One conclusion is that it makes sense for universities to interview and choose clients wisely at the outset emphasising track record.

At Penland (U Michigan design/build project), the mistake with perhaps the greatest ramifications was both a blessing and a curse. The lack of a building contract happily allowed a wide latitude in the timing and production of drawings and freed us from any legal responsibility, but simultaneously it stripped us of any power to prevent design changes after our departure. When we left, the drawings were not treated as a

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<sup>50</sup> ACSA, *Architectural Education – A Brief History*, 1997, p. 3 [[www.acsa-arch.org/studentinfo](http://www.acsa-arch.org/studentinfo)].

contractual agreement. Because there was no contract we were not consulted when plans were altered on-site (building, color, eave detail, gutters, exposure of lower-level columns, continuity of gabled forms, etc.).<sup>51</sup>

Other models, such as the British RIBA Part III, engineering internship in the French 'grandes écoles' system, or work/study course at The Colombo School of Architecture, require students to spend time working in an office while still enrolled as students in degree programmes, thereby circumventing issues of salary, health coverage, 'charges sociales', and so forth. In such instances the student is removed from his or her peer group and placed directly in the professional environment. Most forms of practice integrated into education provide students with valuable hands-on experience better equipping them to tackle real world pressures and market demands upon graduation, but there is indubitably room for improvement in these existing venues, and new venues merit further research.

## IV c. Exchange Programmes

'While quite a few initiatives involve design projects overseas (Wampler at MIT, the ASD in London), some, especially the design/build programmes, involve foreign exchange. *Design/Build Mexico* at the University of Washington's Department of Architecture in Seattle is an interdisciplinary foreign study program which involves architecture students directly in the design and construction of community-based projects in Mexico. The program responds to the urgent physical needs of impoverished and indigenous communities of Mexico, many who now live as squatters at the edges of rapidly expanding cities....

Design/Build.Mexico promotes a process of designing and building which is cooperative and depends on mutual exchange of ideas and learning for its success. The curriculum stresses a method for understanding the distinct culture, climate, and building tradition of the region, and, in turn, a broad understanding of concepts of sustainability....

Design/Build.Mexico is directed through a collaboration between faculty from the Department of Architecture at the University of Washington and ADE (Accin y Dessarollo Ecolgico) a non-profit Mexican NGO working toward ecological sustainability in the central highlands of Mexico....Grant support from the Kellogg Foundation and from other donors has supported Design/Build.Mexico design studios in the construction of a series of institutional buildings in the community....<sup>52</sup>

Other schools not far from the US-Mexican border have instigated similar initiatives (U Texas San Antonio, Stanford); 'students from The University of Texas at San Antonio (UTSA) and the Universidad Autonoma de Mexico (UNAM) Architecture Exchange Program recently presented to the City of San Antonio's Neighborhood Action department five designs for a children's playground in Arroyo Vista Park, part of a new West Side housing project...."This is more than what is usually done in a design class," said Jose Jimenez, assistant professor in the School of Architecture. "We've had requests to do more practical and 'real' projects. This is definitely a new experience for many of the students."<sup>53</sup>

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<sup>51</sup> Harris, Melissa, 'Social Dynamics and Built Form: Design Studio Investigations' in Carpenter, William (ed), *Learning by Building: Design and Construction in Architectural Education*, New York, Van Nostrand Reinhold, 1997, p. 124.

<sup>52</sup> [http://depts.washington.edu/archdept/welcome\\_arch/virtual\\_visit/design\\_build\\_mexico.html](http://depts.washington.edu/archdept/welcome_arch/virtual_visit/design_build_mexico.html)

<sup>53</sup> <http://www.utsa.edu/today/2004/07/arroyo.cfm>

Typically, aspiring interns and/or young designers do not get to make site visits, let alone site visits to foreign countries. The combined live projects/foreign exchange study programmes are culturally enriching and educational in terms of exposing students to alternative construction methods, diverse cultural mores, variations in programming and approaches to sustainability, differing value systems and planning priorities, language and communications issues, opposing attitudes regarding client design education (and lack thereof), and cost and quantity surveying disparities, all of which designers must navigate in working overseas, a potentially huge and vital projects arena. The downside is that the academic live project is already quite complicated to administer and manage, and the foreign element can complicate things further. However, it is an ideal graduate thesis or advanced study/research paradigm, and has been successfully employed at the undergraduate level as well as graduate (Stanford's Overseas Study Program in Paris in conjunction with the l'Ecole Nationale des Ponts et Chaussées and l'Institut d'Etudes Politiques—the author's own experiment with the model).<sup>54</sup>

#### **IV d. Professional Development Models / Education Integrated into Practice**

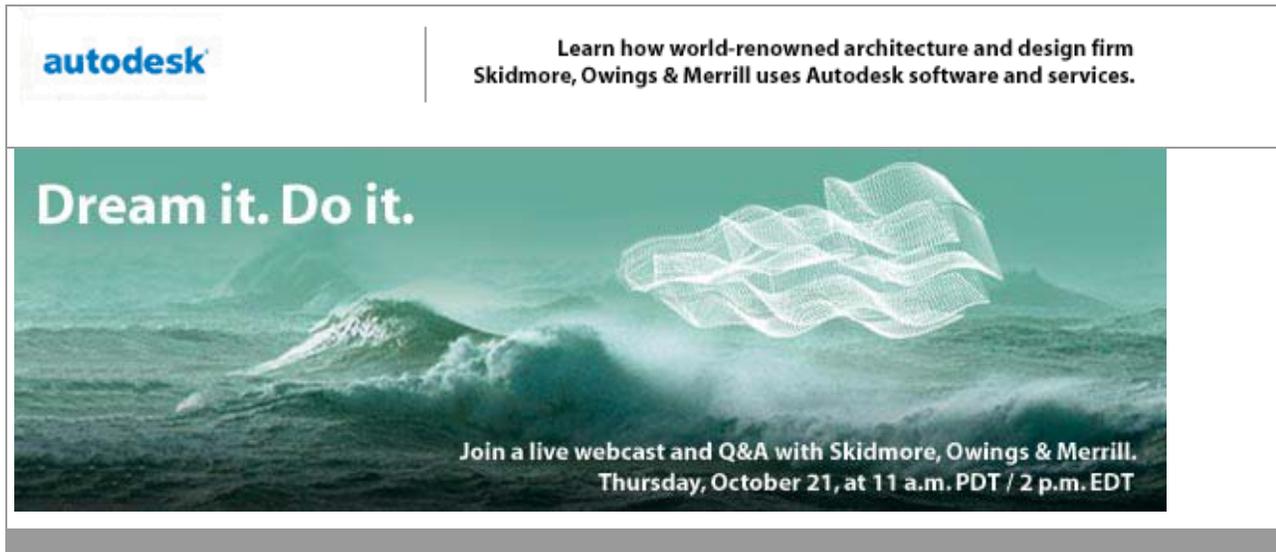
As mentioned, virtually all professional architectural licensing bodies now require some form of professional continuing education of its members to maintain registration. Some organisations are quite stringent, others lax. While currently the model is preached more than practiced, with members attending an occasional AIA/RIBA sponsored symposium or conference when convenient, current practice methods are changing so rapidly that the professional development model is likely to become a dominant form of 'education integrated into practice'. Apart from examples like the part-time, part distance-learning professional IDBE programme at Cambridge,<sup>55</sup> which actually grants its participants a Masters degree, firms like Skidmore Owings and Merrill collaborate in commercial CADD marketing campaigns to disseminate information to practitioners while at work in their offices.

Though it can be argued that this kind of commercial campaign is publicity-based and tantamount to advertising, the internet has none-the-less facilitated a useful on-line teaching network, making accessible vast quantities of information at little cost, if any, and mitigating loss of time due to travel and mailing. Just as it is obvious surgeons need to keep abreast of latest research and developments in surgical techniques, so architects clearly need to stay informed relative to the latest developments in their field.

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<sup>54</sup> <http://eleves.enpc.fr/clubinfo/laennec/Welcome.htm>

<sup>55</sup> [www.idbe.org](http://www.idbe.org)



The advertisement features the Autodesk logo in the top left corner. The main headline reads "Learn how world-renowned architecture and design firm Skidmore, Owings & Merrill uses Autodesk software and services." Below this is a large image of a green ocean with a white wave cresting. Overlaid on the right side of the image is a white, wireframe architectural model of a building. The text "Dream it. Do it." is positioned in the upper left of the image area. At the bottom right of the image, it says "Join a live webcast and Q&A with Skidmore, Owings & Merrill. Thursday, October 21, at 11 a.m. PDT / 2 p.m. EDT".

Interns, who come to firms fresh from academia, can be highly instrumental in keeping organisations ‘au courant’ regarding computer technology and software, and are typically patient instructors to the older generation of professionals, as well as assets in high-speed/digital imagery, telecommunications, smart building product sourcing and technology, and field research. Additionally they are often bi-lingual or fluent in languages of import to practice abroad (e.g. Chinese, Japanese, Khmer, Russian, etc). More and more, major universities offer continuing education with no admission requirements (e.g. Harvard, Stanford, Oxford, Cambridge), opening their previously exclusive doors to the public at large. In some cases, enough continuing education credits can be accumulated towards a postgraduate degree (e.g. Oxford, Stanford) pending acceptable performance.

Many firms, typically larger ones and construction management or design/build outfits, offer professional development coursework (occasionally ‘in-house’ along the lines of the Skidmore advertisement) as part of a ‘salary and benefits’ package and/or make coursework mandatory. While there are many variations on the theme, what becomes apparent is the increased need for practitioners to continue to be able to access information and on-going education in meaningful ways. The Welsh School of Architecture at Cardiff University actually registers its professors for a PhD when taking post.<sup>56</sup> More and more practice and education are becoming ‘interwoven like a Celtic knot’.

## **IV e. Extended Services**

By definition ‘extended services’ include services that an architect does not typically perform but is competent to perform, and may include land surveys, grant-writing, mortgage procurement, building inspection, project management, public relations, administration, and so forth. Practice restrictions evolved

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<sup>56</sup> <http://216.239.39.104/search?q=cache:Ww-HmHyT9MIJ:www.caerdydd.ac.uk/schoolsanddivisions/divisions/humrs/jobs/academicresearchsenior/ref407.html+welsh+school+of+architecture+live+projects&hl=en>

when it became legal for architects to operate concurrently as real estate developers (e.g. John Portman) c1980. Commercial advertising became legalized around 1990, giving architects the opportunity to make themselves known beyond the traditional publication and word-of-mouth venues. In order to survive, it appears logical for architects to offer services that match market demand better and which accord them in turn greater respect and remuneration (which would also benefit interns), in particular creative extended services.

Apart from the fairly recent innovation of development-related paths, architects have become more and more engaged in furniture and product design (e.g. Michael Graves, Robert Stern), including innovative, sustainable mechanical systems (Alan Short). Some remarkable historic precedent includes the work of Mackintosh, Le Corbusier, Mies van der Rohe, and Wright, to name a few, where tile and fabric patterns, hardware, signage, cabinetry, and the like were integral parts of over-all design commissions. Some firms even sell ties from web sites (e.g. Architectonica) while others have designed menus, dishes, uniforms, and murals.

Indubitably extended services could further stretch to include web site design, public relations, experience performance, hybrid solar/electric/hydrogen fuel cell car and building design, 'smart' technology, sound and light show production, and miscellaneous diverse venues warranting innovative course offerings. Alternative energy supply, production and integration, along with paralegal services relative to environmental impact statements, zoning, planning, tenant-landlord rights, contract negotiation, development, health and safety issues, and pollution all constitute potential areas of 'expanded service' (and income) for architects. With architecture and engineering melding more and more, interdisciplinary collaboratives proffer rich amalgamations of skills. 'According to a 1996 report by the Carnegie Foundation, 22% of students enrolled in architecture schools went into architecture to "help improve communities" (and) many of these graduates find they have to leave the traditional path of architecture to fulfill this goal.'<sup>57</sup>

Robert Miller of Clemson University's College of Architecture, Arts and Humanities (South Carolina, US) is a strong advocate of live product design within the academic context:

'In order to supplement the analogic character of the academic milieu while accepting the need for non-commissioned work inside the academy, a project type needs to be injected into the curriculum that is stripped of the ever-referential and ever-deferring qualities that are endemic to the analogue-type project. In this endeavor, students are asked to design and construct a machine, game, tool kit, gadget, construction, or other work that is its own ultimate manifestation. The essential feature is that the project not be a model of something else that would be built by others, at a different scale in some other location, out of hypothetical materials assembled by foreign means at some time in the future. It must be its own real project.'<sup>58</sup>

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<sup>57</sup> Ball, Scott, 'Expanding the Role of the Architect,' in Bell, Bryan (ed), *Good Deeds, Good Design: Community Service Through Architecture*, New York, Princeton Architectural Press, 2004, p. 133.

<sup>58</sup> Miller, Robert, 'The Analogue and the Real: Two Paradigms for Architectural Education,' in Carpenter, William (ed), *Learning by Building*, New York, Van Nostrand Reinhold, 1997, pp. 90-91.



Clemson U 'Live Project'

[www.birdu.com/clemson.jpg](http://www.birdu.com/clemson.jpg)

## IV f. Review

While work arenas have evolved, those who have managed to stay active have typically had to augment their educations, learning how to find and cultivate clients, negotiate fees, run an office, and so forth 'on the fly'. Those few who have managed to establish and survive with successful offices, or land well-remunerated salaried employment in firms or academia, rarely reach out to their less fortunate colleagues and today's aspiring youth; 'when an institution exonerates itself from responsibility for racial and sexual apathy and defends its actions by placing blame on the larger society, it fails to meet its obligations to promote progressive change and growth in the field of architecture and society at large.'<sup>59</sup> Whether due to the competitive, capitalistic 'everybody for himself' modus operandi typifying much of today's culture, or simply lack of time and energy, a creative profession which purports to high, humanistic ideals must engage itself socially and invest in new and creative solutions to aid its less fortunate. If 'charity starts at home', our colleagues constitute a viable point of departure.

It is worth noting that aiding the less fortunate can also have material benefits. The director of a homeless mission, for example, may earn more than the director of a major corporation.<sup>60</sup> Giving young architects background experience and education that will be of use to them in truly practical ways, and helping them identify a broad, exhaustive client base as well as funding, will not only further the profession but the world-at-large. While at present the need for change may have a small voice, persistent outreach (e.g. the 'squeaky wheel' or 'tiny mosquito buzzing around a giant's ears') typically reaps reward. In supporting recent innovations to traditional architectural education designers can help expand on and improve these innovations as effective agents of transformation.

As the profession evolves at an astonishing rate, architects are faced with a continually changing marketplace, varying levels of client sophistication, new regulations, desires for greater environmental sustainability, and evolving project delivery systems. To maintain its leadership position in the design and construction industry, the profession must challenge traditional practice models and seek new paradigms that

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<sup>59</sup> Diaz, Buss, and Tircuit, 'Beyond Cultural Chauvinism: Broadening and Enriching Architectural Education,' in Dutton, Thomas, *Voices in Architectural Education*, New York, Begin & Garvey, 1991, p. 129.

<sup>60</sup> e.g. Open Door Mission, Rochester, New York [http://www.opendoormission.com]

facilitate the integration of rapidly changing design and construction technology, new materials, new methods, new ideas, and new client and public expectations.<sup>61</sup>

## **V. POTENTIAL FUTURE DIRECTIONS FOR THE PRACTICE-BASED MODEL**

Rather than ‘throw the baby out with the bath water’, it makes sense to build on our rich history and the substantial efforts of our predecessors in revamping architectural education while recombining ideas, methodologies and strategies to develop fresh and new approaches, re-designing design education and practice as focused, creative designers.

Architecture is the sum total of what architects have done in the past and are doing in the present—and there is much that needs to be done. We focus on edifice, but architecture itself is whatever percolates out of our activity as trained architects. Invitations are everywhere for us to step back out into a broad section of society, if we would show a willingness to reinvent ourselves and allow the profession to percolate once again.<sup>62</sup>

It is not the purpose of this paper to address details of curriculum planning, but rather to set the framework for a broad complementary model that institutions can adapt to their own needs and preferences while providing students and practitioners alike with a new opening on the world and their profession. Insofar as ‘recognizing a problem is often the first step to solving it’, dissolution of ‘denial’ requires work and patience and some may see their ‘religion’ or ‘dominant power structure’ under attack.

‘(Additionally), we need to get rid of the notion that teamwork is bad. Good buildings are nearly always designed by a team, by a committee in one way or another. We should learn to maximize the benefits of teamwork because it certainly brings a greater range of intelligence and skills to the design process. It is folly to assume that one person is going to have all the skills—technical, social, and artistic—to make a really good building or a good environment. If you look at an office group working on a building, while most of them have had similar training, they still have different interests, intelligences, and therefore are able to take on different roles. In school, one finds that the differences are even greater because the students have not yet been homogenized and beaten down into this image we have of them as architects.... We could develop a much richer notion of what architecture school should be, and what architecture could be.’<sup>63</sup>

### **V a. Interdisciplinary Live Projects in Academe**

While we have seen various live project types (e.g. combined with foreign study or exchange, design/build, or simply design) in the context of academe integrate innovative teaching, seldom does the paradigm purport to being truly interdisciplinary or espouse project development. The model proposed is more like ‘real life’

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<sup>61</sup> [www.aia.org/print\\_template.cfm?pagename=fellows\\_latrobe\\_2005](http://www.aia.org/print_template.cfm?pagename=fellows_latrobe_2005)

<sup>62</sup> Ball, Scott, ‘Expanding the Role of the Architect,’ in Bell, Bryan (ed), *Good Deeds, Good Design: Community Service Through Architecture*, New York, Princeton Architectural Press, 2004, p. 135.

<sup>63</sup> Bond, Max, ‘Architectural Education and Society: An Interview with J. Max Bond, Jr.,’ in Dutton, Thomas (ed), *Voices in Architectural Education*, New York, Begin & Garvey, 1991, p. 87.

in that, like life, it is pan-disciplinary. Diagram 1 below represents the project and architectural unit in the middle and all the related disciplines surrounding it. An advantage to the model is that substantial additional resources are made available via cross-disciplinary links; the surrounding coloured circles represent the various faculties of the university: art, architecture, engineering, medicine, law, languages, physics, biology, sociology/anthropology, and so forth. As in real life, the project (or 'glue') serves to unite the various players, all working together on the same team to accomplish the task at hand, with the result that atypical boundaries are crossed and creative solutions arrived at. The site in this instance is visited and monitored by the architectural ensemble only (white), with the other disciplines providing support, counsel, resources, and related adjunct services.



Diagram 1

<http://intranet.dalton.org/hs/ComputerScience/>

A further example is where all players are directly involved on-site. In Diagram 2 below the project and design cell are again represented by the centre form (white), with the various interrelated disciplines connecting more directly through the project than the university environment. Additionally, related team members have direct experience of the project site and client—e.g. an AIDS clinic project in Senegal where physicians from the medical school supply on-site medical visits and programming input, engineers do on-site soil and water surveys, language scholars serve as on-site French-English translators for the client and design team, and so forth. In this instance the team players are more directly involved with the indigenous population served, leaving the 'ivory tower' of the university setting.

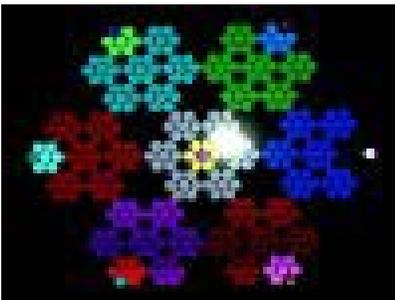


Diagram 2

<http://intranet.dalton.org/hs/ComputerScience/>

Both models are compelling and reflect more accurately how many different specialisations are involved in the evolution of a live project, giving students invaluable real-world exposure and allowing them to take better advantage of their universities' remarkably diverse, extensive resources, particularly in the realm of human resources. From the perspective of cost and logistics, local projects are more conducive to 'global' or collaborative on-site participation simply by virtue of geographical proximity and cultural familiarity. A key

to success is a clear division of labour at the outset; when physicians start trying to be designers and designers start doing the work of physicians, chaos typically ensues. With clearly identified roles, each group can and should favourably complement, influence, and aid the other, as in the case of defined positions within team sport. Electronic communication has done much to advance the undertaking of projects geographically far afield, in tandem with universities around the world (a third model)—e.g. the Projects Based Learning Lab at Stanford, which links diverse universities via the internet in real time but uses only hypothetical projects.<sup>64</sup>

The models described above--interdisciplinary live projects engaging diverse faculties primarily on the university front, interdisciplinary live projects engaging diverse faculties on site as well, and interdisciplinary projects virtually engaging diverse faculties from various universities via the web (building on models 1 and 2)--are about to be tested in a new design school at Stanford University scheduled to open in 2007 and headed by David Kelley of IDEO. To date these models have not yet truly been tried except on a limited scale (e.g. Laennec Chapel Museum Project at ENPC, Paris<sup>65</sup>). A further model might require each student to identify a live NGO client as well as funding, and follow the real project through the construction phase to completion (as in the case of the Rural Studio's theses projects or Clemson's design/build studios).

A noteworthy paradigm which offers an alternative to the interdisciplinary structure of conventional universities is John Connell's Yestermorrow Design/Build School, which was started in 1980 in Vermont with a focus on vernacular design and collaboration between professionals and laypeople. The school offers courses including cabinet making, landscape design, electrical wiring, and ceramic-tile work, and the teaching staff embraces builders, developers, plumbers, landscape architects, electricians, timber framers, and architects. A special course for professors wanting to start design/build programmes within their schools is also offered, using a model based on team-design of simple building programmes rather than (in the case of Yale and UDLA, Mexico) a competition to determine a winning scheme. The University of Washington, Seattle which started its interdisciplinary live projects studio using a competition-type method to determine what design to build found that the methodology 'resulted in enormous pressure on the winners and bitterness amongst the losers, making the construction phase a difficult experience.'<sup>66</sup> Consequently the Department of Architecture switched to a consensus method which has 'resulted in more egalitarian designs as well as shared responsibility and more enthusiasm during the construction phase.'<sup>67</sup> As noted, competitions sponsored by agencies like MOMA, Architecture for Humanity, the RIBA, and the AIA can also serve as worthy live project foci, and as seen survey results have revealed an overwhelming desire for more practical, real-world based experience of some sort or other in academe.

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<sup>64</sup> <http://pbl.stanford.edu/>

<sup>65</sup> <http://eleves.enpc.fr/clubinfo/laennec/Welcome.htm>

<sup>66</sup> Carpenter, William (ed), *Learning by Building: Design and Construction in Architectural Education*, New York, Van Nostrand Reinhold, 1997, p. 45.

<sup>67</sup> *Ibid.*



KHRAS Architekter's HIV/AIDS clinic (<http://www.interiordesign.net/>)

## V a. i. Client Identification

*I approached a house that appeared to be in bad shape and knocked on the door. Anderson Harris answered the knock, and I asked him if he wanted us to build him a new house. He said, 'Not today, thank you.' That made me feel like a door-to-door salesman.<sup>68</sup>*

–Samuel Mockbee

A major stumbling block to the paradigm is psychological and typically involves skepticism regarding client and funding identification as well as legal responsibility. Apart from websites like *AWB.iohome.net* (Architects Without Borders) or *ArchitectureforHumanity.org* which list real projects for nonprofit clients in need of designers, the local neighbourhood is a worthy point of departure. Examples might include a nearby community centre or homeless shelter in need of expansion, interior design work for a residence for the elderly, interface with a local church or Red Cross office about current projects in early planning stages, and so forth. Insofar as architectural education at present does not customarily teach students how to find clients, the exercise is of heuristic value relative to 'job hunt'/prospection methodology as well. A web site linked to university studio initiatives with forms for potential clients to fill in explaining their project(s) would indubitably also be useful to this end.

A simple, 'always-in-demand' live project (particularly relevant given the South Asia tsunami disaster and other recent catastrophes) is a prototypical one-room emergency refugee shelter for organisations like World Vision, Habitat for Humanity, or any number of similar NGO's, all traceable via the internet. Crisis housing unit design is particularly instructive and manageable for beginning designers, especially in a design/build context, and can be broadly interdisciplinary.



*Crisis Refugee Housing in Khuzestan (Persian Gulf)*  
SUPERADOBE EMERGENCY SHELTER (NADER KHALILI) – Cal-Earth Institute  
[www.calearth.org/archmag/ArchMag.htm](http://www.calearth.org/archmag/ArchMag.htm)

<sup>68</sup> Bell, Bryan, 'Finding Clients,' in Bell, Bryan (ed), *Good Deeds, Good Design: Community Service Through Architecture*, New York, Princeton Architectural Press, 2004, p. 25.

‘Displaced by natural, economic, or political catastrophes, the number of people ‘of concern’ to the United Nations High Commission for Refugees (UNHCR) is about 20 million--one in every 300 in the world. Hundreds of thousands of Afghans and Iraqis are now on the move, fleeing conflict. Floods in India and Senegal in the past year have left countless homeless. Bosnian refugees are still trying to return to their homes despite the devastation. Millions more “internally displaced persons” in Colombia, Indonesia, and elsewhere have extended the conception of refugees beyond the expatriated to include those displaced within their own countries. In the wake of disasters both natural and man-made, the provision of emergency shelter, in addition to food and water, is the most pressing challenge for local governments, international agencies, and humanitarian aid organizations. As expected some of the best concepts for emergency housing take advantage of cheap, easily transported, or local materials.’<sup>69</sup>

Cal-Earth Institute (image above) is a remarkable example of a design/build research initiative which engages students in the design and construction of simple, soft-form, quasi-vernacular refugee housing.



from tent to indigenous ‘village-style’ structures

Further examples abound, such as that of ‘Fred’ (below).

‘Clearly technologically advanced Fred is not an answer to refugee problems, or to the predicament of folk made homeless after an earthquake. But the proposal perhaps has potential for people living in the barrios of the second world, mobile workers, and many others who need temporary accommodation. Fred starts as a 3m cube, which is enlarged, when he settles down, to provide 18m<sup>2</sup> of floor space as he is extended telescopically. He comes complete with bathroom, kitchen and sleeping area, and large windows. And Fred is green, being mainly made of wood with thick thermal insulation and the possibility of water collection from the roof.’<sup>70</sup>

Other ‘matchbox’ designs include those of Marshall Specialist Vehicles, a British transport company, and the Office of Mobile Design (below). A four-room live project shelter using the sliding ‘matchbox’

<sup>69</sup> Lang Ho, Cathy, *Safe Haven; Disasters and War Have Left Millions Homeless Around the World. Can Architects Help?*, 11.2002 [[www.architecturemag.com](http://www.architecturemag.com)].

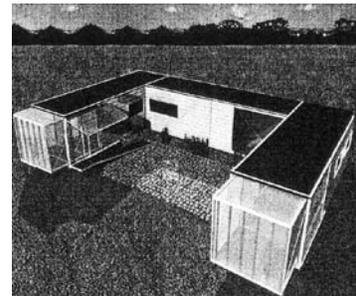
<sup>70</sup> <http://www.arplus.com/ard/dec2000/fred/fred.htm>



'Fred' Expandable Room Unit, Kaufmann

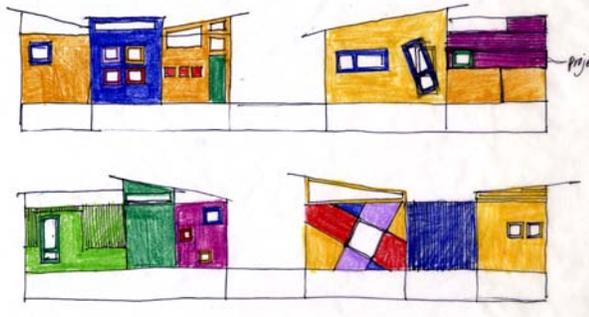


Marshall SV Emergency Unit



Office of Mobile Design

concept--for eight former street children and a house-mother in Guatemala (part of a larger residential campus project)--involves the residents in the design process by having them colour façade sketches, connecting students more directly to the indigenous 'client' (below).<sup>71</sup>



coloured façade sketches (Stanford)

[www.stanford.edu/class/cee137](http://www.stanford.edu/class/cee137)

Secondary garden units for a resident elderly population or variations on mobile home designs are also typically easy to find clients for via local and state housing authorities and word-of-mouth. The missions network is also an expedient way to locate larger projects overseas and can oblige students to look at



flatrock mobile home units [http://flatrock.org.nz/topics/odds\\_and\\_oddities/can\\_a\\_prefab\\_be\\_architecture.htm](http://flatrock.org.nz/topics/odds_and_oddities/can_a_prefab_be_architecture.htm)

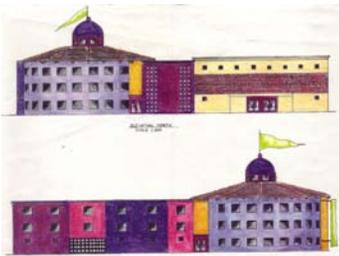
issues of spirituality, often ignored (with ethics) as being unessential to architectural education. A further argument of this paper is that 'ethical intelligence' is of critical import to the profession. *SOS Villages* and *World Vision* are examples of NGO's with related spiritual/ethical components with projects readily at hand; the 'information highway' provides access to a plethora of real projects in which to get involved. This abundance of available live projects is additionally evident through listings with agencies like the *United Nations*, *Ingénieurs Sans Frontières*, and *UNESCO*, much of which can be readily located via the web, email, phone, and drop-in visits. As seen earlier, even simpler live projects include product, mural and furniture design, among many other design arts' foci. With its new cycle of building (starting in 1993),

<sup>71</sup> [www.stanford.edu/class/cee137](http://www.stanford.edu/class/cee137)

Cranbrook Academy of Art and Architecture uses itself as client, designing and building small projects on its campus. The concept of treating concrete built form as a required student product might be an intrinsic part of the educational process, and the above examples demonstrate plausibility as well as successful application of this model.

## V a. ii. Funding Identification

Many NGO's and religious missions have funding available to them already for their building projects and/or are adept at fund-raising through pre-existing channels. These nonprofits often employ volunteer construction and labour forces and receive vast donations of materials and building supplies as well as in-kind services. A community centre project in Ensenada, Mexico, for example, was gifted an entire Butler building structure which had to be integrated into the original design concept by a Stanford studio group--along with an enormous stock of pre-fabricated aluminum-framed sliding windows. These donations can be a 'mixed blessing', often imposing a number of awkward constraints.



Ensenada Community Center (Stanford U project)

While many universities often consider one-on-one studio teaching 'too expensive', these studios can generate income for their universities by charging government clients fees (e.g. ENPC in Paris which bills the state railroad, SNCF, for planning services rendered). Grants from foundations, universities, and governments constitute another important source of funding. While various grant identification computer programs and virtual training fund-raising classrooms exist, like *FC Search*<sup>72</sup> and *Grantseeker Training Institute*<sup>73</sup>, the author has found a text search via *google.com* more up-to-date and thorough. When numerous universities are involved, the funding base routinely increases. A key to these kinds of awards is matching initiatives to foundation interests with quality proposal writing. Different countries have different databases and funding priorities. The *Rural Studio* lists its donors on its web site (<http://www.ruralstudio.com/funding.htm>), and *Habit for Humanity Great Britain*<sup>74</sup> has a vast, established base of foundation donors also accessible to the public.

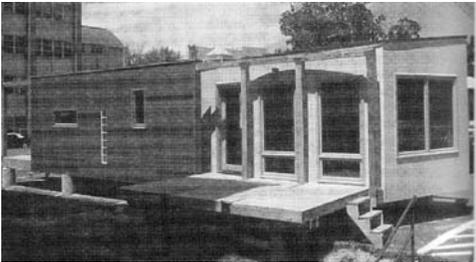
Universities each have their peculiar protocols; it is vital to understand an institution's particular policy guidelines and work with the existing hierarchy and development office when applying for funding in the universities' name to avoid duplication and conflict. Additionally, there is a difference between 'grants' and 'gifts' and it is useful to know that the university will in both cases take a sizeable (although varying) percentage towards overhead. At Stanford, a few design students, alumni, and professors have taken the

<sup>72</sup> <http://fdncenter.org/learn/classroom/>

<sup>73</sup> [http://fdncenter.org/marketplace/catalog/product\\_sp.jhtml?id=prod520001](http://fdncenter.org/marketplace/catalog/product_sp.jhtml?id=prod520001)

<sup>74</sup> <http://habitatforhumanity.smartchange.org/>

initiative of setting up their own nonprofit, *IMPACT Social Entrepreneurship Foundation*, with the help of MBA students from the Graduate School of Business, to bypass university bureaucracy. Architecture and design faculties might want to set up interdisciplinary in-house nonprofit (NGO) structures to help sponsor live projects independent of the greater university, involving business students in the mechanics and with grant-writing, fund-raising, and mentoring. Knowing how to access foundation and government funding not only empowers architects and designers but constitutes a legitimate, profitable curriculum option and extended service, facilitating projects and enabling the groups and individuals behind them to participate. Individual grant-writing can also be effective. While grants for individual designers are highly competitive, there are available numerous generic fellowships, from faith-based initiatives to ethnic, gender and age-based awards. Universities often make their own grants to individual staff members and students or to small interdisciplinary groups of researchers, and virtually all these awards are accessible via internet search engines. Applications for small grants can take just as much effort as the larger ones, and it is therefore advisable to assess required man hours against potential award revenue (time stewardship) prior to the grant-writing process. Other venues abound, such as student-run car-washes, fashion shows, fair trade web marketing of indigenous products, church and synagogue donations, 'fund-raiser' dinners and parties, boutique sales, and, as in the case of Catholic University's prototypical mobile housing unit, product auction.<sup>75</sup>



*Catholic University Design/Build Studio (mobile housing unit)*

The University of Oregon focuses on clients who can self-fund: 'as mentioned in the description of the five most recent projects, funding is usually provided by the project's client. The design/build program is specifically focused on architecture and construction, and not fund-raising, so preference is given to potential projects which can pay for themselves.'<sup>76</sup> Individual or independent grants are particularly useful in working with underprivileged groups who cannot provide remuneration in the usual sense, and as the awards frequently require a proposal topic, the underprivileged group provides the real-life 'subject matter'.

Another alternative is to set up NGO/nonprofit status or a nonprofit partnership in a western nation for a 'third-world' grass-roots group that does not have this status in order for the group to access western foundation funding. A disadvantage is that funding awarded can be difficult to monitor. Some outfits, like *Habitat Guatemala*, already have established nonprofit (NGO) status, partners, and excellent track records, which make them highly attractive to university live project studios. Again, 'clients' need to be chosen wisely at the outset to avoid disillusionment down the road, with entities' track records carefully considered. Start-ups typically require substantial 'baby-sitting', and while start-up projects should be encouraged, students and staff may find them more challenging: 'My design/build studios have been psychological roller-coasters. It is almost a full-time job for a teacher to reconcile the constant tension between the conflicting

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<sup>75</sup> Carpenter, William (ed), *Learning by Building: Design and Construction in Architectural Education*, New York, Van Nostrand Reinhold, 1997, p. 82.

<sup>76</sup> *Ibid.*, p. 109.

objectives of students and clients, particularly inexperienced clients. I longed for the ease of dealing with each student individually. Constant questioning of intent, morality, and method occupied my thoughts. An excerpt of a letter to the Girl Scout Construction Advisory Council reveals my anxiety:

We have made an inherently complex challenge—constructing a building—even more difficult by combining it with an educational agenda and a committee of clients. Though teaching and doing a good building are certainly not antithetical, they are both sufficiently complex that each constitutes a hurdle of Olympic proportions. Our situation is not impossible, just in need of great care. Compromise and negotiation are part of any team effort, but we must clarify who has what power before progress can be made.’<sup>77</sup>

The European Union has dedicated vast amounts of funding to development projects, and in September 2004 France’s Jacques Chirac proposed to the United Nations a global taxation which would benefit projects aimed at the alleviation of world poverty. This taxation, which is likely to be approved, would indubitably sponsor universities’ participation in relevant live projects, and merits monitoring. Subsequent to the earthquake and tidal waves off the coast of Sumatra in December 2004, world relief organisations have shown themselves remarkably adept at raising funds from the public-at-large independent of government intervention, and the private sector remains a valuable resource.

Architects can apply the same creativity and perseverance they use in design to funding identification (as well as internship models). Not allowing students in on client/funding identification processes might be considered a perpetuation of the ‘bondage’ young designers ascribe to routine office internship.<sup>78</sup> Client cultivation/interface and remuneration/contract negotiation are typically conducted ‘behind closed doors’ in the traditional professional setting. While partners and senior level firm members merit privacy and ‘boundary’ distinctions, the apprentice often finds him/herself ‘left in the dark’.

Finally, while ‘all work merits remuneration’, in many cases firms simply are not being remunerated adequately to warrant fair (or even minimum) wages; in many respects architects ‘have sold themselves short’. Apart from ‘star architects’ (and even they are often horrifically in debt—as in the case of Frank Lloyd Wright or Louis Kahn who upon his death owed half a million dollars<sup>79</sup>), the profession is neither commanding the respect nor the fees its counterparts in law and medicine enjoy. The AIA-imposed fee schedule was abolished in the U.S. as ‘price-fixing’ decades ago, while in Germany the government-imposed fee structure is still in use. Recommended fees (percentages of overall construction budgets) and hourly staff rates are published by professional organisations throughout Europe and provide helpful guidelines. Young or unemployed architects often work ‘for free’ in the hope of finding work or just to gain experience and/or stay busy, unaware of the existence of these schedules. It should be noted also that while many employers use the schedules successfully in negotiating fees, they do not always apply them in remunerating staff.

Creative thinking might involve a universal fee schedule which takes into consideration regional standards, revising industry norms as appropriate over time, and including an insurance system to cover design fees like that of the American Legal Aid Society with legal fees or the British National Health Service with health costs—particularly in disaster situations. Many argue that housing should be considered a basic human right, as with medicine and access to legal representation; with multitudinous ‘natural crises’ in the world, it is also arguable that architectural and engineering fees should not only be an automatic ingredient of insurance

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<sup>77</sup> *Ibid.*, pp. 124-125.

<sup>78</sup> Van Beusekom, Vanessa, [www.archvoices.org](http://www.archvoices.org) (see also p. 23).

<sup>79</sup> Kahn, Nathaniel, *My Architect: A Son’s Journey*, documentary film, 2003.

coverage, but that the involvement of architects and professional engineers in building over a minimum budget should be a legal requirement. Much of the world's housing does not survive natural disaster because it is designed without professional input. This paper seeks public and 'star architect' endorsement for concrete plans of action. Stewardship of the planet's natural and financial resources is of critical international concern; as an example of dubious stewardship, the \$18 billion spent by the US government on the last unsuccessful NASA mission to collect particles of dust from the sun could have fed, sheltered, and educated the entire continent of Africa for generations to come, were the funds administered by a creative, transparent and dedicated international design agency.

'From a social perspective, the fallout from {economic upheaval} is grave. It is a situation of extremes: excess and poverty, space shuttles and homeless people, skyscrapers and sweat shops. The gap between the rich and poor is the largest in...history (and growing) and the condition of homelessness is not some aberration that in time will go away; homelessness is now structural.'<sup>80</sup>

'Each year, while the world produces 356 kg of grain per person, forty million people die of hunger.'<sup>81</sup> Globalisation is resulting in fierce and corrupt power plays, perverse security phenomena [human micro-chipping<sup>82</sup>, bar-coding and radio identification (Patriot Act II)<sup>83</sup>], and 'spiritual bankruptcy'. Recent global aid to SE Asia has encouragingly reflected significant spiritually-based, unified and 'compassionate' outreach. While spirituality is the subject of a later rubric, it should none-the-less be noted that it is not a thesis that all spirituality is constructive.

### V a. iii. Legal Responsibility and Ethics

Legal ramifications and liability are sometimes used as excuses *not* to engage in live projects in academe. This paper argues that all practicing professional designers who serve their communities as lecturers, studio critics, and professors should be willing to assume legal responsibility and insurance coverage (possibly with university input) as they would for any live project. As mentioned, there are virtually no examples of legal imbroglio but rather fine examples of successfully completed projects. An alternative is the University of Washington's elective design/build studio which has their various client groups sign agreements to maintain insurance on projects and to hold the University harmless from all claims arising from any cause whatsoever,<sup>84</sup> building on a modus operandi of hope rather than fear, kindness rather than complacency, and action rather than inertia and rationalisation. The profession might well question the place of 'kindness' in a seemingly cut-throat field built on rivalry and selfish interest with no *Hippocratic Oath*; it is my hypothesis that in-house cooperation on live projects can do much to mitigate the downside of academic competitiveness and generate substantial interdisciplinary team spirit and camaraderie. Despite the

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<sup>80</sup> Marcuse, Peter, 'Neutralizing Homelessness,' *Socialist Review*, vol. 18, no. 1 (January-March 1988), in Dutton, Thomas (ed), *Voices in Architectural Education: Cultural Politics and Pedagogy (Critical Studies in Education and Culture Series)*, New York, Bergin & Garvey, 1991, p. xxi.

<sup>81</sup> Organisation des Nations Unies pour l'alimentation et l'agriculture (FAO), Institut des ressources mondiales (WRI) et Organisation mondiale de la santé (OMS), in *La Terre Vue du Ciel, Développement Durable*, Arthus-Bertrand, Paris, Editions de La Martinière, 2005.

<sup>82</sup> [http://video.msn.com/video/p.htm?i=e458174a-1d5d-4826-bba7-64f6e981e02e&menu=Home%20and%20Living&mi=NBC%20Today&p=source\\_Today%20Show](http://video.msn.com/video/p.htm?i=e458174a-1d5d-4826-bba7-64f6e981e02e&menu=Home%20and%20Living&mi=NBC%20Today&p=source_Today%20Show)

<sup>83</sup> <http://www.alternet.org/story/15541>

<sup>84</sup> Carpenter, William (ed), *Learning by Building: Design and Construction in Architectural Education*, New York, Van Nostrand Reinhold, 1997, p. 44.

complications of the live project venue, it is a valuable means of supplying critical aid to under-served groups. With well over 15 million AIDS and tsunami orphans in the world<sup>85</sup> students might also be encouraged to participate in 'big brother/sister' mentorship programmes of some sort.

Regarding ethics, if 'insanity is repeating the same thing over and over expecting different results', then the architectural profession possibly represents a good deal of insanity, with 'patterns of exploitation growing rather than diminishing',<sup>86</sup> and professional ethics getting lip service at best in the majority of architecture schools. While no one as a rule wants to marry a handsome moron or thief, the profession's focus on 'style' and 'form' (subjective phenomena to be sure) without cultivation of character and 'ethical intelligence' (let alone attention to 'function') would not be far afield. Like a striking dwelling constructed with faulty structure and/or mechanical systems, design and practice that do not perform at every level fail to satisfy as an integrated whole. Furthermore, *process* can be as critically important as *product*, with legal issues inextricably interwoven with ethical issues. While it is also obvious that nobody wants to hire an unethical person no matter how dynamic a designer (e.g. someone who is not going to show up for work on time, be responsive/responsible, meet deadlines, etc),<sup>87</sup> for some reason ethics courses are typically not offered, espoused, or cultivated in architecture schools. Families are perhaps expected to promote ethical culture and often assume schools are doing the job.

'FMI, in conjunction with the Construction Management Association of America, recently released the results of its Survey of Construction Industry Ethics, in which more than 270 architects, engineers, construction managers, general contractors, and subcontractors gave their thoughts on the ethical state of the industry. When asked if they had 'experienced, encountered, or observed construction industry-related acts or transactions they would consider unethical in the past year,' 84% of respondents answered yes, and 34% said they had experienced unethical acts 'many times.' According to 61% of respondents, the construction industry is 'tainted' by unethical acts that affect the cost of completing projects. Those respondents estimated that \$5,000 to \$50,000 for every million dollars in project cost is lost or unaccounted for in some type of unethical transaction....'<sup>88</sup>

Another argument against live projects (from survey results) is that 'it is unethical to make students work for free in school, with the school or professors taking credit for their designs' and that 'live projects constitute exploitation'.<sup>89</sup> Credit is an obvious concern and every effort should be made to give credit where credit is due. The Rural Studio is exemplary in this regard, and typically student-designed web sites document history and attribute credit accurately as it is in their own best interest to do so, while concurrently providing portfolio material and drawing 'storage'. Another consideration is that student designs are not always mature enough to be used or applied, and in some cases students are given credit when the professional design critic has done much of the work. Insofar as students are in school to learn and work, having them work on live projects as opposed to hypothetical projects is seen as positive, highly recommended, and exceedingly appreciated by the vast majority of those surveyed<sup>90</sup> and as such can hardly be deemed 'sans scrupules'.

<sup>85</sup> <http://64.233.161.104/search?q=cache:eUTBLVcgkIEJ:www.avert.org/worlstatinfo.htm++million+aids+orphans&hl=en>

<sup>86</sup> Fisher, *op. cit.*, p. 73.

<sup>87</sup> Young, Robert, *God and a Woman at Stanford*, Cupertino, Dime, 1991, p. 41.

<sup>88</sup> 'Survey Shows Unethical Behavior a Concern for the Construction Industry,' in *Electrical Construction & Maintenance*, PRIMEDIA Business Magazines & Media, Inc, July 1, 2004 [[http://www.ecmweb.com/mag/electric\\_survey\\_shows\\_unethical/](http://www.ecmweb.com/mag/electric_survey_shows_unethical/)].

<sup>89</sup> Le Breton, Jack (Australia), *Survey Results* (ANNEX 1A).

<sup>90</sup> *Survey Results* (Chapter III/ANNEX 1A).

In sum the live project is an excellent medium for imparting a sense of ethics and social responsibility and for exploring legal concerns in practical terms. Confering with a real client, discussing and outlining scope of mission, programming, budget, and design in tandem with experienced professionals, and visiting a real site, sometimes in an exotic location entailing exposure to and interaction with a new culture and its mores, typically constitute a plus for the most timid of aspirants. Overseas projects necessitate foreign licensure or partnership with a local architect or engineer who can assume legal responsibility in the concerned region. Sometimes these overseas colleagues are associated with a university they may want to involve, reinforcing international exchange, indigenous involvement and foreign contact--and are in many instances brought on board by the client. A strong partnership is typically beneficial to any project, and as with selecting nonprofit 'clients', track records are key indicators to outcome. Legal and ethical issues provide a window of opportunity for law school and ethics program participation and further multi-disciplinary interface.

Finally, there is substantial controversy over the ethical ramifications of over-production of architects: 'Some in attendance [at the 2002 AIA Point Break Symposium] criticized schools of architecture for providing an unrealistic view of practice, thus causing graduates to be disappointed and pursue other careers upon graduation. One conference presenter lamented a recent visit to an unnamed architecture school's final juries where, in her experienced opinion, "a third of the students shouldn't have been allowed to graduate." Is one problem that, despite embarrassingly high dropout rates, schools of architecture may still be allowing too many people to graduate?'<sup>91</sup> Or, as an ethical consideration, one might question if architecture schools are accepting too many candidates in order to survive (although it should be re-emphasised that while urban areas are flooded with architects, rural areas are often under-represented).

## V b. Spiritual Dimensions and Resources

While imparting a sense of ethics is usually considered acceptable, the view that issues of spirituality should be integral to architectural education will indubitably be found shocking by many. Yet another argument of this study is that if something has to evolve, a spiritual dimension, even in filigree, is a key to implementing change. The concept of architect as poet, mystic or prophet is not new:

It requires the poet's—or the mystic's—eye sensitive to the extraordinary richness of creation and the cunning of grace in history to continue to sustain a vision of the glory of the world as it is. However, having an eye sensitive to the extraordinary richness of creation makes the poet or mystic a person who can help all of us perceive that richness so that we might be led to a sacramental reading of reality in and through the material world we inhabit. Through is the sacramental preposition, and in Jesus we learn that the way to the infinite is through the finite.<sup>92</sup>

As Herbert puts it:

*A man that looks on glass  
On it may stay his eye;  
Or if he pleaseth, through it pass,  
And then the heaven espy.*<sup>93</sup>

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<sup>91</sup> <http://www.archvoices.org/index.cfm?pg=Careers&s=AltPaths>

<sup>92</sup> Riches, J, 'Balthasar's Sacramental Spirituality and Hopkins' Poetry of Nature: The Sacrifice Imprinted Upon Nature,' in Inge, John, *A Christian Theology of Place*, Aldershot, Ashgate Press, 2003, p. 87-88.

<sup>93</sup> Inge, John, *A Christian Theology of Place*, Aldershot, Ashgate Press, 2003, p. 88.

Our 'strange religion' in which 'star architects' and their firms and/or work are 'deified' and turned into 'idols and at whose altars young aspirants worship'<sup>94</sup> wants refocusing, liberating those 'in bondage' to be 'stars' in their own universe. Too often young draftspeople enter offices only to find themselves there forty years later never having 'had a life'.<sup>95</sup>

While this paper 'protests' in something of a Lutheran style, it is not my purpose to advocate religious studies or to equate spirituality with religion, apart from the adage that 'true and undefiled religion... is this: to visit orphans and widows in their trouble.'<sup>96</sup> Many inter-faith NGO's tackle problems relative to orphans, the homeless, women in distress, and allied issues with efficacy, providing a multifarious 'client' base not just for design and building projects but towards inculcating a sense of activism and values. These kinds of live project clients can constructively affect the academic experience and may be found locally through churches, synagogues, health and community centres, and the internet; additionally these individuals can serve as client representatives for overseas projects and organisations to whom they are linked. The venue further increases the pan-disciplinary character of the live projects model and works equally well in a limited conceptual design mission/context or with hypothetical studio projects. Traditional studio 'iconography' or design project focus, such as the design of a bank at the corner of Broadway and 42<sup>nd</sup> Street or a beach-front 'dream' home, might be interpreted at the spiritual level as relatively 'thin' in comparison. Choice of project, location, and 'client', especially flexible given the advantage of the 'clinic' backdrop, can positively impact student thinking and development.

It should again be noted that some academic design 'clinics' identify and charge large commercial clients for services rendered (e.g. IEP and ENPC, France), with remuneration covering student travel and expenses—a viable alternative typically instilling a sense of self-worth in students—and many attribute students hourly wages (\$10.75/hour at Cranbrook) and/or grants (Stanford, MIT). Teaching students that 'all work merits remuneration' carries with it a profound spiritual dimension.

'Tom Fisher, Dean of the University of Minnesota's College of Architecture and Landscape Architecture, spoke about architecture's obsession with producing buildings, arguing that clients are often just looking for broad professional guidance. "We are product-oriented. It's like saying that law equals trials or that medicine equals surgery. Would you go to a doctor if every time you went you ended up getting surgery?"'<sup>97</sup> The thesis of this paper would be spurious if it did not point out that architecture as a service has value in itself and the production of built form can become over-emphasized; again, *process* can be just as (or even more) important than *product*, with potentially significant spiritual impact for those involved and served. History has shown that great buildings profit little at the sacrifice of human life or souls (e.g. Chateau de Versailles, Egyptian pyramids, Mayan temples of Tikal, Alexandria...).

On the darker side, one of the great ills of the profession might be identified as the competition *modus operandi* (rarely do lawyers or physicians compete for work in similar ways):

As a result of the importance of the personal and social relationships within the architectural profession, recent architecture graduates are occasionally willing to work in high-profile architectural offices for free in order 'to get a

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<sup>94</sup> Ball, M. Scott, 'Expanding the Role of the Architect,' in Bell, Bryan (ed), *Good Deeds, Good Design: Community Service Through Architecture*, New York, Princeton Architectural Press, 2004, p. 135.

<sup>95</sup> Rosenlof, Gus, Former Associate/Gwathmey Siegel & Associates, New York, *Email Interview*, 2004.

<sup>96</sup> James 1:27, *New Testament (New King James Version)*, Nashville, Thomas Nelson Publishers, 1992.

<sup>97</sup> <http://www.archvoices.org/index.cfm?pg=Careers&s=AltPaths>

foot in the door.’ At the same time, many well-meaning architecture firms need extensive labor to complete the significant and time-consuming tasks required to complete detailed models or intricate drawings and computer renderings. As a significant amount of innovative architectural design work is achieved through competitions, much of this work is pursued by architecture firms with little chance of receiving any remuneration. The willingness of some architecture school graduates to work for free, combined with the moral and legal flexibility as well as honest ignorance of some architecture firms, occasionally results in significant socially retrograde practices.<sup>98</sup>

The practicum model in which students are taught to be ‘social entrepreneurs’—to identify and develop their own projects for NGO’s or charities bypassing the competition system—is likely to be of both spiritual and material benefit to established practitioners as well. Another ‘social ill’, which has not so much to do with remuneration but work conditions [leading its ‘victims’ to declare that ‘architecture school is hell’ (Annex 2)], might be addressed via rescheduling, refocus, and elimination (or restructuring) of the ‘charrette’—with the ultimate goal of rendering architectural education a luxury rather than ‘inferno’. Dan Hoffman, Cranbrook’s Head of Department (following Liebeskind and Saarinen) believes that ‘architecture is a spiritual search expressed through the ritual of making.’<sup>99</sup> Liebeskind’s Jewish Museum in Berlin and World Trade Centre project in New York are remarkable examples of architecture reflecting a strong spirituality; while ignoring this dimension may be ‘politically correct’ it results in a hazardous tepidness and mediocrity.

## **V c. Refining Studio Structure and the Practicum Model (Student/Client/Project)**

Since survey results to all intents and purposes unanimously indicated that the live project or practicum model is a reasonable point of departure, this sub-chapter will propose a social entrepreneurship model and methodology which refine both typical studio structure and existing practicums, while addressing the wealth of work to be done in the world against currently under-utilised man hours (and poor geographic distribution). Rather than summarise what has been said to date, these models will be refined from three perspectives: that of student, client, and overall project, in conjunction with existing course curricula. From the student’s perspective (ANNEX 2), the abject ‘drudgery’ characterizing architecture schools can be substantially ameliorated. As noted, while CADD has done much to lighten the novice’s load, it has also become a ‘dance of the freaky circles’<sup>100</sup> for many due to the long hours of prep time and intense concentration required. Balance is a key here and existing curricula might be revamped to mitigate top-heaviness in these areas (focus varies from school to school). The ‘drudgery’ is primarily identified as a studio-generated phenomenon (a reason for fixating on this aspect). As ANNEX 2 vividly portrays, the sleeplessness and relentless labour typifying ‘workaholism’ and architectural studio culture are antithetical to a well-designed life style and defy common sense. Additionally, the pattern is encouraged into internship and practice where it is apparently not justified via commensurate remuneration.

One suggestion is that the practicum model readily translates into a year-long 9am-5pm ‘work week’ within the university environment (university as ‘incubator’) following a traditional agenda which includes social entrepreneurship course work. This advanced service-learning studio might be a required thesis paradigm, with each student or student cell identifying and funding their own project with faculty and professional mentorship, after working on one or more faculty-sponsored group live projects earlier in the curriculum (as with the Rural Studio, Rice University’s Building Workshop, Archeworks--founded by Tigerman and

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<sup>98</sup> <http://www.archvoices.org/index.cfm?pg=Internship&s=Exploitation>

<sup>99</sup> Carpenter, William (ed), *Learning by Building: Design and Construction in Architectural Education*, New York, Van Nostrand Reinhold, 1997, p. 40.

<sup>100</sup> Fisher, *op. cit.*, p. 71.

Maddox in Chicago in 1993, and Yale's design/build model established by Charles Moore in 1968, to list a few<sup>101</sup>). Albeit somewhat unrealistic, the 'charrette could pass at 5/6pm' with doors to the studio locked until the following morning (or some version thereof—e.g. Judson College). Existing models are encouraging and have successfully tackled issues of professional liability, client identification, and funding.

'Innovations through operative practice are most evident in transformations of traditional modes of design service. In the work of Archeworks, Design Corps, Rural Studio, Studio 804, and other education-based design initiatives, the systematic context upon which the practices operate is often the anonymous, standardized processes of government low-income housing and service provision, and notably the failure of these processes to accommodate many individuals' and families' specific needs. In response, each of these organizations has developed a unique, replicable model of design service provision by strategically coupling government and nonprofit funding with the talents of student designers or design interns in a streamlined, low-cost design process: a new model of practice in response to a unique political and economic context. Though the process of design service provided in each case is perfectly consistent with traditional approaches to private design practice, their innovations as operative practice lie in their singular methods of funding and delivery, not to mention their transformation of the traditional model of architectural education and internship.'<sup>102</sup>

From the client's perspective, student work needs to include a set of construction documents and cost estimates (even if construction is done in-house or with a voluntary labour force) if the package is to be truly meaningful, preferably including the final, built product. It is generally recommended that 'clients' pay in some way, albeit minimally, so that work is not taken for granted. The 'authentic educational experience' according to Paulo Friere implies an equality between client/user (the 'helped') and the 'helper' (student/faculty design team): 'Authentic help means that all who are involved help each other mutually, growing together in common effort to understand the reality which they seek to transform. Only through such praxis—in which those who help and those who are being helped help each other simultaneously--can the act of helping become free from the distortion in which the helper dominates the helped...Based on this idea, the university and the community share the responsibility of enriching the student-faculty educational experience and participating in the community's development.'<sup>103</sup>

The overall project perspective considers building users and the larger public. Often clients try to dictate design and programme with minimal regard for the actual users or larger community; to this end, 'client' design education and artistic freedom might be included as mandatory components of a contract arrangement, with design and publication credit ascribed appropriately.

The Rural Studio established a different process for creating partnerships with (clients). The Hale County Department of Human Resources (DHR), a state-funded social service agency, helped make the best connections between families in need of a house and the design-build program. DHR is typical of community-based agencies that exist in every US county in having intimate grassroots knowledge of issues

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<sup>101</sup> Bell, Bryan (ed), *Good Deeds, Good Design: Community Service Through Architecture*, New York, Princeton Architectural Press, 2004 and Carpenter, William (ed), *Learning By Building: Design and Construction in Architectural Education*, New York, Van Nostrand Reinhold, 1997.

<sup>102</sup> Pearson, Jason, 'Further Forward: Operative Practices,' in Bell, Bryan (ed), *Good Deeds, Good Design: Community Service Through Architecture*, New York, Princeton Architectural Press, 2004, p.235.

<sup>103</sup> Curry, Rex, 'Community Design Centers,' in Bell, Bryan (ed), *Good Deeds, Good Design: Community Service Through Architecture*, New York, Princeton Architectural Press, 2004, p. 63.

and individuals in need. In its role as a matchmaker, DHR recommends several families in need for participation in the Rural Studio program. Following these recommendations, 'get-to-know-you' meetings take place, and if the chemistry is right, the students and client proceed to creating a project. In 1999 (we) defined criteria to match the goals of the program with a family's situation and their needs based on past lessons. We first asked Rural Studio students to develop a list that would help find the best partner in the new house design-build project—to assure that services would be of use...<sup>104</sup>

Surveys and interviews with actual building users/occupants as well as with sponsoring clients prior to the design process can be enlightening, conflict-preventive, and quality-ensuring, constituting a valuable component to the pre-design/programming phase of the architectural mission. Additionally, public participation is typically considered intrinsic to sustainable design.

Finally, various structures for the model have been formulated from the collective experience of those already engaged in live projects (both design and design/build) which William Carpenter sums up from his analysis of over ten case studies as follows: 'Teams of no more than seven should be chosen by the students themselves. This team size is large enough to allow for work to be accomplished and delegated. Each should designate a person in charge of design, construction documents, materials acquisition, fund-raising, public relations, project safety, and scheduling. Design should be the central focus of the groups in that it permeates every part of the process. Meetings between team members should be short and well planned.'<sup>105</sup>

Additionally, Carpenter recommends use of the Myers Briggs personality test for students as a means of uncovering interests and predilections as they interact, a system currently employed by the Programme for Interdisciplinary Design for the Built Environment at Cambridge University.

## **V d. Redefining Professional Design Degrees**

In an effort to reattribute respect to the architectural profession and its practitioners, the three-year professional MArch degree and its various Diploma equivalents would greatly benefit from new nomenclature, such as the ArchD or Architecture Doctorate, particularly given the amount of work and time these professional degrees represent. The attribution of a masters or diploma for three (and sometimes four+) very intensive years of graduate level work is seen as demeaning by many interns and professionals<sup>106</sup>, with architects 'shooting themselves in the foot' in propagating the 'semantic misnomer'. With or without the addition of the practicum model, revised nomenclature should be relatively easy to push through at the national government level, especially given the precedent of the attorneys' LLM which the lawyers themselves turned into a 'JD' (Juris Doctorate) retroactively and virtually ubiquitously (Britain being an exception). Additionally, the five-year BArch and its various equivalents might translate into a MArch or similar masters degree, especially since the fifth year typically represents a graduate level year or one-year masters course (e.g. MSt at Oxford).

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<sup>104</sup> Bell, Bryan, 'Finding Clients: Establishing Criteria for Participation,' *Ibid.*, p. 25.

<sup>105</sup> Carpenter, William (ed), *Learning by Building: Design and Construction in Architectural Education*, New York, Van Nostrand Reinhold, 1997, p. 29.

<sup>106</sup> [www.archvoices.org](http://www.archvoices.org) and *Survey Results* (ANNEX 1A).

## **V d i. Implementation Guidelines and Groundwork**

As with many ‘activist’ movements, petitions are an effective place to start and can be submitted to state and federal accreditation agencies (NAAB, NCARB, ARB etc) in conjunction with letters from heads of professional organisations like the AIA, RIBA, Ordre des Architectes, architecture schools, and so forth. Web sites are extremely useful, especially in conjunction with ‘spam’ and legwork to inform and collect petition signatures, and publications and other established venues (e.g. *ArchVoices.org*) are to be encouraged to promote the ‘cause’, building on existing groundwork set via recent ‘revolutionary’ initiatives<sup>107</sup>. The AIA and/or agencies like the RIBA might hire lawyers to process logistical paperwork and fund an interdisciplinary team of architects and related professionals to push things through. Again, like a ‘mosquito buzzing around a giant’s head’, relentless noise from the profession is likely to result in government and other concerned agencies taking note and amending laws, statutes, and nomenclature accordingly.

## **V d ii. Recommended Plan of Action / Prognosis**

A next step is to collect relevant literature (see attached Bibliography) and interface with all those invested in the movement, seeking endorsement for a common voice. That voice (which could grow from one of the afore-mentioned entities like *ArchVoices.org*) might sponsor further research and publications (e.g. *New York Times*) relative to these issues, manage petitions and surveys and send out letters to appropriate individuals and associations. Mass mailings indubitably help, and schools’ ArchD accreditation status might be made dependent on the inclusion of some form of practicum/live project development model (with ArchD status serving as the ‘carrot’ or reward for compliance). It is my hope that this paper will be widely distributed and set an example for social service and activism in the field, and will develop into a transformational book.

Apart from debatable semantics or what might be argued as erroneous nomenclature regarding existing architecture degrees, the service-based learning live project model is a potentially life-altering vehicle of delivery for original scholarship and research meritorious of traditional doctoral status (i.e. by common usage, as in the UK where a doctorate implies major research). Besides service-learning and service-distribution to the ‘two-thirds’ world characterised by a dearth of architects and limited resources for development (as well as to local needy areas), a further requirement of an ArchD programme could be contribution to knowledge in architecture constituting original, innovative work with a built-in, disciplined research exercise linked to the live design project (e.g. cutting edge construction methodology, low energy/green building technology, synthesis with a complicated science not typically explored by architects, such as bio-engineering, and so forth). The model also works in universities in the ‘two-thirds’ world where projects can be monitored close to home and/or in tandem with sponsoring or partnering institutions.

The initiative has the potential for raising the standards of the top-end of the profession--which, fueled with highly trained ArchD’s--would become characterised by architectural specialisations, as in the medical, legal, and engineering fields. Areas of expertise might further include health, worship or educational building design, smart building technology, alternative energy sourcing and sustainability, 4D digital scheduling, disaster mitigation, affordable housing, post-occupancy evaluation (P.O.E), international development, or design performance criteria (e.g. CABE) with remuneration reflecting level of expertise. A

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<sup>107</sup> *Ibid.*

majority of these ArchD practitioners might be encouraged to continue to publish in part-time posts within research institutions.

The real-life apprenticeship currently required by most licensing bodies would be assured as an integral part of in-house ArchD professional training (with the service model providing project/research material sourcing), and high quality design benefiting both ‘helper’ and ‘helped’ would start dotting under-served (and disaster-stricken) landscapes. Project continuity would be guaranteed through required thesis criteria, and job availability would be increased via adaptation and application of the new model. Assuming experienced direction and mentorship, both the architectural profession and world-at-large have much to gain through a revamping of architectural education which is geared to production for the needy as a complement to existing paradigms.

*Technology can be used to subjugate the people or it can be used to liberate them....And whoever says that a technician of whatever sort, be he [sic] an architect, doctor, engineer, scientist, etc., needs solely to work with his instruments, in his chosen specialty, while his countrymen are starving or wearing themselves out in the struggle, has de facto gone over to the other side. He is not apolitical: he has taken a political decision, but one opposed to the movements for liberation.<sup>108</sup>*

## VI. CONCLUSION

In response to the call to improve the quality and character of architectural education in the UK and abroad with regard to formative practical experience, this paper presents students, new graduates and their tutors with perhaps more meaningful opportunities to develop their architectural skills. Current traditional paradigms of design education have received criticism in the architectural press, related publications, and now on the web. This study attempts to demonstrate the array of ethical dilemmas confronting students and practitioners alike, with a survey conducted in the course of this work seeming to confirm the broad conclusions of many of the system’s critics.

- Service-learning is not only a way to initiate the unexposed to professional practice and development early-on within the supportive, safe environment of academe, but provides the under-privileged with services they typically could not afford and a link to a major university and all its resources. As such it constitutes sound, sustainable stewardship.
- We can build on the many remarkable examples of innovative approaches to design education towards this end, such as Samuel Mockbee’s Rural Studio.
- Exchange programmes, extended services, and professional development courses have tremendous potential for bi-directional empowerment.

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<sup>108</sup> Dutton, Thomas (ed), *Voices in Architectural Education: Cultural Politics and Pedagogy (Critical Studies in Education and Culture Series)*, New York, Bergin & Garvey, 1991, p. xv.

- Clients and funding sources abound and are readily identifiable through today's information highway and international NGO's, professional societies, government programmes, and charitable grant-making foundations.
- Legal issues are not insurmountable as exemplified through a plethora of excellent, working service-learning based models.
- Issues of ethics and spirituality can effectively be addressed through design arts education, and constitute the artist's prerogative and educator's responsibility.
- Attorneys have provided a formidable example of degree nomenclature modification to better represent the design profession and extensive education and apprenticeship involved, improving societal perception of the industry.
- Vast research opportunities are afforded by the live project-based studio model, along with more motivational and creative use of man hours. The paradigm provides an ethical, innovative riposte to the present challenge to 'make poverty history' via the design arts.

A case has been made for interdisciplinary live project experience and exploration within academia in conjunction with a greater emphasis on related, continuing professional development—an essentially 'aspirational and experimental' prototype to date—as a means of substantially strengthening design education and practice. It is hoped that the suggestions herewith will assist in the wider dissemination of the pilot service-learning model in the largely interwoven fields of product design, fine arts, and engineering, as well as in the specific focus of this paper, architecture, and well beyond.