SOCIO-CULTURAL IDENTITY IN THE AGE OF GLOBALIZATION

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Abstract. Evolved identity is an emergent biological phenomenon, the result of adapting to our environment. Yet all over the world, people instinctively try to preserve the best of existing places as they build for the future. An innovative toolkit, not widely known, can significantly improve contemporary design projects. It offers clear-cut and tested criteria for establishing architectural identity adapted to place. This design method relies on discoveries by Christopher Alexander, along with scientific developments such as biophilia and neuroscience. What has worked well in the past combines novel ways of understanding with new materials and methods. The process of transforming the built environment is explained here as the architectural "form language". Today, however, the design discipline is terribly confused because it is driven by cultish and ideological considerations while neglecting human qualities.

1.   Introduction

The presence or absence of "life" in architectural and urban settings is obvious to nearly every ordinary person, but inexplicably opaque to many trained architects. The effect of connecting emotionally and physically on a visceral level with a structure or space is among the most intense of life's experiences. In the past, people created artifacts, buildings, and urban spaces in order to nourish themselves emotionally. Today we have eliminated living qualities from what we create — at least in the developed industrialized world. But then, citizens of countries that have (deliberately) lost the life from their creations pay to experience the healing properties of antique artifacts, and to visit places where such life still exists.

Adapting to human needs and using available materials generates an architectural "form language" (as detailed in a later section). Human creativity and invention develop an ornamental expression as a central part of every socio-cultural identity. Evolved identity arises out of biology. This identity changes and evolves in time, yet always remains rooted to human biology. Historical discontinuities, such as natural calamities and acts of war, can drastically change a people's identity. An invader may erase the subject population's architectural identity. In our times, the forces of globalization drove a massive replacement of evolved identity in peacetime.

This paper gives guidelines for re-introducing life into the built environment. This important body of work lies outside normal pedagogic channels and established practice. Evolved identity is created by adaptation on all scales – from the size of an artifact up to the size of a neighborhood. While the generative rules for design are different in each scale, the underlying mathematical invariants are the same. (It is

necessary to define adaptive qualities in design, because some practitioners of an anti-human, mechanical architecture misleadingly label their work "living architecture").

In his four-volume work *The Nature of Order* (Alexander, 2001-2005), Christopher Alexander explains how design can generate living structure. He combines architecture, art, and design theory with science (touching on religion) to unify many disparate topics into a new discipline. Scientists are discovering how the human body reacts to its environment, and those effects have profound consequences for what we build. Verifying the scientific approach, traditional design tools unconsciously follow the rules suggested by these latest experiments. Previous generations of designers and builders intuitively sensed what modern science was to discover centuries later.

2. Priority of human feedback

The human body has an exquisitely developed sensory system. This mechanism resulted from evolutionary adaptations to our environment. In addition, social evolution, starting several millennia ago, further developed our sensibilities so as to bring about artistic and cultural creativity. All of this creative activity gave rise to identity as expressed in the cultural artifacts of a linguistic group, people, race, region, etc. While there are marked differences among such socio-cultural identities, their high level of individual development is strictly comparable (Al-Sabouni, 2016).

In a tragic misunderstanding, we forgot this innate human quality when we began to compare and judge different cultures exclusively by means of their technological achievements. Those are an entirely distinct matter, since technology should not be confused with the totality of human culture. We ceased to understand and value cultural production based upon direct feedback that creates a healing environment. To regain the lost art of adaptive design, we must first realize that scientific reasoning and common sense are two sides of the same coin.

Human beings — all animals, in fact — react either positively (with a healing response) or negatively (with distress and anxiety) to distinct types of environmental information. This biological effect underlies the basis for our survival. It is measured by experiments, while our body feels the interaction viscerally. Positive feedback comes from physical settings that make us feel secure from threat. Built components stimulate our brain positively by reassuring us on a subconscious level. Structural elements that elicit a positive response from our environment include the following:

1. Built elements intimately linked to pieces of nature in which we feel comfortable and reassured.

2. Structural information intrinsic to natural forms and materials.

3. Geometrically coherent structures and spaces built from artificial and natural materials.

4. "Safe" spaces, as determined by our neurophysiology.

5. "Friendly" surfaces, perceived neurologically.

6. Mathematical symmetries that cooperate on all levels of scale.

7. Different structural scales linked to each other through scaling symmetry.

8. Colors that harmonize and do not clash.

All those who care to design in synergy with human senses can erect buildings that generate positive physiological responses felt within our entire body. Someone trained in architecture will misinterpret the above guidelines as vague aesthetic qualities that are easily satisfied through familiar artistic practices — but they're not. These refer

to precise science-based design tools that the educational system so far ignores. Alexander discovered "Design Patterns", then his "Fifteen Fundamental Properties" — geometrical qualities of the environment that generate a positive visceral experience — and the precise mechanisms for achieving coherence (Alexander, 1982; Alexander, 2001-2005; Alexander *et al.*, 1977). Those results are complemented by findings in biophilia and neuroscience. I have contributed to this research (Salingaros, 2006; 2013; 2015; 2016; 2017a; Salingaros & Masden, 2008).
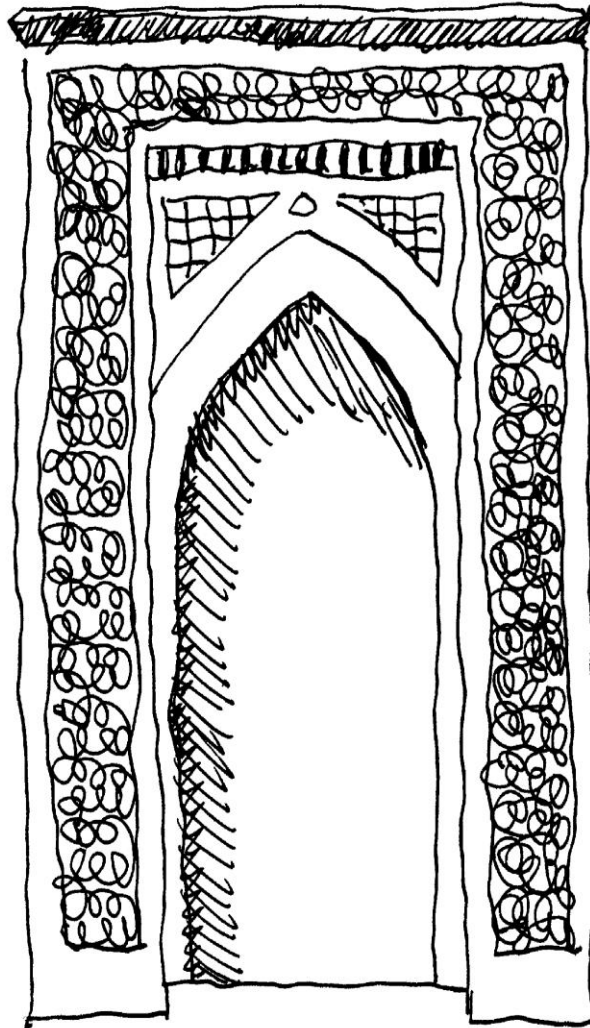
Figure 1. Thick boundaries represent one of Alexander's "Fifteen Fundamental Properties". Drawing by Nikos Salingaros

Quite separately, there exists an extensive literature on phenomenology, and some practitioners have tried to bring those insights into design. That work also puts human feeling at the center. Recent scientific research that links phenomenology to cognitive science is very promising (Sussman & Hollander, 2015; Sussman & Ward, 2017). A serious problem is that designers of anxiety-inducing, inhuman buildings claim to be applying phenomenology – a shameless self-promotion to confuse clients. In my opinion, more rigorous checks, such as discussed here, could prevent this kind of abuse.

Environmental stimuli trigger users to shape the information field itself, to increase our sense of wellbeing. We instinctively try to mold the environment because our own responses to it cannot be consciously controlled. Seeking a state of wellbeing works independently of learned aesthetic values and dominant design paradigms. We cannot change the information coming from structures and surfaces at a distance; therefore we traditionally shape and modify structures within our immediate reach (Salingaros, 2017b). People adapt the interiors of their houses using paint; they treat surfaces and introduce ornamentation, decoration, and furnishings. Driven by an innate biological need, this action generates surprising and wonderful design components.

3. Visceral forces are triggered visually

Colors exert a strong psychological effect, changing our mood and physiological state. The presence or absence of color, its hue and intensity, and the particular mixture and juxtaposition of colors in our immediate environment influence our life directly (Salingaros, 2006). The advertising and interior design industries depend vitally upon knowing those principles. Much has been written about the psychological effects of color, yet I believe the most useful treatise on how to achieve color harmony is contained in Alexander's *The Nature of Order* (Alexander, 2001-2005: Book 4, Chapter 7).

Research to determine which visual patterns and symmetries reassure us goes back centuries. While usually the topic of investigation in art and aesthetics, the emotional impact of our environment is much better understood through neuroscience (Salingaros, 2017b; 2017c; Salingaros & Masden, 2008; Sussman & Hollander, 2015; Sussman & Ward, 2017). Emotion determines how architecture affects our body. Traditional builders understood and utilized the essential characteristics of spaces and surfaces that are beneficial to humans.

There exists a parallel analysis of the same topic in the context of music, since many of us rely upon the restorative properties of our favorite type of music. What mathematical structures and melodic patterns in music are responsible for our visceral response to a piece of music? Whereas everyone feels the therapeutic effect of music on the body, theories of aesthetics have not so far revealed the mechanism.

Human beings possess a biological urge to create healing artifacts and environments. This generative instinct is responsible for the world's diverse and rich cultural identity. Years of psychological conditioning practiced in our Architecture and Art schools suppress this creative process, even though it is hard-wired into our body. Emotional, psychological, and social dimensions are left out of current image-based instruction. Rather than expanding information, schools are destroying it (Agbo, 2018; Córdova-Ramírez, 2017; Michl, 2014). Rarely are any of the documented techniques of connecting users to their environment ever taught — this voluminous body of results is ignored. The students' creative energy is channeled instead towards serving contemporary architectural culture and worshipping its cult heroes (Alexander & Eisenman, 1982). By the time they leave school, these young people have been indoctrinated to propagate the cult images of a sterile industrial world with a fanatical zeal that tolerates no other creative expressions.

4. Biophilia and geometrical invariants

Architecture and urban design when created within an evolved identity connect users intensely with the environment — through its geometry. Experiments validate the complex geometry that is responsible to a large extent for the quality of human life (Alexander, 2001-2005; Alexander *et al.*, 1977; Salingaros & Masden, 2008; Sussman & Hollander, 2015; Sussman & Ward, 2017). Fractal scaling and linked mathematical symmetries affect us viscerally, and influence our health. Sometimes, the effect is immediate; in other cases, the healing effect of specific settings is discovered only in the long term.

Recurring patterns in the environment that follow the rules for biological composition trigger curative actions on the human body (Alexander *et al.*, 1977; Ryan, 2014; Salingaros, 2015; 2016). The "biophilic effect" feeds our perceptual system in a positive way. This effect was discovered by all societies in the healing power of natural settings, and was incorporated into traditional medicine. Biophilic healing is also experienced in special artificial environments, whose geometrical characteristics we know. Design that developed bottom-up heuristically in accordance with human feelings benefits our health emotionally and physiologically. Traditional types of construction depend on results imitative of nature, which tend to create biophilic environments.
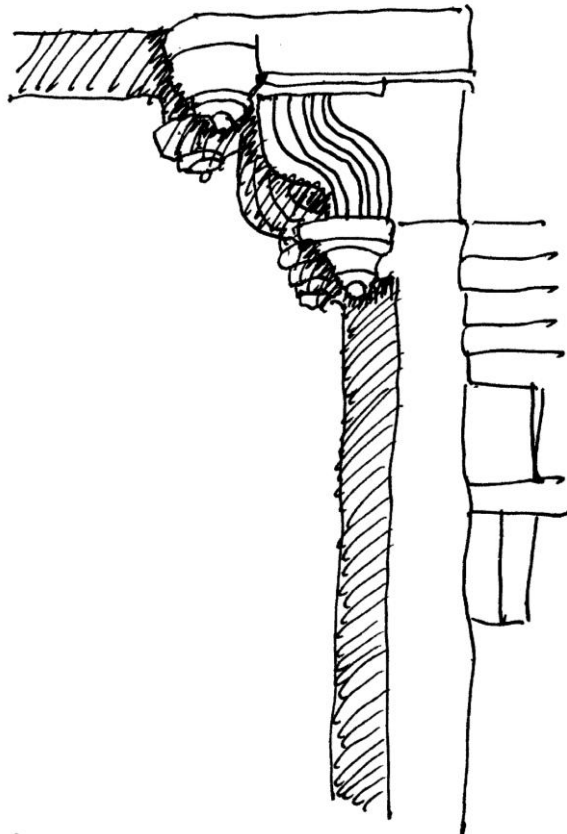
Figure 2. Biophilic design uses forms, spaces, and surfaces that have similar mathematical properties as living forms, without necessarily copying them. Drawing by Nikos Salingaros.

The evolution of socio-cultural identity begins from a biophilic foundation. This is the basic prerequisite to satisfy our need for an environment that enhances, instead of

damaging, our health. It defines us as sentient creatures. Layers of further development leading to more advanced human creations traditionally reinforced this primary biophilic basis. It is only in our times that the biophilic root of creative design has been cut — but this sets up a framework for products that are no longer capable of healing (Salingaros & Masden, 2008).

Biophilia is a necessary but not sufficient quality of a healing environment. Additional factors contribute to affect our body and mind in architectural settings. In particular, biophilia says nothing about the geometry of space — it is spatial patterns that do (Alexander, 2001-2005; Alexander *et al.*, 1977; Salingaros, 2016; 2017a). Some architects have caught onto the word "biophilia" and are sticking it superficially on top of basically inhuman structures. That does not make those buildings human-friendly in any way.

In the drive to optimize survival, traditional cultures established their identity using healing geometries. Infinite variations define our human uniqueness, yet the underlying mathematical invariants remain the same. It is for this reason that we can successfully interchange, juxtapose, and mix healing environments corresponding to distinct architectural identities (as long as those are produced by adaptive evolution). Our eye notices the differences while our body responds to their common geometrical invariants. Replacing evolved identity by an imposed, unnatural architectural style destroys healing qualities. This occurs whenever an alien-looking contemporary building is inserted among traditional buildings. The message is jarring — "hostile" from the new insertion, versus "healing" from the adaptive traditional structures.

5.   Form language as evolved identity

A form language is the set of geometrical units and typologies that systematically combine to erect a building. Those elements comprise the construction system, materials to be used, room sizes, the relationship between internal spaces, dimensions of openings, transitions and connections, types of paving, colors, ornamental textures, location and types of fixtures, decoration and cladding of façades, types of surfaces, and every other aspect of building that is characteristic of a place (Salingaros, 2006). Form languages developed in specific geographical and tectonic contexts to fit the local climate and culture.

Form languages and pattern languages are "written" into historical and vernacular buildings and urban fabric (Alexander, 1982; Alexander, 2001-2005; Alexander & Eisenman, 1982; Alexander *et al.*, 1977; Salingaros, 2017a). This rich repertory of information is the culmination of innovation within constraints — trial-and-error investigations carried out by generations of builders. Users experience these messages coming from traditional built fabric subconsciously as a sense of wellbeing. The information can be "read" by a sensitive architect, who could then apply it to build something today. The majority of this embedded, evolved architectural knowledge is not documented in books, but has to be extracted using reverse engineering from forms already built.
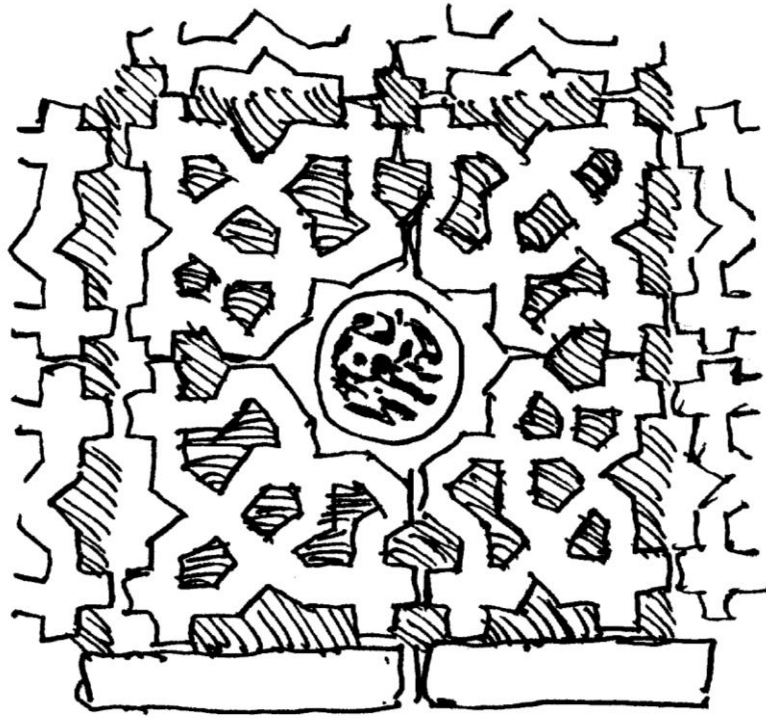
Figure 3. Fractals reveal more ordered structure at every magnification.
Drawing by Nikos Salingaros.

Traditional societies developed adaptive form languages that share a common set of invariant geometrical characteristics. One of these is approximate or statistical self-similarity across different scales — design components exist on every scale and relate coherently to others on distinct scales when magnified. Many physical scales arise naturally in architecture (Alexander, 2001-2005; Salingaros, 2006). For simplicity, I will discuss only three general groupings here (the rules for achieving geometrical coherence on the larger, urban scale are discussed elsewhere). How these are generated can be described roughly as follows:

(i) The large scales are defined by tectonics and adaptation to human movement and use.

(ii) Intermediate scales arise from materials and structural methods expressing themselves in the most natural manner as they optimize spaces to human neurological response.

(iii) The many different smaller scales arise from construction details and the biophilic need for ornamentation.

Systems theory requires the full range of structural scales, and their interlinking through a variety of complex symmetries (Salingaros, 2006). Some practitioners reject this mechanism for stylistic reasons. But the result of repudiating scaling coherence is deliberate incoherence, seen (and felt) in many contemporary "signature" buildings. Unfortunately, ideologues succeeded in persuading our society through the media to accept this anti-natural characteristic as an essential – hence sought-after – geometrical feature of cutting-edge architecture. It represents the antithesis of the healing biophilic effect.
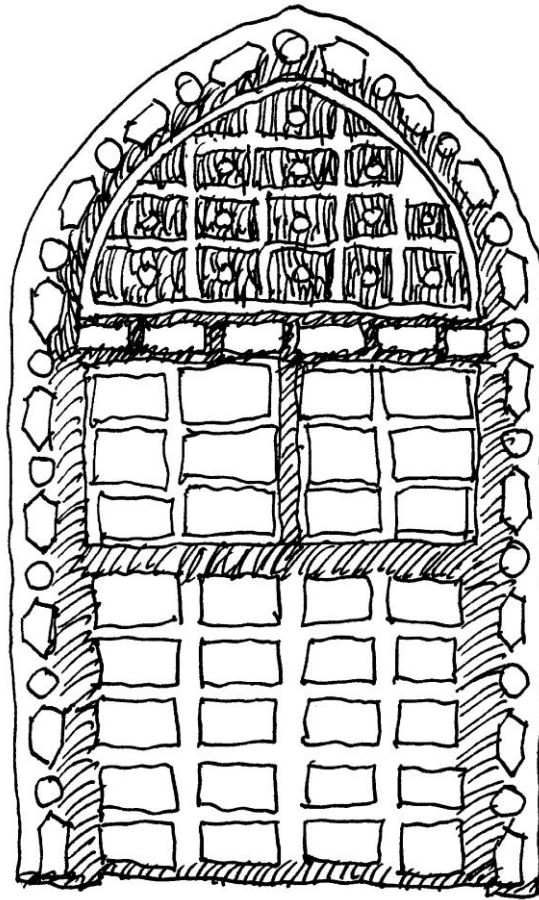
Figure 4. A healing effect is created by ornamental detail with self-similar forms down to the smallest scale. Drawing by Nikos Salingaros

Most people feel emotionally and physiologically comfortable with architectural expressions created using traditional form languages. This is a point of biological and socio-cultural significance, and cannot simply be dismissed in terms of nostalgia. It's not a design style that one may choose to like or not. An adaptive form language is neither artificial nor imposed, but expresses evolved identity that is unique to each place. As in a verbal or written language, the form language can be used either to compose a standard working solution (i.e. just something that works), or an original and poetic creation (which goes beyond mere utility).

Architects may employ a form language in its original manifestation, or adapt it intelligently. There is room for innovation while respecting the language. A form language evolves as it adapts to changing needs, drawing inspiration from practical design elements developed anytime and anywhere. The only criteria for new additions to the language are:

1. They must adapt to local conditions and context.
2. They must produce a healing response in users.

We can integrate new materials and technologies with older techniques and local materials that have proven to be sustainable and energy-efficient. A language profits from changing circumstances without neglecting its role, which is to sustain the society

and communicate a sense of wellbeing to the user. This is the mechanism through which socio-cultural identity evolves by means of its form language.

A form language can evolve rather quickly, as when people of different ethnicities come together in an informal settlement. Their main preoccupation is survival, not architectural style. They build using available materials while adapting spaces and surfaces to optimize their health. A combination of social and economic realities will produce a unique architectural identity — not linked to historical precedent, yet strictly consistent with the rules presented in this paper. That identity is usually despised by both architectural culture and government officials (Agbo, 2017; Apte, 2008).

6.   Degeneration and extinction of form languages

A form language could degenerate with time. The original reasons behind its architectonic expressions are forgotten, with only their images remembered. Subsequent applications — usually in a weak form — are no longer motivated by strong expressive forces, but merely added on superficially, as decoration. This occurs as part of socio-cultural degeneration, as people become detached from their biological and cultural roots to embrace consumerism driven by globalization. That particular form language becomes sick hence falls easy prey to the onslaught of the *International Style*.

Evolutionary regression can occur as a sequence of substitutions replaces the original evolved features of a form language. The "fascination of the new" drives people to accept standardized building materials and dimensions that reduce healing properties. Special interests take over the marketplace using public relations to sell their emotionally deficient products. Industry convinces legislators to formalize standards that favor those products, while well-meaning regulations meant to improve one narrow aspect of the built environment actually eliminate its overall potential for healing.

In addition to its "vocabulary", a form language includes combinatoric rules for expression. Those are essential for composing a design. Traditional form languages of architecture and urbanism implement methods of generative syntax for linking every perceivable scale together into a coherent whole. In the 20th Century, the catastrophic loss of traditional design vocabularies was concomitant with losing the rules for composition and hierarchical organization. Official design retrenched to re-arranging minimalist elements with no linguistic structure. The poverty of the result is evident in a dominant style where only a single scale (the largest) is privileged. It is impossible to link to context, or to achieve coherence through the cooperation of structures on many different scales.

The modernist subversion of architectural education means that form languages are neither taught, nor understood. The interdisciplinary knowledge base for design has shrunk pitifully (Agbo, 2018; Córdova-Ramírez, 2017; Michl, 2014). Consequently, architects desiring to save cultural identity from extinction simply copy older typologies having no idea of the original linguistic structure. This often results in a hodge-podge of stylistic elements that don't fit together coherently. Since students are no longer trained to "speak" a form language, all they can do is copy bits and pieces — which they then assemble according to the crude minimalist industrial style. Such buildings are lifeless and feel odd and unnatural, despite praise from the architectural media.

7.   Adaptive design generates an identity that supports health

The sum total of human creations of a particular people is wedded to their geographical location, climate, local building materials, social rituals, and religious observances. All of these factors combine in generating a distinct socio-cultural identity (Adam, 2008; Al-Sabouni, 2016; Eldemery, 2009). Of course, since the craft and practice of creating artifacts and buildings changes according to new uses and inventions, architectural identity is forever evolving. Here, the key emphasis is on the word "evolving" — in biological evolution, everything new builds upon what came before. Breaks in evolutionary continuity are disruptive events, corresponding to extinctions.

A massive extinction of cultural memory occurred in the early 20th Century, when the architectural identity of different peoples from around the world was erased. Forces contributing to this act of violence against human creativity arose from population increase, loss of traditional society, and the utilization of industrial products such as concrete, plate glass, and structural steel in a non-adaptive style. A disconnection from the human scale came with unnatural experiences. Many ordinary people found themselves unable (or unwilling) to interact with the world in a balanced manner. Architects and urbanists participating in this earth-changing event replaced local building and ornamental traditions with a rootless *International Style*.

Governments and power brokers bought into this massive program of re-structuring because there was an enormous profit to be made through its implementation on an industrial scale. Today, globalization is driven in large part by an identity-erasing building industry and top-down master planning (Adam, 2008; Al-Sabouni, 2016; Eldemery, 2009). The current narrative suppresses emergent identities. It's not only the vast scale of construction ventures, or the gigantism of individual buildings that poses a threat: it is also an ideology that desires to wipe out any existing evolved identity (Alexander, 2005; Alexander & Eisenman, 1982).

Adaptive, healing architecture never recovered from this shock. Design's biological roots cannot be re-established within the official system. It is only outside architectural culture that healing architecture continues uninterrupted − but always under attack from "official" architecture. There are simply too many non-healing buildings being promoted and an equal volume of spurious justifications, to circumvent.

How can we counter the damage that globalization wreaks upon local architectural identity? Many architects reacting to sterile industrial Modernism turn to "Critical Regionalism" for contextual answers, only to be disoriented, finding that it supports an imported global aesthetic and materials (Adam, 2008; Salingaros, 2013). "Critical Regionalism" attempts to reconcile the *International Style*, which is non-adaptive by definition, with regional and vernacular architectural traditions, which adapt to locality. It still ties architects to the rootless style from which they tried to escape.

8.   When design innovation and power erase socio-cultural identity

The hegemony of industrial globalism, powered by the resources of an extractive economic system, guarantees the end of evolved identity (Alexander, 2005). This is the unhealthy result of globalization combining with ideological forces. All over the world we are witnessing the homogenization of the built environment as it is being converted into an inhuman industrial wasteland. This controversial judgment is justified by four

observations. The first loss is deliberate, since globalization is tied to increasing (not reducing!) the consumption of fossil fuels.

(i) It is now nearly impossible to navigate our surroundings without enormous energy expenditure.

(ii) Our built environment no longer provides healing feedback to its users.

(iii) Because of its non-adapted mathematical structure, we cannot belong to it.

(iv) There is no piece of our own deep identity intrinsic to our surroundings.

People are fooled because the contemporary built environment looks innovative, as well as clean, ordered, and shiny — at least when it is newly built. The message represented by surface appearance itself becomes a commercial product. Architectural photography and rendering — the global marketing of sleek images — is an indispensible part of a machine for architectural propaganda (Salingaros, 2006). It defines a highly profitable business. But pretty pictures that dazzle the eye easily alienate us from genuine human experience.
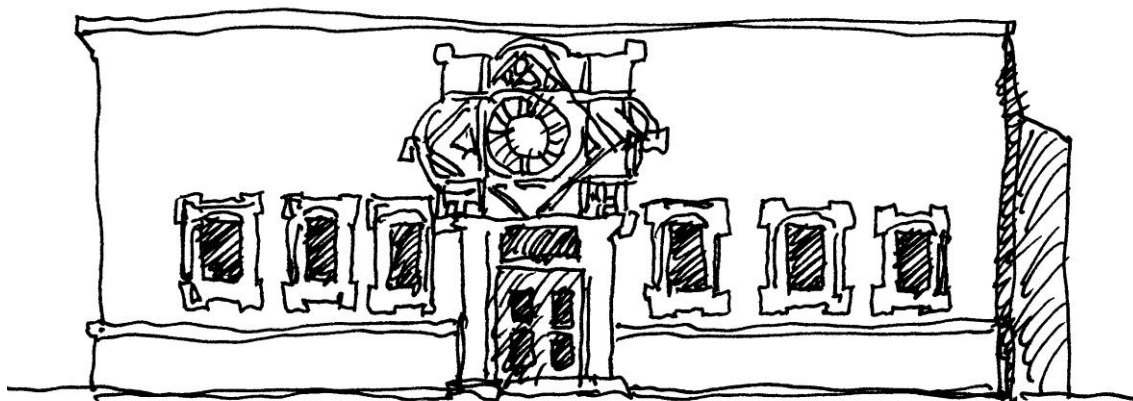
Figure 5. Traditional and vernacular architecture has no place or value within a lifeless world-view. Drawing by Nikos Salingaros

The superficial use of software to create strange forms, which has seduced both architects and their clients, is not real innovation. It only appears innovative to those without a deeper knowledge of design and form. We have applied our intelligence to mechanical design tools that ignore human beings altogether. While strongly influencing contemporary design, this technology-driven movement solves no problems for humanity. On the contrary, it creates a serious problem of implementation because nobody really understands it — it only produces meaningless images.

Governments and institutions are tricked into believing that the only means to achieve an "identity" is by hiring a famous architect (hand-picked by the global power system) to erect a monstrous, inhuman building (Adam, 2008; Al-Sabouni, 2016; Eldemery, 2009). Those clients fall victim to a fashionable craze and to their own megalomania. This type of rootless identity as commercial branding does not grow out of humanity's needs or biological roots. At the same time, rootless identity based on industrial production stifles the creativity of small-scale local architects and builders that would otherwise carry that society forward.

Globalized rootless identity is arguably the most potent social force of our times. Ironically, it supersedes traditional religion in much of the world. Once they adopt alien images as an essential part of a falsely progressive worldview, people will cling to them desperately, as if their lives depend upon them. Selling a building purely as alien image

perverts social conscience, yet the population is manipulated to enthusiastically support this practice. The majority wants these alien images, and is ashamed of its own evolved identity. Nevertheless, the price paid for adopting a new, rootless identity is that people lose their humanity. Enticed by the immense power of globalization, they sever their biological and socio-cultural roots — they don't know who they are, or even if they are part of nature.

Clients for high-profile architecture belong to (or desperately wish to join) this rootless global society. Intellectuals support this shift, because they continue to follow the discredited dogmas of outdated revolutionary movements, which swore to extinguish traditional cultures. The media praise instead of condemning a radical transformation of evolved architectural identity into contextless image linked to power. Journalists and critics ignorant of living qualities in architecture speak with misleading authority and certainty. The touted "economic development" is unfortunately limited to the financial gains of a global élite and its local collaborators.

In architecture schools, the overwhelming concern is to produce novelty linked to Contemporary Art (which is incompatible with Traditional Art as humanity's evolved creative achievement). This is either mixed up with dogmatic obedience to minimalism, or it is driven by the desire to inject complexity into design — without, however, understanding the mathematics of complexity. Such innovation is strictly image-based. Our educational system worldwide surrendered itself to cult ideologues who teach our children that modernity requires the extinguishing of socio-cultural identity (Agbo, 2018; Córdova-Ramírez, 2017; Michl, 2014). That what we inherited from the past is not only worthless — but it is an impediment to progress.

9.   Efforts to re-establish evolved architectural identity

While global industry is ruthless in pursuing profits, it has no clear ideological agenda. A separate segment within our society is driven to erase cultural identity, as it convinces real-estate speculators to make money through implementing this nihilistic ideal. There is no reason for such a coupling between economics and ideology, however, since profits can be made building in any variety of styles. And yet, we see architectural nihilism as the preferred tool of globalization. One senses an intolerant religious zeal behind the desire to destroy the identity contained in our past — cultural genocide practiced against the life embedded in architectural and urban forms.

A number of distinguished architects and authors have urged the world to respect its cultural traditions. They said many eloquent things that I repeat here. They appealed to dignity, ethics, humanity, and religion. I wholeheartedly agree with those arguments, which are very different from the scientific ones presented in this paper. Many practitioners fought an uphill battle to build traditional structures today, and have been chastised and rejected by mainstream architectural culture for doing this. Students are kept in the dark about arguments that validate traditional architecture for contemporary practice.

Perhaps developers and their clients will finally realize that healthier architecture is more profitable for everyone in the long term. This attractive idea, if disseminated correctly, could result in cultural rehabilitation. Everything else seems to have failed to counter the power of cultish indoctrination combined with trillion-dollar profits made from inhuman structures. Champions of the *International Style* claim that cultural identity always was a meaningless concept. But this statement is false and self-serving.

We welcome the question: "Has national identity been sacrificed to modernity?" only to realize that it is posed by one of the worst offenders against evolved architectural identity.

Sociologists of architecture make an effort to understand how a handful of architects linked to globalized power shape today's identity (Jones, 2011; Stevens, 1998). Nevertheless, my key concern — the relatively recent embrace of inhuman geometries, after the Pyramids — is not part of that discussion. The same driving forces were always present in history: legitimation of power structures, greed, an élite choosing a socio-cultural identity for everyone else, the interplay between money and politics, corrupt real-estate speculation, using spectacular architecture to attract external investors and tourists, etc. But there is something new: why do decision-makers of our times commission pharaonic buildings that disdain to connect to people through biophilic and mathematical structure?

10.   Conclusion: evolved identity as a new paradigm

Identity is an essential human expression linked to a coherent understanding of life. Just talking about the technical tools of design does not lead to a new paradigm. Digital tools are just tools. Identity as part of a practical design methodology is capable of creating a newly adaptive architecture. Understanding comes from interdisciplinarity, linking design to the science of human responses. We are ready to program this information into software. Only direct physical experience of place will reveal our own identity. But the design method has to match human intuition; otherwise it becomes a tool for generating monsters. Nothing should be built unless its effects on our mental health are understood and the users' reactions are anticipated.

Architects erroneously believe that something that looks good on the screen will work well in a complex urban environment. Entire cities have been designed and built using this detached approach to design, and they fail entirely as human environments. Our modern age desperately requires new patterns that enhance human life for everyone. One does not discover those by erasing evolved identity; quite the contrary, we have to re-build architectural identity by adapting structures to our senses. We will apply the extraordinary innovations that enable data-driven adaptations. Sophisticated methods based on physiological-psychological measurements can implement site-specific design. This body of practical knowledge — described here only in its barest outline – forms the corpus of a new design paradigm.

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