

# Shaky Grounds for Architecture in Oblivion: Whose Agenda is EQ Anyway?

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This paper intends to convey the gravity of the disasters of 1999 experienced in Turkey, the nature of decisions taken by the authorities since then, and discuss how these decisions might affect the architectural practice and its professional status in the near future. The changes taking place seem to rearrange responsibilities in the building profession, conflict with the conventional 'master-builder' role of the architect, and bring constraints on resources that architecture could command. Furthermore, it is argued that such changes are manifestations of a more universal social transformation into a 'new modernity', a state identified as the 'Risk Society' by Beck (1992) and others, and may have implications for the ideological content of architecture as well. The metaphor in the title therefore, applies both to the formal social status of the profession and to architectural ideology.

## A NATURAL HAZARD AND A MAN-MADE DISASTER

The devastating earthquakes of 1999, took more than 18'000 lives, left 300'000 dwelling units and more than 50'000 business premises in debris, forcing a population of nearly 600'000 to seek emergency shelter. The estimated losses are around 7-8 billion US\$, more than a third of the annual total GNP of Turkey. Human suffering, social and psychological impacts of these events have been deep and lasting. The respectability of the public authorities was impaired, and the interests of the industry were seriously damaged. This generated a strong national consensus and will-power to devise new and effective methods of tackling with disasters. Since then, much effort and debate has been taking place in the official and academic circles to refresh the attitudes, methods of management, the structure of responsibilities, and revise the related legal framework.

One of the fundamental facts reaffirmed in 1999 was the deficiency of the building stock in meeting the earthquake design codes on project, let alone the production faults. As stated all too often, it is this man-made stock of buildings and environment that kill people, not the earthquake itself. There is always some indeterminacy in the system, apart from when and at what magnitude the quake will be, owing to variations in local subterranean conditions, physical designs of buildings, manner the construction work was run, choice of structural materials, methods followed in mechanical services, and detailing, *etc.* The situation is no different therefore from what Beck (1998) identifies as 'manufactured uncertainty' since incalculable risks are inevitably part of our daily lives spent in such stock.

This issue was considered as a national problem, since all estimations revealed that it was now the Istanbul region at stake, within the effective range of the same global fault line with its 15 million of population, with a greatest part of its stock unauthorised, and accommodating most of the economic assets of the country. The other consequence of the events of 1999 has been the large-scale public awareness of the hazard, the risks involved in the urban environment, and the lack of preparedness

measures of the administrations local and national. This awareness has set off individuals to re-evaluate their positions in the city, the safety level of the building they live in, and seek expert advice for greater security. Good business opportunities arose for hundreds of impostor experts in the metropolitan Istanbul. These trends gave rise to considerable shifts of values within property markets and to new waves of speculation. All of these issues previously depoliticized, with the widened awareness of risks brought the need for public scrutiny and debate.

Unprecedented decisions were thus taken, based on a law that empowered the Government. Three Decrees of the Board of Ministers were of particular significance: 'Obligatory Building Insurance', 'Building Inspection Firms', and 'Professional Proficiency' (2). These decisions may be interpreted as ever first attempts to convert the conventional system over-occupied with the aftermath of disasters and crisis management, into some form of a commitment to a disaster mitigation strategy (Balamir, 2001, 2000a,b, 1999). They represent also a movement in the institutional context towards a 'Risk Society', to be elaborated below, which is to redefine the social status and functions of the architectural profession as well. The exposition of architecture, to powers that tend to erode its conventional social and legal status, could particularly be identified in terms of challenges from the financial system, the engineering practice, and challenges from the central administrative apparatus in their renewed attempts of monitoring proficiency in the building process.

Architecture today simultaneously faces threats and opportunities therefore, at both the material and ideological contexts. The recent experience of this country is sufficiently relevant for generalizations about how architects' status is challenged at this historic juncture, and drawing briefly on the three responses of the government as case histories, would provide the material for clarification:

### (a) Inspection of Construction Processes (Decree 595; 10.4.2000)

Vital variances observed in the performance of buildings at the recent earthquakes have convinced everyone that building production should be held under strict inspection with unchallengeably described responsibilities. Local authorities, municipalities in particular, are neither equipped nor willing for a genuine inspection, and they have always fallen short of controlling constructional activity. The responsibilities of inspection were thus entrusted with private firms in the Decree, specialized in control functions, yet the right of approval and ratification retained with public authorities as a Constitutional requirement.

Building Inspection Firms are entitled to control all projects and constructional activity and report to the local authority. Operating under financial liability insurance, these firms could only be instituted if a minimum 51% of their capital assets belong to 'eligible' architects and

engineers. This means that part of the conventional building control tasks of the architect is now shared with at least two other parties: the prominent engineer (owing to the current priority given to structural safety), and some capital owner (an assurance for the obligation of immediate compensation of property owner, should the case rise). Firms are obliged to control projects, all phases of building activities, standards of materials used, geo-technical reports, to keep records of progress of activity and submit their reports to the local authority. Only upon their positive reporting, the local authorities are to ratify projects and give 'construction' or 'occupation' permits. Buildings constructed under such formal inspection are registered in the Cadastral and Titles Offices, and certificates given accordingly. The Local Authority is then responsible for the permanent exhibition of 'Inspection Information Plates' on these buildings.

The Decree has clarified the responsibilities of parties involved in construction (i.e. property owner, developer, construction manager, author), and standardized the agreements to be drawn between them. Property owners are to deposit the inspection service fees at an account of the municipality at a specific bank. Monies from this account could only be transferred to the firms with the owner's will, and the consent of the municipality. Inspection services could be carried out by architects and engineers if they are affiliated with a firm recognized by respective professional chambers. In granting a construction permit, the local authority will demand the license of the firm, the liability insurance, and agreements between parties involved, in addition to documents required by the Development Law. Inspection firms are responsible of all constructional defects, damages experienced due to 'expected hazards', and are liable for immediate compensation payments. Such compensation payments to be made by the firm, could afterwards be reclaimed from other parties if proved faulty.

Almost 700 firms have registered in a year, where architects are not necessarily observed to represent the majority and have dominant roles. Structural safety concerns have brought the engineer into focus, and promoted the role of engineering tasks to the forefront. This over-emphasis conflicted with the conventional rights and legal responsibilities provided by other laws (particularly with those describing the rights of authorship and inspection of implementation) of the designer-architect in the orchestration of the building activity, and the conventional responsibilities of the engineer to the designer-architect. A move in the direction of clarifying responsibilities against risks therefore, brought a restructuring of professional roles and their relative positions (3).

### **(b) Proficiency in Construction (Decree 601; 28.6.2000)**

With a separate decision, amendments were made in laws describing the status of architects and all other professionals engaged in physical development, and their organisations in professional chambers, highlighting the requirements for strict professional competence. A minimum of five years of professional practice, attendance in a special program of courses, and achievement of high level grades in written examinations to be organized (at least annually) by the chambers, are all specified in detail in the Regulation prepared for the purposes, by the Ministry of Public Works and Settlement as minimum conditions for proficiency. For safer buildings, institutional and real persons are entitled to demand services of qualified architects and engineers only. All of these provisions represent direct external interventions in architects qualifications for the sake of securing performance standards.

### **(c) The Obligatory Building Insurance (Decree 587; 27.12.1999)**

The previous statutory duty of compensating (irrespective of the legal status of property) all disaster victims as determined by the Disaster Law was terminated last year, and a Natural Disasters Insurance

Administration was established attached to the Treasury. All buildings and independently owned sub-units registered at the cadastral offices, are covered by this compulsory insurance system. Buildings are obliged to pay annual premiums determined according to earthquake zones, local risk levels, construction inspection certificates, structural modifications made without permission, quality of construction, etc. punishing the more risky conditions in rates of assessed values for insurance.

An immense financial pool is in the process of being generated with the annual premiums. This is likely to accumulate at approximately half a billion US\$ per year, and is to be enumerated in the world markets. Within a decade, this could reach an accumulation of more than sufficient scale so as to theoretically refund a volume of losses similar to the total damage experienced in the 1999 earthquakes.

A voluntary dismissal of the prerogatives of spending public resources for political undercurrents and surrendering of such privileges to a relatively autonomous insurance administration in itself, is nothing short than a heroic move on behalf of governments. The promise that only property covered by the insurance will be eligible for compensation is a revolutionary idea in this context, with respect to the conventional practice and realities in this country, and a determined step towards the 'Risk Society'. It remains to be seen how the populist trends could be resisted however, and the political bodies restrain themselves provide donations to the owners of non-eligible and unauthorized buildings in the face a disaster.

The insurance system is not without its deficiencies. The gravest and most obvious one is the tendency to retain funds only for compensation operations, i.e. the aftermath of disasters. This decision unnecessarily obstructs the flow of funds to architectural activities, mitigation investments in the form of rehabilitation or total renewal, denying safer buildings and cities and greater volumes of professional work prior to earthquakes. Many reasons may be advanced for dedicating significant proportions of the annual incomes of the insurance program to risk minimization projects, revisions in land-use planning, and retrofitting efforts in public and private buildings, thereby expanding the real work capacities in architectural services.

A concomitant of equal gravity is the fact that the system as envisaged is likely to recruit technical professionals for their services of inspection, assessment (as well as for independent evaluation services in courts) in many of the potential disagreements dormant in the relations between the insurance companies and their clients. In other words, architects (and engineers) will be largely employed by the finance sector, not only against ordinary people, but also for the taming of the building sector itself. This in turn, is detrimental for the profession, for the admittance that such inspection and discipline could not be maintained within the sector itself, a direct blow to the social role the architectural profession had nurtured as the master-builder *a la* Gropius.

These three case stories provide sufficient evidence to beg for a new awareness, an awareness for the need of new services of the architect in the face of changing demands ('relations of definition' as of Beck, 1998), an awareness for the restructuring of professional roles in an emerging society, and an awareness to formulate principles to guide the professional conduct. Three warnings or 'golden rules' could thus be formulated, based on the case-stories discussed here:

If you do not vigorously update your command of authority in the area you profess, someone else will claim your expertise.

If you do not operate on a well-defined merit system in your professional conduct, someone else (with his own interest and value judgements) will tell you who is worthy of what among members of your profession.

If you do not explicitly describe and formally give assurance of your performance standards, someone else will act as your client's advocate.

## EVOLUTION OF THE RISK SOCIETY AND IMPLICATIONS FOR ARCHITECTURAL IDEOLOGY

Living under the serious threat of natural hazards is not unique to this country. Yet uncontrolled construction processes resulting in a highly vulnerable building stock for which no one assumes responsibility and no one could be charged with legal liabilities (the 'organised irresponsibility'), convert an external and natural threat into an objective 'manufactured uncertainty' that pervade all forms of social and private decisions (4). This then assumes a universal relevance since it is exactly these circumstances for which Beck (1992) claims that the industrial society (with its modernist ideology) having come up against its own limitations, is transcending into a 'Risk Society', a second phase of modernity, and a new radical ('reflexive') modernist ideology is in the making.

The industrial society's ever extending intrusion with its science and technology to nature and life in general, have generated more problems than it solved, and led to major blunders and disasters that affected everyone in the global system. BSE, Chernobyl, global warming, increasing magnitudes in cycles of flood and drought, together with economic globalisation that accelerate 'primary-resource' exploitation, extraction of oil and depletion of forest-cover, termination of traditional forms of life and sustainable ecologies, wiped out species, concentrations of population in urban centers without adequate resources and engulfed in environmental degradation, extensive use of pesticides and toxins, male infertility, incurable illnesses that may spread through sexual relations, individualization, denser and denser electro-magnetic fields we are faced with, etc., all have their contributions to the distributions of risks in our planet, some of which even amplifying the impacts of natural disasters. All of such conditions as developments of the industrial society, have been undermining the the industrial society itself and its modernity ideology. The unintended, unexpected, and adverse consequences of technological progress, as well as deliberate exploitative interventions in nature, influence us all in our ordinary decisions of where to live, what to eat and drink, how to travel, where to invest, what to learn, with whom to have intimate relations with, etc. with incalculable risks about which we have little formal information, let alone control, and for which responsibilities are unclear. This represents a 'most tyrannical of all forms of power':

*"Dangers are being produced by industry, externalized by economics, individualized by the legal system, legitimized by the sciences, and made to appear harmless by politics" (Beck, 1998, p. 16).*

Furthermore, the distribution of disasters seem to aggravate the historical patterns of inequality (within the nation and across the globe), poorer getting the brunt of it, in terms of spatial and social distributions of vulnerability. The industrial society thus with all its components and institutions (formal organization of mass production, social classes, science and technology, professionalisms, nuclear family, parliamentary democracy, insurance, etc.), is in conflict with its own assumptions and values (equality, democracy, freedom of expression, human rights, etc.). It is for this reason that new means and methods of maintaining such (modernist) principles are in the process of formulation and the institutionalization of new regulations are inevitably taking place. This is same as to state that the Risk Society is in its making. This may therefore be considered as a historical period of change, in which administrations and organisations (both at national and international levels) find it unavoidable to respond to, and make formal moves and devise/prepare new forms of regulations. These responses to risks and the demands of those affected or victimized, do also involve architectural practice as in cases given above, and affect the profession in many ways.

Accordingly, as Industrial Society is giving way to Risk Society, classical modernist ideology is also to be replaced by a 'reflexive modernization' where the former society becomes 'both an issue and a problem for itself'. Whereas 'the logic of wealth production' and

accumulation dominates 'the logic of risk production' in the former, this is to be reversed in the Risk Society. Even though the Risk Society debate points to the end of a modernist era, this is not a post-modernist approach, arguing the end of rationalities, history, and politics. On the contrary, every material condition evolving is to serve for the shaping of a new 'radicalized modernity', generating its own political interactions. Societies surrounded by manufactured risk, are bound to give greater significance to political power, restructuring decision-making and legitimacy processes. Of particular relevance are the 'Relations of Definition' in the determination of risks, leading to new rules and institutions. Beck (1998) refers to four distinct relations of definition in appropriate forms of control and regulation: the determination of the level of harmfulness of products, the identification of relevant information and parties involved in the generation of risks, the accounting methods of producing sufficient evidence, and the procedures to be followed in the case of compensation.

The obligations and opportunities are there, therefore, to ventilate the scope of traditional humanitarian ideologies of architecture, and re-evaluate this new phase of man-nature relationship from the perspective of the professional occupation. The current 'consumerist' basis of architectural practice (condemned by many as being largely vacuous), and its post-modernist ideological discourse is to be abandoned and an awareness of processes triggered by the global changes that restructure the distributions of risks will reign. Architectural training and practice is likely to be equipped with realistic and effective types of strategies in support for such processes, and responses both for mitigatory and emergency circumstances will become common procedure. A number of points and principles may be formulated here without claims for comprehensiveness or priorities:

Quality of life begins with safety. In the physical arrangement of life, this requires a risk management strategy with a specific set of priorities. 'Avoidance of risks' has the foremost priority and largely to be maintained (in the case of earthquakes) by means of renewed land-use planning practices and regulations (5). 'Minimization of risks' is a second set of tasks to be undertaken in infrastructural networks and the design and production of buildings. Having accomplished the former steps of risk management, the remainder are the unavoidable 'risks to be shared' between the members of the society by some explicitly preferred method and criteria. This set represents then the most general family of rules to follow at every scale of physical design for safe buildings and environments.

Alternative professional practices are likely to develop in efforts to avoid and reduce risks in the art of environments and buildings, observing the intensive and unexpected inter-connectedness with the built-environment of contemporary hazards and forms of development of crises. Of particular relevance are the development of connections with practice, research, and training. Professional activity will inevitably be extended to the assessment of self-produced risks, and overt mechanisms to bear the responsibilities.

Irrespective of scale of design and size of risks, architectural decisions will accommodate contingencies; contingencies for over and under capacity use, changes of use, unintended and emergency circumstances, technological changes, assessment of emerging technologies and their impact on design. This is particularly relevant since buildings today can outlive ever shortening spans of major technological changes.

The practice and teaching of architecture could lead to provide good exemplars for the other professional and scientific practices in the institutionalization of self-criticism, and in the provision

of 'right to criticism' within both individual and organizational practice and in challenging professional monopolies, within the discipline and at the interdisciplinary and public sphere.

Architecture is to recognise to a greater extent that all design problems require involved inter-disciplinary work and collaboration. There are very many ways architecture will have to draw to the expertise of new specializations not conventionally exploited: natural scientists, ecologists, city planners, engineers, geologists and earth scientists, lawyers, social workers, medics, risk managers, facility managers, informatics and public relations experts, *etc.*

With institutionally redefined responsibilities architectural practice will find it more and more crucial to act upon factual information and refrain from all decision-making based on ignorance. This will bring the need to develop international and regional 'professional information bases' particularly targeting risk distributions and vulnerabilities, building construction procedures, materials, technological availabilities and developments, *etc.*

The promotion of long-term task programming of architectural research and design work should be expected to acquire an institutional basis. The cases of contingencies, the disaster eventualities, specifically for the case of earthquake: industrial design of emergency shelter components, temporary versus permanent accommodation conflicts, the cases of re-usable temporary units, extendable minimal permanent core-housing, pre-disaster experimental implementations for housing *etc.* could make a special collection of know-how. This could be maintained through organized research and experimentation as well as through competitions involving all specialisms in design (city planners, architects, landscape designers, industrial product designers, *etc.*), and their cooperative efforts with engineers and experts in natural and social sciences.

Risk Society rules and ethics in is likely to affect architectural practice in for instance making most of communications; replacing transportation and routine movements, with information availabilities. It is most likely that dependence on mass energy consumption will be refused and preferences will be made for making most of natural heating and ventilation, irrespective current economies or diseconomies these may entail; that regional and vernacular architectures will be re-evaluated, and new means of exploiting local materials with new technologies will be explored.

The architectural media is likely to acquire new functions, underplaying glamorous architecture currently permeating most of literature and exhibitions. Avoiding this type of voyeurism, media should be expected to convey the new professionalism, cases and practice that promote a contemporary environmentalism and awareness of risks.

These may partially represent the nature of things in change on the way to Risk Society, presumably leading towards a 'Reflexive Architecture'. This speculative exercise is made not solely on an interpretation of the contemporary social changes, but as part of this, on the recent common efforts of a group of regional representative architects of the UIA who worked on the problem of earthquakes and expressed their views through 'The Istanbul Declaration' in May 2001 given below (6).

## NOTES

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<sup>2</sup>Much input for these Decrees were available within the research report submitted to the Ministry of Public Works and Settlement only a week before the earthquake. This report was the final product of a research project supported by the World Bank, and that took place between 1997-1999 (Gülkan, Balamir, Sucuoğlu, 1999).

<sup>3</sup>This Decree has been very recently nullified by the Constitutional Court, so that there is scope now for architects' renewed activism in reverting most of this regulation, and in confidently declaring determinacy to undertake explicit professional responsibilities in risk aversion (under personal liability insurance) as building masters.

<sup>4</sup>In a recent field research in Gerede a town of 30 thousand (located about 100 km northwest of Ankara), developed linearly on the very North Anatolian Fault line, we established through samples that the existing concrete reinforced buildings (that have replaced the vernacular stock of centuries of tradition and experience) were critically short of meeting the requirements of the Earthquake Regulation in their design, let alone production. The circumstances were not surprising since the municipal 'development department' had only three technical professionals including an architect and an engineer with little power to refuse projects on this basis, even if they were assumed to have the awareness and knowledge of the requirements. The town has escaped the recent earthquakes with almost no damages, yet probabilities of an earthquake of high magnitude has increased. The serious earthquake experienced in 1944 had brought down almost all of its buildings but gave rise to proportionately little loss of life. This is unlikely to happen again however, since annihilative capacity of the existing stock is incomparably greater than the vernacular. The circumstances commanded therefore, a totally different approach in the design of regulatory rules and procedures of building than existing.

<sup>5</sup>Planning regulations and the requirements for the preparation of development plans for vulnerable settlements could for instance acquire completely new contents under considerations of risk distributions. Such an approach adopted in the research mentioned above (Gülkan, Balamir, Sucuoğlu, 1999), covered principles concerning: (i) Determination of areas of high risk by means of micro-zoning vulnerability maps of existing settlement and prospective development areas (at scales of 1/5'000 and 1/1'000); (ii) Preparation of 'master risk plans' to cover both natural hazard probabilities and faults in man-made and operated systems particularly to indicate 'areas subject to chain-disasters', 'areas likely to face heavy losses of life and damages', and 'areas exposed to infrastructural and investment losses'; (iii) Scattered macroform of settlement; (iv) Preparation of Disaster Impact Analyses; (v) Designing of Multi-Centered Urban Structure; (vi) Land-Use Compatibility; (vii) Synchronization of Development; (viii) Provision of a system of open spaces; (ix) Road and street layout systems; (x) Layout of infrastructural networks.

<sup>6</sup>Risk management approach in the preparation of 'application plans' for areas of high risk may require: decimation of buildings, lowering of densities, removal of unauthorized and dangerous structures, retrofitting of infrastructures and buildings, imposition of specific space standards for buildings, parking lots, open spaces, external surfaces and internal mechanical equipment of buildings, enforcement of sustained control, and the preparation of 'Disaster Action Programs', *etc.* with new public powers, yet with formal rights of participation of representatives of parties involved.

<sup>7</sup>The regional group included the representatives of Bulgaria, France, Georgia, Greece, Israel, Macedonia, Syria, and Turkey.

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## THE ISTANBUL DECLARATION OF UIA WORK PROGRAMME FOR SAFE URBAN SETTLEMENTS IN DISASTER REGIONS

At the threshold of the Third Millennium, natural hazards still constitute a major threat to urban settlements, despite the advanced knowledge, high technology, and powerful organisational capacities of the contemporary world. Urban settlements in developing countries are particularly vulnerable due to high rates of population concentration at hazardous regions and deficiencies in risk management expertise. Ecological changes and economic globalization are forces further aggravating these inequalities.

We, architects and planners of member sections of the UIA, have unanimously agreed on the current extraordinary need of focusing all our efforts in forms of mitigating disaster losses. This action should lead to safer cities and built-environments in all areas of work and residence, not only in the formally designed and built-up areas of our cities, but safety in the vernacular and historical stock, safety in the spontaneously built-up areas, and safety in the city infrastructures and landscapes. This action we believe, should lead to a bottom-up monitoring of awareness and vigilance, besides the top level decisions. This action we hope, should lead to the re-evaluation of the professional role and responsibilities of the

architect, re-structure the contents of architectural education and training, and bring foreground the issue of more efficient financing of mitigation investments.

We invite therefore:

All architects, planners and engineers

- to collaborate in a total effort to improve the safety in built environment and in total quality of life
- to design and implement physical means and contexts contributing to higher standards in safety
- to develop methods of conduct, new regulations giving priority to safety in planning and building
- to contribute in devising new methods of financing higher-standard developments
- to help extending the public awareness and knowledge in local and professional communities, exploiting all forms of communication and learning

All central and local governments, organizations, associations

- to collaborate in developing programs enhancing public awareness and learning
- to train public-servants, educate local managers in facilitating mitigation programs
- to improve methods of self-inspection and correction
- to cooperate in driving away adverse habits, superstition and mysticism on the way of scientific approaches in mitigation efforts in contemporary society

All representatives of the economic and financial sectors

- to commit themselves financing to a greater extent risk reduction programs
- to contribute to competitive awarding of mitigation performance
- to promote insurance schemes for disasters and channel resources for risk minimisation investments, triggering other investments for safety

All countries and international organisations

- to provide sustainable support and resources for scientific research on risk avoidance
- to enable professional bodies and local communities prepare their programs of mitigation
- to produce regulations facilitating the auto-control of constructional activities
- to allow various non-governmental organizations participate in coordinated programs of risk mitigation and preparedness

We invite every individual and organisation in the world to join in this collective humanitarian effort.