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ARCHITECTURE OF THE 21ST CENTURY

面向二十一世纪的建筑学

ACADEMIC TREATISES VOL.2

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Sub Theme 3 :

ARCHITECTURE AND TECHNOLOGY

- Architectural design diversity will increase as buildings become specifically adapted to the climate and resources of the region in which they are built. Buildings will accommodate and utilize natural systems rather than overriding them.
- "Smart" buildings will employ integrated computer and communication technologies to monitor and control most all building systems including data transmission, lighting, elevator systems, fire safety, security and energy management.
- Self-contained biotechnology disposal systems will eliminate the need for plumbing pipes to deal with waste.
- Photonics, including lasers, masers, and fibre optics will replace the wiring that now transmits electrical energy.
- Fossil fuel energy will be non-existent and most energy will be endless, cheap, and stored within super conductive ceramics.
- Computers will be utilized throughout the built environment that will behave like the human brain capable of reacting to the spoken word.
- People will move about from space to space along vacuum tubes.
- Walls will resemble living membranes that will be able to store and transmit light as well as to act as a protective skin for the building occupants.
- Sunlight will be collected and transmitted over fibre optic cables to the building interior.
- Super strong, light, easy to fabricate and recyclable thermo-plastics will replace wood, metal, and other traditional building materials in many applications.

This list could go on and on. No one knows for certain when changes such as this may occur, but it is a certainty that the built environment will experience many dramatic changes in the 21st Century influenced by the complex societal, technological, economic, environmental, and professional issues the world is facing.

3.CONCLUSION THE PROFESSIONS RESPONSE TO CHANGE

The obvious conclusion to this trend analysis and forecasting is the realization that in the coming decades, a vast and complex array of forces within our society will surely alter how we live and how we work, and the changes will occur at a rapid pace. Clients will undoubtedly demand that Architects respond to these changes.

Because Architecture is the most public of the Arts and plays an important role in expressing and molding the lives and values of our citizens, it is vital that the Architectural profession respond correctly to the forces of change. But, in addition, we must meet the critical test of serving people and society with sensitivity and compassion. It's one thing to create new urban centers and to rebuild downtown, but if that building and rebuilding doesn't inspire and integrate into people's needs, desires and lives, it will certainly fail.

Even as we look to the 21st Century, we Architects would all do well to be reminded of Frank Lloyd Wright's observation many years ago about the real source of our creativity, about the real meaning of our role as Architects. He said ***"A civilization is only a way of life. A culture is the way of making that life beautiful. Culture is your office, and as no stream can rise higher than its source, so you can give no more or better to Architecture than you are. Why not go to work on yourselves, to make yourselves, in quality, what you would have your buildings be."***

If Architects are going to meet the challenges of the future, they have to carefully examine, understand, and adapt to these forces of change which will surely transform our built environment, and indeed our world, in the not too distant future.

Will Rogers said, ***"Even if you're on the right track, you'll get run over if you just sit there."*** The ultimate goal for all of us in the Architectural profession is to not just "sit there", but to adapt to the changes, assume broader responsibilities, challenge the negative trends, move forward, and become better prepared to create an enhanced quality of the built environment that will serve the changing needs of mankind in the 21st Century.

I think we are up to the challenge!

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UNIVERSAL / NATIONAL LIMITS OF PROFESSIONALISM IN ARCHITECTURE AND GLOBALIZATION: THE CASE OF TURKEY

By **Yonca Hürol Al**
Derya Özkan

Definition of professionalism as any one of professional practice, education or organization determining the others is faulty because professional education and organization cannot be fully independent from professional practice.

In daily language, the word professional not only corresponds to guaranteed solution of a problem, perfect and rapid production, but also reminds lack of a certain kind of questioning. Realization of a certain kind of work in a limited time with the help of certain methods by people who have licenses, form the basic and widespread idea. Professional is the one who only realizes what is expected. This definition can be clarified with the help of G.Deleuze and F.Guattari (1990). Accordingly, professionalism can be defined as *"approval of determining restrictions about which work must be done, with the help of which methods, under which conditions, by which professionals and in relation with what-who, without questioning."* This definition builds up a relationship between the concept of professionalism and the existing political-economical system (1). Consequently, the "work" of designing buildings becomes a professional service realized by architects who have licenses, in registered office spaces, by getting necessary permissions and working in relation with corresponding engineers. Lack of questioning the service given to the proprietors, money owners and related procedures points out professionalism.

On the other hand, architectural work can be modelled according to its other assumed relationships with the existing professional reality. International codification and control of regulations and standards for design based on ergonomics (2), disbelief that people's forms of life could be cured with the help of architecture by pre-determining their habits, metabolic and vital functions (3) cause architecture to be defined as an activity that operates "upon" reality capable of changing it. The attempt of the architect to perform artistry of creating forms according to some unwritten rules that change with respect to architectural styles by keeping his/her position at a certain distance from the existing reality as a result of his/her spontaneous professional ideology; causes architecture to be considered as a performance "outside" reality. However, on the other hand, the hidden relations in-between the star architects within the stratified structure of professional practice, various firms, manager and white-collar architects; inevitableness of specialization, widespreading of career planning and changing quality of standards of agreements between the agent architects and the clients, increasing emphasis on marketing lead us to a kind of architecture that stands "within" reality. All these together create a pseudo-complex image and a privileged status for architecture (Gutman,1991). Architecture "upon" reality is dependent on the demands of investors and clients while architecture "outside" reality tends to reproduce culture industry. However, they are both just illusions "within" reality. What must be questioned here is how and why it is allowed to assume such pseudo-complexities and illusions about architecture.

While the appropriation of the kind of work and methods of its realization without questioning (in other words, *architecture "upon", "outside"* and *"within"* reality) form the *universal limits of professionalism*; depending on unavoidable realities of national conditions (like poverty), approval of the pre-determined conditions of work (in other words, architecture "within" reality) form the *national limits*. Since these national limits, which cannot be translated into universal terms, form great obstacles in the way to globalization, there is a tendency to ignore them. This makes the above defined situation more complex and serious.

1. UNIVERSAL LIMITS OF PROFESSIONALISM: WHAT? HOW?

--- What?
--- Building design and construction control.
--- How?
--- With the help of creativity, professional discourse and information from other disciplines.

Universal and unavoidable limits of professionalism are determined by the requirement of mobilizing the objective, especially the mathematically standard knowledge aiming at *"production for the sake of production."* By the division of labor into *mental* and *manual*, professional activity (design, analysis and control) becomes a mental process. By the fragmentation of any "work" about designing objects into objective (rational) and subjective (irrational) parts

and by the approval of the unavoidable relationships in-between as a given; *a general order of professional services* has been formed and it has been strictly separated from *the order within the profession* consisting of professional discourse and knowledge. The order within the profession can be a medium that can be transformed, as long as the mathematical order and the general order of professional services are considered as unchangeable givens. The irrational side of the "work" of producing buildings corresponds to the artistic side of architecture that is preferred to be "outside" reality while the rational side corresponds to the sides of architecture considered "upon" and "within" reality. However, there is an important distinction between the two sides of rational architecture: The order within the profession consists of architecture "upon" reality together with architecture "outside" reality, while architecture "within" reality is an unseparable part of the general order of professional services to draw the borderlines of professionalism.

Applicability of universal mathematical knowledge to design realized by articulated professional groups brings freedom of giving form. As an example, all the buildings that have skeletal structural systems can be analyzed by the same methods, but they can be formed in diverse ways. While all kinds of universal mathematical knowledge tend to break off the body of architecture, production of discourse about diversity tends to be included in the order within the profession permanently. Consequently, it can be stated that the irrational diversity is a requirement of the professional production as well as the rational side of architecture. In Adorno's (1975) terms, the irrationality is required by culture industry. Production of diversity not only enables putting new products (such as construction materials and systems) on sale in the market, but also forms the opposite pole of the objective-rational as the condition of its existence. The order within architecture as a profession, including all of its features reflecting the will to be "upon" and "outside" reality, is a field of pseudo-freedom determined by the general order of professional services. This is the place where it is assured that the game is played according to the pre-determined rules. The architect performing his profession within its own order resembles fish floating in the warm water of an aquarium; his/her creativity is restricted. However, seas of the reality are wide and the water is cold.

Beyond perceiving production of formal diversity as creativity, existence of three arguments can be stated. The understanding that causes history to become a repertoire of forms by rejecting the rejection of history and the understanding that causes the building become a metaphor by trying to express social problems depending on mode of production through the form of the product, not only are indicators of desperation, but also form illusory fields of freedom dependent on no material basis. While the living traditions together with their carriers are left to death, traditional motives can be seen everywhere, sometimes in very inconvenient places. Spatial segregation increases at all scales; the world, nations, regions, cities, districts, buildings. The stratified order is expressed by buildings. Through the third approach, so that a "minority" art not serving the dominant ideology is possible, it is aimed that invariables forming the material foundations of the order dependent on variation are in a continuous variation without being economically useful. This resembles black Americans' use of English in such a way to cause the constants of the language to vary by speaking in an unplanned way (Deleuze, Guattari, 1990). This is a highly destructive and contagious action. As long as architects tend to consider themselves as members of "the class of professional managers" (Ehrenreich, 1996) -indeed "the class of professional creators"-, they are obliged to produce a minority art and become elite.

Although the modern understanding of production can be considered as a new tradition, it is completely different from tradition depending on repetition and production aiming at repetition. Production of knowledge becoming not only independent from design but also illegible through the product results in freedom in design. Some other type of scientific knowledge produced by other disciplines can only be articulated to the body of architecture in the form of different kinds of information.

The knowledge of systems (structural, mechanical, constructional, electrical) that enables applicability of universal mathematical knowledge to professional architectural design, is considered as an unquestionable given. These systems corresponding to certain disciplines and mathematical methods used by them, lose their quality of being universal knowledge within the body of architecture and transform into given data that can be issued in few sheets, such as the name of the structural material, the optimum span, the ratio of the span to the depth of the structural member. The existence of such a matrix-like (Peters, 1997) kind of information as the essential feature of the freedom of forming, shows that architectural design has been determined by some mathematical knowledge - mathematical order- that is hidden and unquestionable. The common property of these data is that they guarantee repetition in spite of variation and permanence of invariables. Any kind of sector or market that will survive forever can be constructed on such a foundation formed by this repetition (order). Architecture that is expected to be "upon" and "outside" reality is pulled "into" reality with the help of such unwanted inputs.

First schools of civil engineering that come into being with the use of new materials during late 1700s

and early 1800s, prove this. These are *French school* that rejects mathematical analysis, *Swiss school* that defends approximate methods of analysis and *German school* that is the founder of advanced methods of universal mathematical analysis. Common properties of buildings by French and Swiss schools are not-yet-disintegration of structural and constructional systems although new materials are used and the potentiality that design continues during and after construction. According to Billington (1983), the collapse of a bridge by Hennebique of the French school during construction and the death of Ritter of the Swiss school, resulted in the victory of German school having the motto *"form follows formula."* However, even collapse of many structures designed by using methods of detailed mathematical analysis did not remind anybody to leave that order. Although the motto "form follows formula" is still valid; any form is realizable with the help of various systems having infinite distances in-between (4). What must be questioned is that it is nowadays impossible to make a choice except within products designed for profit. That forms an obstacle in front of not only traditional but also new technologies. In this case, just as in the traditional way of production, what is considered is design of the product, not the process of production (5).

Production (of buildings, building materials and systems) for profit corresponds to the *design of spatial exclusions*, in other words, *production of symbolic capital* (D. Harvey, 1990, 1993) or *culture industry* (Adorno, 1975). Being an integrated part of culture industry by the production of symbolic capital is the hidden side of architecture, which is desired to seem like "upon" and "outside" reality. In such a process neither the producer nor the user nor the designer are innocent. Consequently, architects deal with the approximate cost of building production, but reject to be interested in the exchange value of it because of the high ethics of their profession. Because it is inevitable that the contradiction between quality and quantity reveals itself in the form of calculation of the value of architectural labor, production of architectural quality has to become a subjective problem of creativity forming the *professional ideology of architects*. Architecture "within" reality cannot produce quality without creating an illusion of being "upon" and "outside" reality. This is such a creativity that its criticality is towards the form of the object instead of the act of production, because it continuously reproduces and legitimates the existing order within the profession. The main reason of the "myth of creative genius" becoming that much widespread just like a religion is that it leads one to a "safe and charming" exit out of humanitarian problems (Felkins, 1995). Approval of the general order of professional services depends on this. The only thing that can be dreamed of is a form of action legible through the metaphoric form of the product (6).

E. Balibar (1991) defines this as *a problem of reresentative democracy* dependent on approving of and choosing among the given without questioning. According to him, the position of the contemporary subject must be investigated as one who not only objectifies and reduces to analyze, but also is *subjected to*. This is valid for not only architects but also all other professionals floating in cold flows of the general order of professional services "in" reality. The contemporary subject does not have to ask oneself any questions because all the questions have already been answered by the existing order. If it is *work* that is considered, according to G. Deleuze and F. Guattari's definition, one is a *professional*. An active and real participation can only be possible by going beyond this subject who continuously represents something other than itself (E. Balibar, 1991) with the approval that everybody is just "within" reality. According to L. Althusser's (1990) definition of the spontaneous ideology of scientists, this situation corresponds to professional ideology that is appropriated unconsciously and without questioning (Nalbantoğlu, 1996).

Consideration of the general order of professional services as an unquestionable given affects the architectural form and the graphical language that constructs it. Although architectural form can still tend to a hierarchical order or natural rhythm, it is responsible of realizing *an order of stratified systems*. The standards of the graphical language are pre-determined so that the infilled spaces within the basic modular grid constructed by the structural system will be filled in with other systems (of division walls, curtain walls, etc.), as if they are the variables of a formula. No genius creativity can stand beyond these rules. That graphical language aiming at more productivity does not correspond to the dreams of students of architecture about drawing slowly while thinking. Cartoonist Ak (1997) states that the more lines he drew during his education of architecture, the more his thoughts were obstructed. While drawing, the architect puts himself in the place of the construction worker who is always considered as unqualified, in order not to leave him anything to think on. Both the grammar of graphical language of architecture and the strata of architectural form carry architecture "into" reality, although it is preferred to be "upon" or "outside".

According to G. Deleuze and F. Guattari (1990) who defend that *"machine* (7) *determines the tool"* in opposition to technological determinism (8), there are some short periods in history during which designers (instead of markets) have been dominant on matter. These are periods where there are problems of production parallel to changes in political power and order, as in the case of Gothic cathedrals (9) and bridges

built after the industrial revolution (10). In both cases, a general order of professional services (or another general order) to separate the "inside" of reality from the aquariums in it has not been constructed yet.

The common property of the examples of dominance of the designer on matter is that an experiential mathematics (like mathematics of Archimedes who felt the limits of mathematics beyond senses, but rejected it) is applied to singular cases by enabling the design of production without representing anything. Such a trust in "the abstract" originates from the fact that the invariables (techniques, systems) of architecture led to a continuous non-profit motion require a "minority science" (Deleuze, Guattari, 1990).

Being "within" reality that forms the universal limits of professionalism does not obstruct globalism; instead globalism can only be realized in this way. Being "within" reality aims at a general order of professional services besides mobilization of capital. In the nations where westernization is appropriated; professional distinctions are determined, professional procedures are defined, education is accredited, national regulations are translated into each other. In this way all bureaucratic obstacles and ambiguities that may cause problems with the capital were gotten rid of. These are all valid for architecture.

2. NATIONAL LIMITS OF PROFESSIONALISM: IN WHICH CONDITIONS?

--- In which conditions?

--- Property ownership, capital, legality.

Pre-determination of *how* to realize *which* work always obstructs active participation. However, pre-determination of the conditions for the work to be done forms the second group of unavoidable limits of professionalism depending on national conditions. These conditions usually occur as a result of the over-precision in determining the borders of the aquariums "in" reality. These limits that depend on national economy-politics, sharpen and become more strict with the rising globalization. They form the dark side of the shiny picture of globalization, which reflects forced movements of masses (resettlement of nomads, compulsory migration, immigration to escape from ethnic wars, refugee camps), poverty and technological disasters.

In nations where there is a widespread mass movement from rural to urban areas due to poverty; the masses cannot be property owners, they even cannot afford the rent of a flat, so they live in illegal shelters and work in illegal jobs. In this way, besides the poor's natural right of dwelling on earth, all kinds of illegal building production (by mafia, etc.) gain legitimacy. These are cold flows of water oriented "into" reality. That forms considerable voids in the general order of professional services. This problem cannot be solved by playing the game in the previous manner (realizing a certain type of professional control) (11); it gets deeper. With the approval of the mathematical order, the general order of professional services and the order within the profession, the traditional way of building production defined as *"the other"* transforms, loses its security and hygiene. Just here, architecture really stands "upon" the reality of the poor's natural right of dwelling. Architecture condemns and excludes the poor. While people and their living traditions are left to death, historical buildings are preserved.

As illegality becomes ordinary, gains legitimacy and spreads over to mafia-type processes; professional service becomes a formality and projects cannot be realized completely any more. Architecture desired to be "upon" and "outside" reality may completely be destroyed because of such flows oriented "into" reality. While architectural security precautions (balustrades, high garden walls, exterior walls without windows, police control boxes, graffiti-proof finishings) become widespread (Davis, 1990, 1993a, 1993b; Parson, 1993), the main architectural safety and security precautions start to be neglected. Frequent floods destroy city districts, many people die during earthquakes, buildings collapse without any exterior effect, weapon factories explode, window frames of ten-storey high legal buildings fell down, people are squeezed in the elevator shafts of high-rise buildings, water penetrates to underground canals of pipes and cables, a man falls down to the lower storey together with his bath-tube, etc... These are specific cases from Turkey. Rationality is completely lost on the basis of such a lack of order.

That is not all. Armed conflict between terror organizations and the "army-police-special troops" trio may result in compulsory migration of millions of people. In these conditions, the main reasons of poverty are economically based compulsory migration and international immigration. Technological disaster occurs parallel to "national" economical development by unsafe, unhealthy, functionless and meaningless shelters. For those people, violence is experienced at not only weapons, but also unemployment and danger created by their shelters. Since there is no place for them on the plots of the urban land, they build their shelters at riversides or other prohibited places although they know about the unsafety that expects them. Technological disasters occur parallel to national -or international- development. Beyond everything, such technological disasters form a fictive border between *the order within the profession* and *the general orderlessness*. Professionalism should keep cool and silent about such problems, because *the high ethics of professionalism* depends on objectivity and reproduction of the given without questioning.

Corporatization and quality control encouraged by globalization not only increase the abyss between legal and illegal processes but also harm the dwelling right of the poor by trying to abolish illegal processes. Squatter houses that are on valuable or promising pieces of land are destroyed at first.

Such and similar conditions form the national limits of professionalism in countries like Turkey. They are based on *not to see, not to hear, not to talk about* and even *"acting as if..."* Spatial exclusion of the poor is ignored. These are areas of impossibilities for professionals. Furthermore, those people who are the victims of the technological disaster can be accused of being the causes of it by affluent groups. The ethics of trade of services becomes reasonable. However, if liberty of thought is present, the lack of professional dominance and the professional knowledge monopoly of the market together form the main reason of active participation of the professional to politics. Indeed, the national limits of professionalism are becoming universal with globalization (12). This is being realized in such a way that the general order of professional services is directed towards national and international groups of capital as long as the mobilization of capital increases. However it is nothing more than adding a new unsafe form of production to the previous ones because markets are integrated, mobility between the strata is high, each layer tries to spread out.

Western professionals are not innocent about the suppression of the poor in different national borders. In M. Heidegger's terms, being together with and among *"them"*, producing together, *"care"*, feeling *uncanny* due to one's own acts, *"Angst"* due to impossibility of one's existence in such conditions and one's *ontical and ontological existence* (Çüçen, 1997) cannot reveal itself if it is limited within national-like spatial borders.

PROPOSITIONS

There are two basic approaches about going beyond the dangers created by the national borderlines of professionalism that are drawn by the poor's right to dwell.

1.Various precautions of control and insurance, like evaluation and accreditation widely appropriated in processes of globalization, should be taken. Individual investors should realize mass housing projects with the financial support of micro-finance organizations that help the poor living in disastrous shelters to contribute "to preserve living cultures" (Serageldin, 1997).

2.On the basis of "the right of the poor to dwell safely in healthy conditions", with the cooperation of national professional and UNHCR like international organizations;

- the legal status of national migration as one of the most important causes of poverty must be determined internationally,

- reacting economy-politics dependent on national compulsory migration causing people leave their villages must be handled,

- required amount of financial sources should be found in order to eliminate effects of existing technological disasters,

- financial sources enough for getting rid of the effects of existing technological disasters should be obtained,

- with the help of national professional organizations, technological disasters should be read through space by methods like *"method of reading spatial indicators of technological disasters"* (13) and established carthographically,

- the required services of construction and maintenance must be carried out regularly and continuously.

The first approach would not be effective because it is mostly related to local culture and does not consist of migration that is the most important cause of poverty. Unfortunately, there are considerable obstacles on the way of the second approach. International organizations where states are represented are unwilling to determine the legal status of national migrations. Non-conventional economical-political decisions are required to save sufficient amount of financial sources, although that is much less than the saved amount for war and defense. To realize such services of construction and maintenance, it will be required to redesign the local technologies in such a way that they can be used by people living in disaster. Therefore, cooperation with local master-builders who are the designers of illegal buildings will be required and that will cause considerable problems of organization. The solution may be to refer to the Chinese experience of cultural revolution, before rejecting it totally, and redesign the project of "non-professionalization" (14).

FOOTNOTES

1. Political power by the capital and the state preserves its order depending on capture not only by including the war machine (army, police) within its body, but also by determining the order of realization of work (Deleuze, Guattari, 1990).

2. *Ergonomics* is defined as the study of the conditions in which people work most effectively with machines, in the 1978 edition of the *Longman Dictionary of Contemporary English.*

3. According to P. R. Gleichmann (1992), all designed objects including the buildings are means of domination determining human life according to the existing order.

4. The difference between the concepts of infinity in philosophy and mathematics is explained by the contradiction caused by the approval that mathematics beyond experience can be applied to reality. To go beyond the dark space formed by the numbers, which have infinite number of numbers after the point, and to reach the stars (ordinary numbers) (Boll, 1991) resemble the unexperiencable distances between

structural systems that can cover all the possibilities of architectural form (Deleuze, Guattari, 1993b).

5. *"... State does not let its intellectuals have power. On the contrary, it expects from them to be loyal to itself, to have autonomy nowhere other than their dreams, to do nothing but carry out its instructions or reproduce them. It forms an organ to take away all the power. The state continuously suppresses the nomadic and minority sciences; it opposes to ambiguous essences and the functional geometry of the line. This is because neither those sciences have perfectly real contents nor they have a total character, but they consist of a division of labor based on cooperation against the rules of the state..."* (Deleuze, Guattari, 1990).

6. The tendency towards the form of the product instead of the process of production depends on the positivistic way of thinking, which is the belief that criticality is possible within the limits of the professional order not opposing the general order of professional services. Preferring to be "upon" or "outside" reality can only be realized within the area that is permitted.

7. Here, the term "machine" corresponds to a fragmented structure -arrangement- which is not harmed when any part of it is taken away.

8. The belief that "change of an existing order can only be possible by technological change" is called *technological determinism* which may cause either love or hate of technology.

9. It was a problem how to cut stones of Gothic cathedrals necessarily small so that they can be carried easily because there were few workers and small funds to use (Cowan, 1971). Wall-master Grain from Troia reminds at first the logic of functional act that enables one to draw, then the way of cutting the intersecting moulds, and at last the line pushing the number. The unrepresentable is confirmed, so the work can be carried out. The character of this science is determined not by the absence of equations, but the different roles of unexpectedness (Deleuze, Guattari, 1990).

10. After the industrial revolution, it was required to onstruct bridges for the railways in very limited periods of time. This task was undertaken by railroad workers who knew about the new materials. This was a period full of problems of construction because traditional materials and methods are abandoned and time was always limited. During this period, designers preferred to use 1:1 models; in other words, a method that design can continue during construction and use. However after this period of unstability, when the signs of a new tradition were seen, the required profile of the designer changed immediately (Billington, 1983).

11. There are various models of production control: Building insurance, insurance of professional responsibility, mechanisms depending on auto-control, inclusion of firms of insurance within the process.

12. In world trade and service trade agreements, it has been decided that *"It is necessary to form a commission to care about ecological problems and take the required precautions to get rid of their effects. However propositions about the condition of child workers are conservative and not in our area of responsibility."* F. Jameson (1997) states that these are problems that he feels himself far away from. According to F. Jameson, *"... We live in a service economy, therefore we are so distant from the realities of production and labor that we live in a world of dreams full of artificial stimulants and televised lives... What is the meaning of the street in a super state? Does the old type of street exist in the integrated networks of automatic production, marketing and trade of the new state? These are the theoretical problems of Marxism today..."* Furthermore, the increase in immigration, migration and refugee camps, Arabs in France, the black in America (Davis, 1990, 1993a, 1993b) are disregarded. Today it is proved that some people cannot change their destinies by changing their living places.

13. As the first step to eliminate technological disasters, the places where the migrants live should be found, because people are highly mobilized. Their dwellings are unsafe and unhealthy. Depending on the assumption that the quality of the dwelling is a sufficient indicator of the condition of disaster, technological disasters can be established by using *"the method of reading spatial indicators of technological disasters."* This assumption depends on the thought that people who have been capable of building up a shelter in solidarity, can also satisfy their other needs with the help of the same mechanism.

First, unsafe spatial changes should be determined considering the comparison between the former and later living conditions.

- Places where "settlement is forbidden" must be determined. The assistance of local professionals is very important during this step.
- "The districts where children widely have health problems" must be determined with the help of "local" doctors.
- The "dominant building technologies" and "types and problems of production processes" especially at places where settlement is forbidden and there are serious health problems must be determined.
- "The criteria of being unsafe and unhealthy" related to dominant building technologies, which are usually preferred by the poor, must be determined according to building science and with the help of observations.
- Unhealthy and unsafe buildings of the urban area must be determined and the findings must be expressed in carthographical ways.

The determining judgments following these evaluations, which can be made by anybody, are the following:

- The person or the family does not have a shelter.
- In comparison with their previous form of life, the existing dwelling can cause considerably important health problems that may result with cases of death.
- The building is so unsafe that it may collapse without any exterior effect.

The local criteria of being unsafe and unhealthy can be detailed with the help of "visual analysis and evaluation techniques", which are used after earthquakes.

The information gathered according to the same method can be utilized in designing the technology to be used in building up houses for the migrants in urban areas. New technologies should be preferred to produce the required number of shelters in the required period of time; urban components of the dominant technology should be preserved and improved; traditional components should be redesigned appropriately forming examples for repetition (Hürol Al, 1998a).

14. The project of non-professionalization can be realized by cooperation with both the "pre-professions" (Haug, 1996), or in better terms "service from out of the profession" and volunteer professionals. The non-professionals should not be seen as "imperfect professionals" -accused of knowing only about the local technologies- for the reason that the required knowledge in cases of emergency should be comprehensive. The most important handicap of this application can be the exclusion of the ones who are already giving this service and the transformation of work to "a subject of confirmed license." The non-professional must be defined as the practitioner who is capable of eliminating the temporary deficiencies of the process economically and "repeating" it according to "positive examples" (Hürol Al, 1998b). The slogan is: "Participation of professionals now and here." The one who participates is the professional, not the user any more (Hürol Al, Arslan, 1998).

An example of that known as "naked-feet doctors" was realized in China. The aim was not to educate people to fulfill the service performed by doctors, but to be more effective by ensuring that those people are closer to their patients socially, psychologically, ideologically and physically. Students of medicine and their professors went to the rural areas not to gain professional dominance, money or fame, but to share the difficulties with the poor and get acquainted with the naked-feet doctors who practiced an original method and produced considerable knowledge. As an other example, in USA, assistant teachers chosen according to their social and personal -not professional- qualities have been employed in the schools of ghettos (Haug, 1996).

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