NORDISK ARKITEKTURFORSKNING
NORDIC JOURNAL OF ARCHITECTURAL RESEARCH

1

ISSUE 1 2013

NORDISK ARKITEKTURFORSKNING

Nordic Journal of Architectural Research

1–2013

Nordic Journal of Architectural Research
ISSN: 1893–5281

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Published by SINTEF Academic Press
P O Box 124 Blindern, NO-0314 Oslo, Norway

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Picture on the front cover from ByBo's housing project «Løvåshagen». Photo: Knut Egil Wang

NORDISK ARKITEKTURFORSKNING
NORDIC JOURNAL OF ARCHITECTURAL RESEARCH

WARPED EDUCATIONAL STRATEGIES IN SIMULATION OF PRACTICE

GARETH GRIFFITHS

Abstract

The following paper is an account of an experiment in architecture pedagogy and urban design undertaken at Tampere University of Technology from 2010–12. The students involved were misled into believing they were partaking in the reconstruction of a design studio project made originally in 1978 at the University of California under the direction of Christopher Alexander. Alexander had used the project, set on a waterfront site in San Francisco, to demonstrate what he termed a «*new theory of urban design*» based on bottom-up incrementalism rather than a top-down master plan. In the reconstruction, however, the students were not explicitly being taught the method or theory, but rather were being tested in their attitude towards their own role as decision makers. If it can be argued that first and foremost architects should be concerned with the skilful realisation of buildings, how does education deal with the question of ideology as raised by David Harvey in relation to the 'right to the city' within the current neoliberal urbanisation process? Do students internalise the idea of their own 'right to design'? The experiment showed the students that irrespective of their grand architectural ambitions the outcome on the waterfront site had degenerated into artless urbanism because they did not have the overall control they expect – just like in the real world.

> *Architects and city planners suggest many different, sometimes ingenious, solutions to perceived problems, but it is the marketplace that decides which will succeed and which will fail.*
> Witold Rybczynski (2009, p. 95)

Key words:
Architecture pedagogy, urban design, Christopher Alexander, ideology, David Harvey, neoliberalism, ethics

Introduction

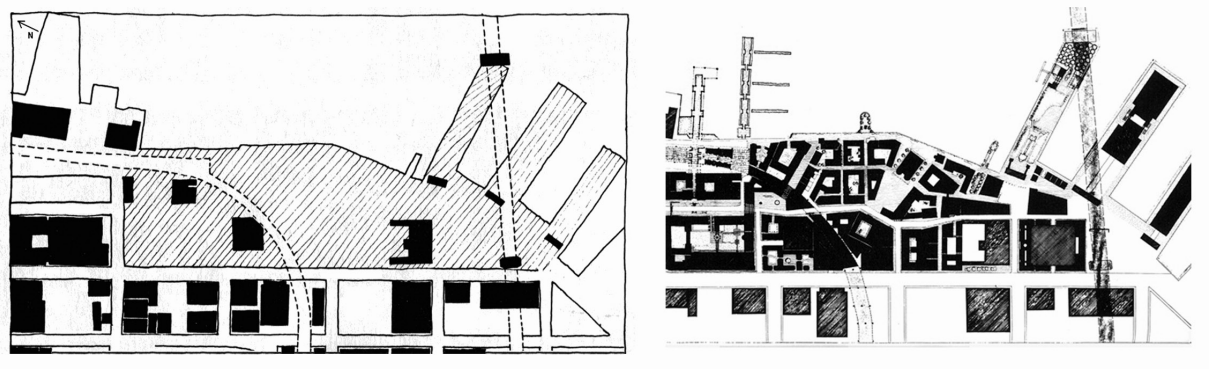
The following paper recounts an experiment in pedagogy involving the mimicry of urban growth whilst also discussing ideological stances in architecture, urban planning and education. The method took the form of a loosely controlled experiment, undertaken three times (2010–12), disguised as an urban design project tagged on to a lecture series in the history of modern urbanism at the Tampere School of Architecture.

The project initially appeared as a reconstruction of an experiment in urban growth first put forward in 1978 by Christopher Alexander and his associates (Alexander et al., 1987) for what he termed a '*new theory of urbanism*'. His theory was based on the principle of bottom-up incremental design and growth (developing one building or urban space at a time), rather than a master plan. Hence, he felt, the approach sought to challenge key precepts of top-down modernist planning – thus seemingly conforming to pre-modern urban growth patterns and sharing certain features with contemporary 'new urbanism' or an urbanism of complexity. Alexander's project site was the former seafront industrial area of Embarcadero in San Francisco, USA (figure 1 a).

The experiment as carried out in Tampere was not a faithful reconstruction of Alexander's theory and method because they were not being explicitly taught planning in accordance with his theory. In carrying out the new version of the experiment, key issues were deliberately withheld from the students at specific moments in order to eventually allow a comparison with Alexander's own results (figure 1 b) and the actual development of the site since then, which has been in large part built up (mostly housing, hotels, shops and offices).

Alexander's own project seemed to have little correspondence with the reality of the actual Embarcadero site in terms of history, need or context. However, what partly inspired the decision to undertake the experiment was the actual political history of the site. The process of growth of the real site has not been without political or ideological controversy in a conflict of interests over what could be called the '*right to the city*' – a term coined by Henri Lefebvre and elaborated in a contemporary context by David Harvey (2008) – regarding antagonisms between various existing residents, the city authorities and property developers.

Hence the ideological stances of the present students could be compared with a real-life scenario they were deliberately kept distanced from until the end – and which in the final reveal would hopefully provide them with some insight into how seemingly chaotic urban environments are the results of rational-based techniques often compromised by individual projects. Within the context of the experiment, a final consequence was for the students as planners to try and take control of the whole (return to top-down approaches), to embrace the chaos or disown it and cry, «*Failure!*»



Figures 1 a and 1 b. The area to be developed and the map of the completed project, Embarcadero, San Francisco. After *A New Theory of Urban Design* (Alexander et al., 1987)

Background to the experiment

1. Simulation of practice

The tradition of architecture and urban planning education has been one based mostly on the simulation or rehearsal of practice. This generally includes real sites, room programmes, compliance with building regulations and perhaps even simulated or stand-in clients or community. Working part-time in an architect's office will introduce a student to the routines of everyday work life, the experience of detailed construction and the reality of compromise, while her own student projects may still retain a utopian image of the 'future possible'.

Students are of course aware of the simulation, even enjoying the political utopianism of it, the power of decision making; for instance, in placing a specific public utility, such as a public library, on a site of their choice, or placing public housing on a waterfront site coveted by the luxury housing development market. Alternatively they might simply explore the autonomy of architecture – unencumbered by room programmes or communal need. Beyond the exercise in urban planning, the experiment presented here can be seen as part of the discourse of education ideology.

For instance, Owen (2009, p. 2) writes of «*socialization into the ethical constructs of the profession*» beginning in the university; Angélil (2003, p. 11) refers to the assumption, «*from Vitruvius to Hejduk*», of the «*individual development of talent… and lifelong pursuit*»; and Hoesli (cited in Angélil, 2003, p. 11) understood his own role as an educator to be an institutionaliser in stating: «*I took it for granted that the WHAT and WHY of architecture could, without saying, be assumed* [i.e. the acceptance of current hegemonic modernist practice] *and that in my lessons, the main thing was to teach HOW one can design*».

2. Introducing Alexander's theory

The experiment presented here in fact started off in a classroom situation, initially simply a short classroom exercise within a lecture series

in the history of modern urbanism. Students were being taught about Christopher Alexander's theory of centring as presented in *A New Theory of Urban Design* (1987) and *The Nature of Order* (2000) and had produced more or less abstract plan diagrams for the San Francisco site divorced from any real knowledge about the place, the real needs, the placement being at best mere formal-aesthetic compositional responses (figure 2). The students had difficulties with understanding or appreciating Alexander's theory and felt antipathy towards the seemingly 'old fashioned' results produced by Alexander and the naïve ones they themselves had produced in a classroom exercise. But the results nevertheless suggested that the exercise could be remade with different students as an experiment following a more extensive and controlled method. In the experiment the students would only be told about Alexander's theory at the end.

Figure 2. An example of pre-experiment diagrammatic incremental planning by multiple students at TUT, Tampere, 2010.

The experiment has since been run three times (2010–12) at the Tampere School of Architecture – with a total of approximately 45 students (approximately 50 %–50 % Finns and non-Finns). In the initial project devised by Alexander and his teaching associates (henceforth referred to as simply Alexander) in 1978 – though only finally published in 1987 – a group of students were asked to come up with an urban design for the Embarcadero area of San Francisco progressing more or less incrementally, one building or urban space at a time (figure 1 a). At the end of

each round, the best scheme was chosen by Alexander and added to the whole from whence started the next stage until, after nearly 90 stages, the site was declared complete (figure 1 b).

The buildings designed included a variety of typologies typical for a city as a whole – hotel, shops, school, town hall, swimming hall, church, and so on. The planning decisions were not based on any articulated specific need of those who were then living in the area or even of the city as a whole, nor was the site effected by decisions for sites elsewhere (e.g. transport networks). Indeed, the whole studio project seems to have been divorced from its real San Francisco context.

Alexander's theory behind the method is based on his well-known ideas about hierarchies and pattern language, here encapsulated in his idea about *centring*. In terms of method, however, he reduced it to seven «*imperfectly formulated intermediate rules*»: 1. Piecemeal growth; 2. The growth of larger wholes; 3. Visions; 4. The basic rule of positive space; 5. Layout of large buildings; 6. Construction; and 7. Formation of centres. Beyond these, however, is what Alexander calls an overriding rule: «*That every act of construction, every increment of growth in the city, works towards the creation of wholeness*.» This in turn is formulated as follows: «*Every increment of construction must be made in such a way as to heal the city*.» 'Heal' here is meant in the sense of 'making whole'.

It was the presentation of this theory in the pre-experiment classroom exercise that had generally confounded the first students; terms such as 'healing' and 'making whole' were too unspecific, subjective or even deemed wrong, when many felt some 'dynamic' avant-gardist intervention was required, and piecemeal growth gave them no overall control and was felt to be unrealistic. In showing Alexander's own final results, what emerged in the students' comments was not appreciation or even intrigue, but agitation or indifference: «*it looks like a fake old city*» was the common response, and the actual building designs were called «*romantic… old fashioned*». Also the question arose of the 'truth' of Alexander's theory. Alexander is a known critic of the type of modern architecture that the students readily endorse.

A key, yet unrealistic, factor in Alexander's method, at least initially, was that each new development had to be an immediate response to the previous one. Development was generally not allowed to begin further away on the approximately 300 x 1000 metres flat site. Alexander also strongly argued against any master plan for the area that would fix the principles for future growth. This was most clearly shown in his general disregard of the existing clearly defined street grids – which would seemingly offer an obvious and economically sustainable planning solution. Indeed, with the notable exception of Washington D.C., US cities founded after 1776 have as a norm been laid out as utilitarian grids, being easy to replicate, survey and sell in convenient-sized parcels of land.

It thus might be argued that his theory is a formalist-aesthetic one – heavily divorced from existing context, including differences in societal structure. He would probably counter that he was creating one or more distinct neighbourhoods and that his idea of pattern language is archetypal, «*So deeply rooted in the nature of things, that it seems likely that they will be part of human nature and human action as much in 500 years as they are today.*» (Alexander et al., 1977, p. xvii). In all fairness, since that period of his work he has gone on to give significantly more importance to the role of the clients and users – 'developers' still regarded by him as a somewhat derogatory term – in the furthering of a 'generative code', a system of explicit steps for creating a desirable urban fabric beyond a group of architecture students mimicking such growth, and without determining the end result in advance (Alexander, 2008). In that regard he is even somewhat critical of the New Urbanism movement in its often strict use of law-enforced codes that defined certain geometrical or configurational features (ibid., p. 18).

Already here I should acknowledge what at first sight may appear a major flaw in the entire experiment as I have undertaken it so far; that is, a failure to reproduce, even on a reduced scale, Alexander's project following *precisely* his theory. After the problematics of the initial classroom exercise, this had indeed been my intention. But with doubts over the validity of Alexander's method and the students keen to have a chance to make their own vision for the project site, I felt it necessary to find a different way of approaching Alexander's theory, one which would test the students' ideologies, that is, their own views about how the city should evolve.

The experiment

1. Introducing the experiment

The experiment undertaken in Tampere formed an initially minor and later more significant part of a course in the history of modern urban design. In preparation for the course, students had to write a short essay about one of their own previous works, in either urban planning or architectural design in an urban context. It could be a project (in Finland or elsewhere) for which they received praise from their tutors and feel proud of, or even something they regard as a failure, but which they wish to address to get some further feedback and sense of closure. The vast majority of the schemes were more utopian than practical (e.g. avant-garde designed public buildings in urban design contexts).

The aim was that the students would then write a second longer essay at the end of the course in which they theorise about their own work. Themes have covered, for instance, gentrification, surveillance practices, emergent urbanism, urban sustainability, activism, urban semio-

tics, and gated-communities. But what emerges in the writings on their own works is not merely the hope for the skilful realisation of buildings but also a glimpse into their ideology about how it brings about social betterment. For example, the vast majority of students are positive towards the value of their own works in a process of gentrification.

The experiment itself starts conventionally enough. The students were given a lecture on the history of San Francisco and the Embarcadero site, including basic transport and public building infrastructure, as well as its profiling as both a global city (the proximity of Silicon valley) and a 'city of desire' (a progressiveness with noted tolerance of the varied minority groups, including notable overlapping multi-ethnic, gay and creative communities). The students were shown Alexander's starting site premise (figure 1 a), but not told about his theory or shown his own students' results (figure 1 b). They were not shown the current site situation and – counter to normal practice – were asked (kindly) not to check it out on Google Earth or similar web sites.

On the waterfront site there were in Alexander's starting premise only 4 existing buildings plus a section of elevated freeway, and the nearby Bay Bridge that 'flies' over the edge of the site – and drawings and photos of these as well as the surrounding buildings were provided. The method of presentation was limited to rough sketches and plans at 1:2000. No computers were used and computer-based parametric approaches were discouraged. In summation, the reasons for the growing interest in expanding the initial class exercise were as follows:

i. Alexander's inability to fully articulate the objective basis for his bottom-up theory and methodology – relying more on historical precedents (e.g. pictures of central Florence) and the results of the experiment produced by his students.
ii. Alexander himself acted as judge/mayor in selecting the best or correct scheme – thus raising the question of competition between the students.
iii. The rejection of the principle of establishing first a master plan for the whole area before any detailed planning. Tied to this is the apparent disregard of any wider social context in terms of actual needs of the area or the city as a whole.
iv. In the time since Alexander undertook the project in 1978 the site received a master plan and has become built up – thus offering the opportunity to re-make the experiment using to some extent the actual built projects as a programme (e.g. the continuation of the existing street grid and the insertion of specific functions and types, mostly housing, support services and offices, yet typically for San Francisco, with often little coordination, such that 4 storeys stands next to 40 storeys, next to 15).
v. The actual building of the area was not uncontroversial. In his book *City for Sale: The Transformation of San Francisco* Chester Hartman

(2002) – a former local activist lawyer – relates the sordid history of the power relations that unfolded in the city at a time that precedes Alexander's experiment (Alexander does not even get a footnote mention in Hartman's book). Hartman gives much attention to the area of the city in question, Embarcadero and SoMA (South of Market [street]), a traditionally dockyard and industrial area of the city also comprising numerous cheap hotels occupied by single retired workers, and referred to condescendingly by local politicians and property developers alike as 'skid row'. The site has been seen as prime for – and is indeed now going through – gentrification and super-gentrification.

2. Different starting points (Years 1–2 and 3)

In the first version of the experiment (Years 1 and 2) the students, without being informed about Alexander's theory, were asked to do something totally against Alexander's principles. Working in small teams, they were asked to produce a (fairly sketchy, 1:2000) master plan for the area, to come up with ideas based on a reduced list of requirements; housing, offices, shops, minor public buildings and public open space.

Based on the material provided, the obvious solution would be simply to continue the existing street grid and allow for some kind of shoreline road and public space. However, this solution – 'solvable in merely minutes' – has only ever once been suggested, and instead the ambitious students come up with lavish layouts – as many later articulated it, deliberately 'working against the grid'. But most importantly, instead of choosing a 'winning scheme', the best solution, I selected a compilation of problematic ideas (e.g. under-sized buildings or over-sized empty zones for a site where demand for building plots is high) as the basis for the next stage – in a sense selecting a 'bad winner'. The students would then have to start from that new premise and then produce a new master plan.

After 5 or 6 stages, each student was then invited to become a 'head planner' to remodel the given situation in accordance with their own standpoint, but (much to their exasperation) without significant demolition (Figure 4). In final discussions it emerged that the students were generally unhappy with the results – even blaming each other for bad design decisions and of course me the teacher for not properly guiding them. But the 'failure' had been programmed into the experiment. Hence, in the final reveal they at least grasped that the situation represented in many cases the reality of an architecture education where each student saw their own project as the centre of focus for the area. The result was regarded as a SimCity-like field of individual gestures. Not knowing the site, others voiced the opinion that they felt indifferent towards the actual planning, if still excited at having a project in San Francisco.

In the second variation of the experiment (Year 3) I kept the methodology closer to Alexander's experiment – but still without telling the students too much about his methodology. Hence, they started with the positioning of a single new building. Alexander's own students began, somewhat symbolically, with a new gateway into the area, followed by a pedestrian mall through the gateway, followed by larger buildings – a hotel, café and community bank. Over the stretch of nearly 90 stages, Alexander's students designed – down to internal plans and details – among other things, a market hall, public bath, music conservatory, town hall and furniture factory set out without any zoning premises within a multilayered layering of housing and without any appreciably over-large buildings.

Due to the vastly shorter timetable of the reconstructed experiment, rather than reproduce Alexander's building programme, a far more reduced programme was devised based partly on the developments that actually have taken place on the site since Alexander undertook his project. Another motivation here was again the history of the clashes that went on not so much between different equal forces but rather as 'weak' groupings (no money, few if any lobbyists or advocacy planners) fighting for crumbs against the wave of the 'strong' interests of capital (e.g. powerful interest groups such as hoteliers), even when it came to public buildings and spaces (Hartman, 2002).

A prime example is the Yerba Buena Center (YBC), a project that ran from the 1950s to its final construction in the 1980s. It was a convention centre advertised as a public building, to be built in the area to serve the expanding business needs of the city in re-marketing itself as a city of tourism and conventioneering – «*loosely labelled as San Francisco's number one industry*» (ibid., p. 20). The complex would demand the displacement of the existing 'poor' community, but also compensation to developers for building YBC with the allowance of the development of the area as a new expansion of the downtown area; i.e. upmarket offices, shopping malls and housing. In other words, this was to be a process of gentrification. In the reconstruction, I was interested to see whether the students would be critical towards gentrification – or 'going where the money is' to realise their visions.

Particularly interesting for the reconstruction of the experiment, I was able to choose projects (and their clients) that had in fact been realised in the area, which might give some feeling of the active players and forces attracted to the area and endorsing their existing position. In reality few companies actually build themselves office buildings, preferring to rent from property developers. Though not the first new player into the area, the one I chose to start with is certainly interested in visibility, the company Google, who rented accommodation for their San Francisco offices in the Embarcadero area (25 000 m^2). In the experiment, however, Google themselves became developers, building themselves a flagship office building.

The students were divided more or less randomly into 'architecture offices' and they were given the following brief: «*Google have invited you to come up with an ideas plan for how to situate their new downtown offices. This will be the basis for further 'project-led', bottom-up planning in the area, to be made in cooperation with the city planning authorities*.» In other words, the Google building would be the first step in a master plan that would potentially be continuously revisable – hence bottom-up incremental planning. But there was no negotiation with a simulated company executive – this was an invitation to architect-driven visions. Without any input from Google staff, the students had to think what the company would want; e.g. in-your-face avant-gardism, re-use of old buildings, concerns for public space, etc.

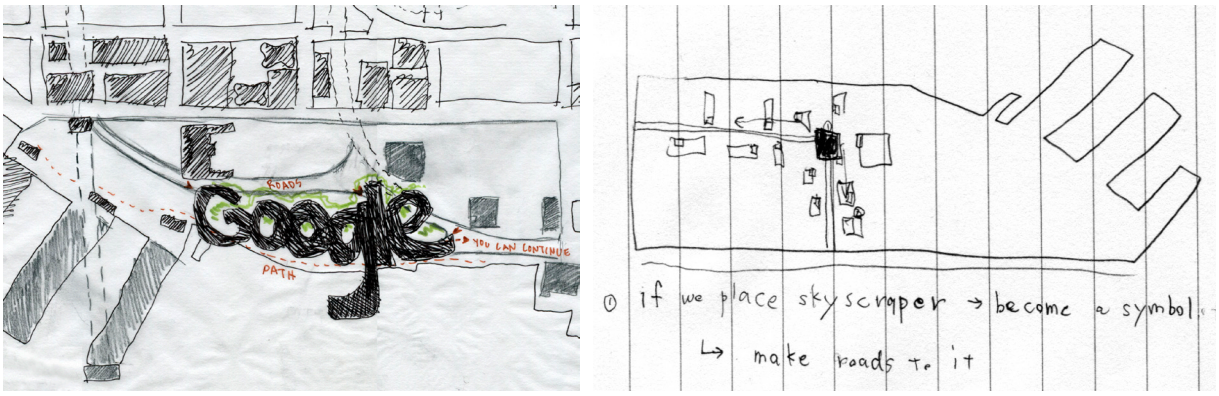
The reason actually presented by both Google and similar companies to move to downtown San Francisco was indeed to tap the skills of the types of creative people who already live in the city, as well as to see living in the city as a further 'company perk', making use of the «synergies of its neighbor» (Crescimano, 2012, p. 16). A typical Google office is seen as untypical, more a colourful 'playground', with multiple leisure areas. That is to say, the paradox of a company like Google being situated in downtown San Francisco is that, contrary to expectation, an ICT company that does not *need* a specific location gravitates to a location with a high degree of urban culture and open public space and streets that facilitate encounter and local action – in Jane Jacobs' sense (Jacobs, 1965, pp. 66–84) – yet while building for themselves a city-within-a-city which their employees do not view as a constraining work environment (Boden and Molotch, 1994).

In choosing where and what (if anything) to build, the students could make use of the existing buildings on the site, as defined by Alexander: a former coffee factory (c. 1882), a multi-storey garage (c. 1970), a YMCA (c. 1850), a commercial building (c. 1900) and 3 pier buildings (c. 1850). Only at the very end were the students informed that in fact Google had decided to take over part of the old coffee factory, which would give them expansive views of the bay and Bay Bridge, while also renting a neighbouring tall office tower – designed in a postmodern classicism style. In their teams the students had to come up with proposals in which they had to both place the offices and suggest consequences of such an action.

During the entire experiment I offered none of the normal assistance or advice typical for a student design studio project such as one-on-one tutorials, or presentations and critiques. Instead the students received fabricated written responses from the interested parties on the actual sites, such as the city authorities, landowners, and occupants. But what each of these fabricated critiques had in common was exuberance – along the lines of: «*Dear Architects XYZ, Thank you for submitting your design*

proposal. We love it!....» – that is, taking account of only what the client thought were the positive sides of the projects, even though it may disadvantage others. The students were somewhat thrown and (suspiciously) delighted to receive such rave endorsements. Yet, in fact, the responses were *perversely* maximising the inherent negative consequences of the schemes. For example, one of the proposals took the form of a landscape in the form of the Google logo (figure 3 a) – this was praised for branding the city as a Google city.

In another proposal, an otherwise sensitive low-scale intervention was praised for giving the whole Embarcadero site over to Google, thus making the company owners of virtually the entire area. In another case, a skyscraper placed at the intersection of two existing roads would make the Google building an unavoidable landmark that would require adjusting the street system (figure 3 b). The students expected that a best 'winning entry' would be chosen that would form the basis for the next stage. The latter skyscraper proposal (together with small details from the other schemes) was chosen, not because it was any better than the others, but because it introduced significant problems and in the following stage the students would have to re-evaluate the entire street layout of the area – the grid was broken, just as in Alexander's project.



Figures 3 a and 3 b. Year 3 (2012) student team proposals for an office building for Google, San Francisco; (a) Drawing by Lucia del Sero, Hyojun Chang and Eveliina Könttö. (b) Drawing by Masamiki Matsubara.

3. Further complications introduced – social strata

For Alexander the history of the Embarcadero site had no significance. But in the reconstructed experiment its sordid history would provide a reality against which both Alexander's results and the students' work could be compared, that is, concerns for client versus public interests. In *City for Sale* Chester Hartman (2002) presents the story of how various factors fought over the Embarcadero site. The main thrust of the story was of declining waterfront industries in an area of the city already known for its high percentage of immigrants. San Francisco was up until the 1980s the US city with the highest percentage of foreign-born citizens and non-family households (Godfrey, 1988; US Census Bureau, 2009). Nevertheless, with the decline of traditional industry, the city was un-

dergoing re-invention and branding as a site of tourism and creative industries, its quirkiness, non-conformism, deviance or difference from other US cities marketed as an asset in the very act of 'sanitising' the city. Typical in such a process is the more literal avant-gardism ('advance guard') of artistic-bohemianism in the process of gentrification. In terms of 'sanitisation', one example Hartman takes is George Moscone, the mayor shot in 1978 along with gay activist-politician Harvey Milk. Moscone is commemorated with a convention centre in his name; but when it came to a commemorative artwork, a bust by artist Robert Arneson, which included references to his murder, was replaced by the selling line, purported to have been uttered by Moscone at some point, «*San Francisco is a great place to be*» – hence radicalism was being sanitising or re-scripted. The site itself was seen by developers as a blank slate, albeit inhabited by cheap 'skid row' hotels.

The fight to remove the vagrants was, against all expectations, lost when activists aided the local inhabitants to fight their case: the courts deciding that they should indeed be provided with affordable senior citizens' housing in the area. However, the developers delayed and delayed the court order, even arguing that the housing was no longer needed because during the delay the people were in fact dying off. Hence, the recent history of the site is an amalgam of real estate projects aimed at maximising land values and densities compromised somewhat by local activism (e.g. a local residents' anti-skyscraper lobby) and social-based projects (affordable housing) as well as local initiatives (e.g. communal gardening projects).

In the experiment these issues were mimicked by posing the question of general housing provision and 'greenery'. The students were asked to place an initial 18 000 m^2 of housing, taking into account both full market values and provision for low-cost housing, added to which was the dilemma of the management of the surrounding land as either 'immaculate private gardens', public parks or allotment gardens. The issue of privately owned public open spaces (POPOS) was indeed in reality made an issue already in the city authority's 1985 Downtown Plan, according to which developers were required to provide one square foot of open space for each 50 square feet of occupied office space (SPUR, 2009) – but not that it was necessarily easily accessible. Also the city changed its zoning code to permit urban agriculture, which has been growing in public support, in all neighbourhoods (SPUR, 2012).

The students were also asked to consider mimicking citizen participation. This was intended to address the issue of mixed development. In architectural and town planning terms, the students need not have differentiated between the two and simply taken a formalistic stance, that is, designing buildings and labelling ownership in retrospect. But I was also interested to know if they would actually try to give thought to

the question of how 'market value' housing would differ from 'low cost housing' (i.e. expensive *looks* expensive, including greater floor areas and 'designer detailing', while low cost housing is built with cheaper materials and with greater densities). But there was also the issue of gentrification; industrial buildings were already being converted into luxury condominiums.

The students generally responded to the issue in the market standard terms of location: people are willing to pay much more for sea views – indeed, there would even be a demand to turn the seafront into a private luxury enclave. The scheme I chose to move on to the next stage did precisely that (figure 4 b). And consequently other parts of the seafront were turned over to quirky houseboats affordable only to the wealthy. This indeed has already happened in more recent developments along the seafront. In the next and final stage all the students were confronted with a situation where these were the starting points for their own interventions, and it was to be seen whether or not they would retreat into an 'architect's role', simply serving the private client or whether they would intervene on behalf of the citizens' of the city and public accessibility. In reality, much of the public space, anyway, is privately owned, and thus controlled and under surveillance.

So how did the students react to the loaded final part of the experiment? Some cut through the 'gated community' with public footpaths or tried to transgress it in admittedly meek ways, such as introducing POPOS. But by this stage there seemed to most students to be only two options remaining: labelling all existing open spaces as 'public park' or infilling these spaces with generic buildings and 'public space' – filling the gaps with the rudiments of a street grid, compromised by the position of the Google skyscraper (figure 4 b). In their reactions to the final outcome the majority of the students were rather displeased. They had, they felt, little real control over the outcomes, and the decisions of the authorities (me!) worked against their ideal objectives. Initial utopian ideas aside, there was a demoralising feeling that they were unable to create a design they could be proud of. It was not *their* design. As part of the heavily manipulated experiment, however, I did not regard this outcome as a failure.

4. Revealing the truth behind the experiment

It was only in the all important final 'reveal' that I could explain fully to the students about the warped educational strategy – about how this was no normal studio project, that it even involved what could be regarded as dishonest manipulation, but tied to the issues in the lecture course in the history of urban theory I was giving them at the same time. Hence there was ultimately resignation that the 'mess' was often the reality of urban development in the city – and thankfully something important had been learned within the safety of the classroom environment.

Figures 4 a and 4 b. Completed project, San Francisco; (a) Year 1, 2010, drawing Jukka Aaltonen; (b) Year 3, 2012, drawing Eveliina Könttö.

Finally, in rounding off the experiment, there were two issues to be unveiled. Firstly, Alexander's own theory was fully explained and his results for the San Francisco site shown: «*It looks like an old town!*», was the common response from the students, just as had been the case with the first pre-experiment group. However, there was some appreciation of the complexity generated – some students even arguing that a parametric design solution, if permitted, would have generated a more 'avant-garde' complexity. And then the actual present site situation was presented, where the whole area had indeed developed on the basis of continuing the existing street grid.

However, there were no fixed local directives for building heights, and so, typical for the city – and many other cities in the US – the building heights vary radically, 4 storeys adjacent to 38 storeys, and a propensity towards isolated towers on ground level platforms with POPOS. Unbuilt sites remain as informal car-parks surrounded by security fencing. Following pressure from activists, provision has been made for some low-cost housing for the elderly and the Salvation Army for putting up homeless people, in between increased gentrification and super gentrification.

Discussion – The lens of ideology

The ultimate objective in the experiment was to get the students to think about theory and ideology in relation also to their own work – something which very few of them have ever done previously. By putting the experiment within a course on the history of modern urbanism, the students could hopefully see how earlier theory – from Cerdà's plan for Barcelona and Howard's Garden City to Le Corbusier's Contemporary City to New Urbanism – may be shown to be progress, a zeitgeist or reinterpreted, diluted and misdirected. But is there even a real need to articulate a theory? As Hanno-Walter Kruft (1994, p. 17) summarised, in his *A History of Architectural Theory from Vitruvius to the Present*, «*As long as he operates within the norms of his day, the individual architect has no need to advance theories of his own…*» The concepts which I still need to elaborate here – as I did finally to the students – are that of 'ideology' and 'the right to the city'. While it may have first originated with French nobleman Destutt de Tracy in 1796 to mean «*the science of ideas*» in order to describe the process by which ideas come to consciousness (Kennedy, 1979), and may in normal discourse simply refer to

a standpoint or even subjective viewpoint, as a politically loaded term 'ideology' implies that one's viewpoint is determined by interests rather than universal truth. The term is best known in Leftist terms – and difficult to appreciate if you do not believe in 'class struggle'. For Marx (ibid.) ideology functions as a superstructure of society, and the conventions and culture that make up the dominant ideas of a society: only that the 'ruling ideas' are those of a 'ruling class'.

Yet, in giving an account of totalitarian political systems, Hannah Arendt (1958, p. 159) argued that an ideology differs from mere opinion in that an ideology claims to possess «*the key to history*» or «*intimate knowledge of hidden universal laws which are supposed to rule nature and man*.» However, a more inclusive understanding of ideology was put forward by Louis Althusser, in seeing the «multiple interpellations» of ideology within each individual person:

> *The interpellation of the individual as subject, which makes him an ideological subject, is realized not on the basis of a single ideology, but of several ideologies at once, under which the individual lives and acts his practice. These ideologies may be very 'local', such as a subject in his family and at work, in his immediate relations with his family and friends or his peers; or they may be broader, 'local' in the broad sense, either 'regional' or 'national'. (…) this multiplicity explains the 'free' development of the positions adopted by the subject-individual.* (Althusser and Balibar, 1997, pp. 127–128)

As a leftist, David Harvey also sees the issue of class struggle as determinant in the formation and growth of cities: in reducing the argument to one of capital, and moreover surpluses, their disbursement typically lies in the hands of a few, and since urbanisation depends on the mobilisation of a surplus product, an intimate connection emerges between the development of capitalism and urbanisation. He also draws on Robert Park's well known dictum that the city is the world in which man is henceforth condemned to live: «*Thus, indirectly, and without any clear sense of the nature of his task, in making the city man has remade himself.*» (Park cited in Harvey, 2008, p. 23) Hence, Harvey sees the development as one of competing voices:

> *The question of what kind of city we want cannot be divorced from that of what kind of social ties, relationship to nature, lifestyles, technologies and aesthetic values we desire. The right to the city is far more than the individual liberty to access urban resources: it is a right to change ourselves by changing the city. It is, moreover, a common rather than an individual right since this transformation inevitably depends upon the exercise of a collective power to reshape the processes of urbanization. The freedom to make and remake our cities and ourselves is … one of the most precious yet most neglected of our human rights.* (Harvey, 2008, p. 23)

The term 'right to the city' is, of course, an empty signifier, open to varied interpretation. Harvey is nevertheless anxious that the right to the city should not be subsumed within general declarations of human rights, as with the «*World Charter for the Right to the City*» (Brown and Christiansen, 2009). For Harvey, then, the 'right to the city' is a slogan for a radical urban grass-roots politics. This idea of what kind of city people want, I would argue, lies within the ideology of the practicing architect and student alike – most obviously in utopian gestures and theories. For example, in his writings Le Corbusier (1987, 1986) focused on what *he himself* regarded as the crisis of the city, though referring to statistics for population and traffic, though his conclusion was a 'lack or order', what he terms the «*primordial human basis*», for which the cure is wholesale demolition and someone to make it happen (1987, pp. 84–103).

So, for whom were the students working? Were they merely fulfilling or even maximising their simulated clients' wishes? If so, any ethical finger-pointing might be beside the point. Tom Spector (2001, p. x) has characterised the contemporary architect's dialogue on ethics as «*for the most part… maintaining the highest level of professionalism, renewing their commitment to serve, and working to make really good buildings.*» In a deontological ethical point of view, it is not the consequences of one's actions that make them right or wrong but the motives of the person who carried out the action.

On the other hand, Elizabeth Schmidt (cited in Owen, 2009, p. 4), in discussing the teachings of ethics in schools of architecture, raised the question of deontological ethics *holding up* the advancement of the architectural profession and, by extension, society as a whole; the emphasis in certain schools of architecture, she argued, being on «*mastering the complexities of the discipline in order to invent new ways of building and design – on pursuing the ethic of technological and creative progress.*» The experiment came about by chance, an extended version of an originally short classroom exercise that first exacerbated and then intrigued the students – the idea that irrespective of their best intentions, they would disown the final result, or as one student put it, «*nothing worth putting on display*», something akin to the 'artless urbanism' generated by SimCity – because they could not keep overall control of the whole, often just like in the real world.

Conclusion – a note on pedagogy

There were two key aspects to the experiment, aspects which could even be divorced from each other. On the one hand there was the issue of bottom-up incrementalist building, as advocated by Christopher Alexander, and on the other hand there was the issue of the makeup of the forces that bring about interventions in the city. Where the latter issue becomes problematic is in looking at it through the lens of ideology.

In Alexander's own work, from the 1970s to the present, there seems to have been a convergence between incrementalist thinking and community projects – rather than state or property speculators (though property speculation is not at odds with incrementalism – it simply attempts to predict what the market desires). In the actual history of the Embarcadero site, this could be seen in the 'clash' or 'dialogue' whereby the maximisation of property values by developing up-market housing, hotels, retail and office premises was 'compensated' by the provision of housing for disadvantaged groups and public buildings, as well as basic infrastructure such as roads and public space. The success of the experiment lay not in teaching students how to plan in accordance with Alexander's design theories, but in them facing their own preoccupations as simulated demi-god architects. In other words, the question that the experiment ultimately wished to address was how the architecture students' own ideologies impinged on their roles as architect-enablers of other people's projects or as top-down planners balancing the expectations of capital generation versus public interests.

There is a final important pedagogical aspect to note. I believe it would have been difficult to conduct a studio project of this kind – a controlled experiment – divorced from a lecture course. An experiment requires manipulation and withholding information. A typical studio project should involve openness and the free flow of information and critique. Though knowing this was an experiment, students could easily have interpreted my lack of offering design coaching as bad teaching. So unless the teacher is already in possession of 'social capital', a good reputation, trust has to be built up through the lectures and other interactions that are otherwise an integral part of the teacher's role.

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The present paper was undertaken while in employment at Tampere University of Technology with no extra funding.

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