Cognitive Dissonance and Non-adaptive Architecture: Seven Tactics for Denying the Truth

Introduction

Is today’s consumerist society headed for collapse because of its exponentially growing, hence unsustainable needs? For some years now we have been aware of the damaging effect that the material pursuits of both industrial and developing countries have on the earth and its biosphere. Yet, despite numerous well-made rational arguments that urge us to change, industrial and developing countries have on the earth and its biosphere. Yet, despite numerous well-made rational arguments that urge us to change, amount to nothing. One could apply, for example, the same explanation to the present-day embrace of non-adaptive architectural and urban typologies. This occurs from simply repeating something out of inertia without ever questioning it. Another aspect is to follow fashion, as exemplified in the promotion of a small group of famous architects who build more or less the same thing. It is frustrating to find that human inertia overrides sound logic and reason. Nonetheless, there is some comfort in knowing that the way we design and construct our cities violates the element of contemporary design thinking that has effectively entrenched misinformation in the practice of architectural design, to the detriment of people and the built environment.

This paper is less about architecture and more about general human nature. Summarizing some results from political science and psychology suggests that groupthink and resistance to rationality are part of an evolutionary adaptation. And yet, what made for an advantage in a tribal early human society is now likely leading us towards extinction. There exist mental mechanisms whereby people get induced into groupthink and adopt irrational and false ideas. Instinctive responses become techniques human beings use in the condition of groupthink to fight against education and rational arguments: the tools intelligent people employ to avoid revising their demonstrably false beliefs. Anyone who wishes to implement social change in society for the better must understand these mechanisms.

“Cognitive dissonance” occurs when a person is faced with two contradictory and incomparable thoughts (Tavris & Aronson, 2007). This state generates emotional tension and anxiety, and can lead to paralysis and inaction because the decision mechanism cannot resolve the conflict and decide upon any proper course to take. Clearly, this is a dangerous state to be in, and human beings must avoid getting locked into a state of indecision (analogous to a computer program freezing up). Situations where this conflict arises are usually social ones, when others hold a contrary opinion. If one has to decide alone, there is usually less conflict and more rational behavior. Conformity to group belief is stronger than one’s own direct perception and to instead adopt a (deliberately false) groupthink opinion. In a related experiment, normal students were turned into sadistic prison guards (the Stanford Prison experiment). This idea is extended in conclusion with Thomas Kuhn’s review of paradigm shifts in science, which can now be interpreted as just another sudden change of group opinion. Thus, even in science, where one expects rational and intelligent behavior, the acceptance of new theories is just as problematic and is delayed by group conformity, exactly like the same phenomenon occurring in ordinary society.

Surprisingly, this is not a new phenomenon; it is a part of human nature. Summarizing some results from political science and psychology, people are genotypically predisposed to conform to group opinion, even if that opinion overrides verifiable truth. The added surprise is that human beings are genetically predisposed to conform to group opinion, even if that opinion is based upon misinformation. Implementing change through education is therefore unlikely to occur within a majority system, because the social setting guarantees conformity of thought.

Conforming to group belief

Solomon Asch (Asch, 2003; 2004) showed in a classic series of experiments that a person is ready to mistrust his or her own perceptual apparatus and instead adopt a false belief because of peer pressure. In one experiment, subjects were consistently misled by biased group opinion and reported the wrong relative length of a line. People thus accept the majority opinion regardless. Conformity to group belief is stronger than one’s own sensory apparatus. Granted, in these experiments, the rest of the “group” was selected and instructed to deliberately mislead the subject, but the
relative length of the lines the subjects were asked to measure was obvious to the "group" by not sharing its common knowledge. In another study, adults were asked to remember details about a medical skill test performed while at school (Mazur & Menon, 2005). Even though there was never such a test, the subjects invented a detailed, convincing recollection of the fictitious event.

As an example of conforming behavior, though not belief, recall how susceptible everyone is to canned laughter in television shows. This particular social trigger of conformity to group action is universally extended to the "group" by not sharing its common knowledge. In another study, adults were asked to remember details about a medical skill test performed while at school (Mazur & Menon, 2005). Even though there was never such a test, the subjects invented a detailed, convincing recollection of the fictitious event.

Boyd and Richerson (Richerson & Boyd, 2005) argue that forms of groupthink and "ideological conformity" were very useful in forming early human societies. Conformist transmission in social learning is strongly favored in natural selection. Even if an actual belief is wrong, it matters more for the survival of the group if it holds itself together during the time required to reach a collective decision, thus conformity is one very powerful factor in survival. By contrast, internal dissent within a group over conflicting ideas weakens the group's solidarity and purpose. An insidious problem is that the worse (i.e. flat and unintelligent) the joke is, the more laughter is both obvious and silly. In terms of audience manipulation, it promotes groupthink, which forces people to accept misinformation as truth: passive conformity to majority beliefs; and deliberate falsehoods promoted by a system of authority in order to further its ends. Two related mechanisms influence people to accept misinformation as truth: passive conformity to majority beliefs; and deliberate falsehoods promoted by a system of authority in order to further its ends. The instinctive mechanism of conformity is seemingly innocuous and is not amenable to human control. Passive conformity simply occurs because of human nature. Investigating the propaganda and conditioning apparatus employed by systems of authority to deliberately spread misinformation requires a separate study (Hoffer, 1951; Salingaros, 2008). Individuals promote irrational beliefs such as to gain control over a group of people. We have numerous examples in cults, dangerous sects, extremist political movements, etc. However innocuous the advertising industry may appear to be compared to a totalitarian regime coming to and holding power, the same techniques of persuasion are used to sell tobacco and soft drinks laden with synthetic substances.

Setting the stage for atrocities

The experiments of Stanley Milgram following World War II tried to discover a psychological basis for the atrocities committed during the war. Researchers put ordinary, intelligent people in compromising situations to see if they would do terrible things when ordered to do so. The results are frightening: yes, perfectly normal people can be turned into monsters. It is not very difficult. All you require is a pretend power system that grants authority, and the subject will follow orders to perform terrible tasks.

In Milgram's experiments, individuals were ordered to deliver lethal electric shocks to subjects, and they obeyed (Milgram, 2004). Those administering the shocks did not know that the current was turned off, and that the subject was an actor screaming from the supposed shock. Actually, the consequences are even more frightening than seen on the surface. The subjects knew these were laboratory experiments carried out in a university environment, and yet they followed orders against fundamental human morality. In real-life situations, the power system giving orders often

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has the right of life-and-death over the subject, which makes any objection to following orders even less likely. Milgram's classic experiments were repeated decades later, with distressingly similar results (Burger, 2009).

The mechanism of conformity drives human beings to accept misinformation and irrational beliefs, and the same mechanism makes a normal human being do terrible things to other human beings because of peer pressure or direct orders from some presumed authority. In all of these related but distinct acts, our hope-for internal checks seem to dissolve. People do not reflect before adopting a group belief; they do not weigh the negative longer-term consequences. The dominance of a particular architectural aesthetic in today's society means that, inevitably, an expert consultant upon whom a politician relies for advice on architectural and urban interventions. Explanations are needed for the behavior of the two principal actors in these actions: first, the politicians who willingly commission a project that degrades working public space and erodes their constituency; second, the architect who conceives and implements the instrument of destruction. Politicians' actions are driven by the desire to oblige powerful groups that can help finance their re-election, and this agenda includes following current fashions without reflecting on negative longer-term consequences. The dominance of a particular architectural aesthetic in today's society means that, inevitably, an expert consultant upon whom a politician relies for advice on architectural and urban projects will propose a non-adaptive intervention.

The second actor — the architect who ignores what is best for the public space and he or she is designing it deliberately, not obediently, an expert consultant upon whom a politician relies for advice on architectural and urban projects will propose a non-adaptive intervention.

Cognitive dissonance and the utopian fallacy

The human mind creates solutions but is challenged intellectually by complexity, and thus it would rather accept a simplistic cognitive schema that is a non-solution instead of having to tackle a complex problem directly. Clearly, something deep within the evolved human mind makes utopian proposals irresistibly attractive, possibly their promise of a clean and instant solution to a host of extremely complex problems. Utopia provides the lazy mind a way out. The British philosopher Roger Scruton discusses the mindset of those who embrace utopian ideals, which henceforth determine a false but comforting view of the world. Following the Hungarian philosopher Aurel Kolnai, Scruton terms this syndrome “The Utopian Fallacy” (Scruton, 2010).

Unfortunately, those who accept a utopian worldview become blinded to reality. In keeping with what is presented in this paper, a believer refuses to abandon a set of flawed beliefs, even in the face of evidence and proof. He or she is able to ignore both logical analysts and physiological input when those contradict an accepted ideology. Quoting from Kolnai and Scruton: “The utopian mind [is] shaped by a particular moral and metaphysical need, which leads to the acceptance of absurdities not in spite of their absurdity, but because of it… and its dreams are continually recalled as ‘solutions’ to problems that they themselves create… This ‘immunity to refutation’ is what I mean by the utopian fallacy.” (Scruton, 2010: 63-64).

Accepting beliefs in terms of obedience to a group, but going in the face of rationality (instead of using proven precedent and evolved patterns as is justified, for example, in traditional religions) touches upon the workings of sects and movements compelled to violence. For in those cases, the basis for accepting a utopian fallacy is one’s willing embrace of irrationality. An intellectual submission to some abstract WILL and not to some superior order or intelligence is a prerequisite for worshipping power rather than order. A follower has to conform to an abstract ideal that he or she can never understand, and which is the opposite of reason. Knowledge is sacrificed to the deep yearning for power and control. Utopia can only be achieved by denying (or even destroying) the real world with all of its uncomfortable complexities. People who hold utopian
beliefs are constantly subject to cognitive dissonance when confronting the real world. Since utopia is unattainable, those who have accepted it as a guiding principle are continuously frustrated, and turn this frustration into hostility against non-believers. Failure to achieve utopia is blamed on those who do not share in its basis of misinformation. This drives individuals to become extremely bellicose in condemning others who do not agree with their false beliefs: the “others” are turned into the cause for the frustrated individuals’ cognitive dissonance. Belief in misinformation is reinforced by attacking anyone who does not accept the deception. Cognitive dissonance thus becomes a justification for aggression and violence.

A century of utopian architectural ideology tied to power and violence has determined the “industrial” shape of our contemporary built environment. It has been a colossal failure from the human point of view, generating vast stretches of unsustainable, inhuman, and dysfunctional urban regions structures (Alexander, 2001-2005; Salingaros, 2005; 2006; 2008). Those same utopian ideals that drove architects to build in this manner are still driving the profession, however. Architecture schools continue to hold conferences praising the worst urban failures as visionary and innovative. Clever propagandas gives the false impression that a majority of the population actually likes the inhuman structures built during the past several decades, whereas in fact only a handful of believers do. Our innate mechanism of conforming to the majority is thus manipulated by the utopian school. The organizations that usually give out these prizes all follow the utopian fallacy, so they certainly do not represent true majority opinion. Nevertheless, this strategy gives the misleading impression of universal approval and thus deceives common people into accepting menacing and outrageously expensive buildings as architectural “masterpieces”.

Its followers identify those who would disagree with the utopian fallacy as enemies of the entire society. This well-timed scare tactic was used repeatedly in history to victimize groups who refused to conform to a utopian doctrine. Identifying some victim group (totally innocent, of course) serves to build solidarity among the group that believes in utopia, and to attract others to join it (as long as they themselves do not belong to the group singled out for victimization). Scruton puts his finger on the utopian and totalitarian nature of architectural ideology: “One of the most remarkable characteristics of the modern movement in architecture has been the venom with which it cloaked a space for itself. Those opposed to it were regarded as enemies, reactionaries, nostalgists, who were impeding the necessary march of history. They were to be removed as soon as possible from positions of influence and power.” (Scruton, 2010: 149).

Scruton goes further to emphasize the essential a priori nature of modernist utopia: “The a priori is the refuge of those who fear experience and cannot learn from it. The idea that you should look at what has been done, and at what people have thought and said about it, seems to be anathema to them” (Scruton, 2011). This includes the modernist architectural and urban program as defined by its teaching and implemented by its disciples. Hence today’s contradictory situation, in which stubborn followers of a failed artistic avant-garde from the 1920s refuse to admit either recent scientific results, or proven traditional patterns (Salingaros, 2005; 2006; 2008).

Seven tactics in a strategy for denying the truth

Educating people who are stuck with irrational beliefs has been a problem since the beginning of recorded history. De-programming somehow has to overcome avoidance techniques that people utilize to block input that might challenge their ideas. Cognitive dissonance arises when external information contradicts an already held belief. The way all of us normally deal with this is NOT to rationally compare two competing theses and resolve conflicts using reason and available evidence. Rather, we react in the same way we react to a physical threat. We instinctively fight against information that threatens our beliefs, inventing any means of defense possible. This strategy has nothing to do with rationality or truth: it simply implements a toolbox of protective mechanisms. We normally accept information only if it reinforces beliefs already held, and we reject information that conflicts with something we already believe (Riekens, 1998). This behavior of maintaining a false reality has been documented in political science. Once voters adopt a political position for whatever reason, they then invent “sacred” “facts” to rationalize their existing opinion. “Voters tend to assimilate only those facts that confirm what they already believe” (Lehrer, 2009). “Inventing facts or ignoring facts so that they can rationalize decisions they’ve already made.” (Achen & Bartels, 2006).

The experimental evidence emphatically does not support the traditional picture of a healthy political process, in which issues and candidates are intelligently compared and evaluated. A recent paper on the sociology of political beliefs (Prasad et al., 2009) lists techniques that people use to prevent cognitive dissonance, extending another earlier list (Zuverink-Jacks & Cameron, 2003). The two lists are combined and expanded, and their original labels are given below in brackets. Colorful labels referring to defense techniques from the animal kingdom are introduced here, suggesting a biological analogy for these tactics. The methods of blocking rational arguments, although requiring human intelligence applied towards an illogical end, basically work on a pre-human level. Only the last one appears uniquely human. These seven techniques are used to reject a rational result whatever it contradicts misinformation already accepted by a person.

Seven tactics for denying the truth:

1. The “Ostrich” technique — (Tuning Out, Selective Exposure)
2. The “Rhino”saurus technique — (Source Derogation)
3. The “Eel” technique — (Displacement, Disputing Rationally)
4. The “Squid” technique — (Irrational Counterarguing)
5. The “Lizard” technique — (Selective Support, Attitude Bolstering)
6. The “Chameleon” technique.
7. The “Self-justifying Prosecutor” technique — (Irrational Justification).

1. The “Ostrich” technique comes into action when you — the questioner — are talking to a person — the subject — and present evidence that his or her beliefs about a topic are wrong. Cognitive dissonance creates a high state of stress, which is unpleasant, so the subject responds by blocking what is being said. In a common physiological response, the subject tunes out the message and severs the channel of communication, just staring back with a blank look. Withdrawing from reality ends further...
engagement with the questioner. [A popular myth is that the Ostrich reacts to threats by digging a hole and hiding its head in the sand; in fact, the Ostrich lies down to look like a lump.]

2. The “Rhinoceros technique” involves attacking the questioner while ignoring the question. This action can range from politely disputing the questioner’s credentials and expertise, to implying a corrupt or dishonest motive (i.e. a deliberate ploy), to outright insults and violence. The questioner can be accused of being brainwashed, even though the subject is more likely the one holding onto mistaken beliefs in this instance. Any pretext that can justify a personal attack on the questioner is useful. A real or imagined social, religious, or racial difference between the questioner and subject can be brought up in a classic prejudicial attack: for example, the questioner is accused of being fascist, totalitarian, communist, anarchist, etc. [When annoyed or threatened in any way, the Rhinoceros just puts its head down and changes the source of annoyance.]

3. The “Eel” technique is a response that engages at some minimal level, but the response is founded upon irrationality. The person holding the false belief— the subject — answers that the issue does not depend upon facts, but is instead purely a matter of opinion. Clinging to this absurdity, however, any rational discussion would be extraneous to the logic and logical argument is futile. There is some minimal engagement but no analysis. The existing false belief is maintained intact and free of any threat from revision because it has been displaced into the realm of opinion as far as the subject is concerned. [The skin of an Eel is covered by slimy mucus so that when someone tries to catch it, it slips out of grasp.]

4. The “Squid” technique invents evidence that obscures what the questioner is claiming. In protecting an irrational belief, the subject who holds such a belief is forced to introduce many irrelevant arguments. Using who holds such a belief is forced to introduce many irrelevant arguments.

5. The “Lizard” technique is a method of ignoring the evidence presented against the belief, and instead bringing in other peripheral and distracting pieces of information that might seem to support the false belief. Here the subject tries to build up a logical but tangential edifice for supporting his or her false belief, skirting around the main logical objections to the belief itself, and employing a diversionary tactics. There is no direct engagement on the fundamental issue, only clever side-stepping. [The Lizard drops its still-wiggling tail to divert attention elsewhere while it escapes.]

6. The “Chameleon” technique utilizes basic deception to agree with the questioner. The subject listens sympathetically to the arguments. Possibly, the subject may be impressed at that instant by the logic, facts, and rational arguments, but even if this is an honest conviction, it is totally superficial and fleeting. The moment the subject is back in his or her usual milieu, he or she reverts to the original basis of misinformation. [The Chameleon changes its skin color to adapt to its environment and to social situations, responding to temperature, light conditions, mood, and sexual attraction. The change is temporary, and changing color for camouflage is only one aspect of this behavior.]

7. The “Self-justifying Prosecutor” technique justifies believing misinformation because it is accepted by authority and/or by the group majority. Presumably, something that is settled should not be questioned. No rational reason is needed for the initial acceptance of the group majority. [The questioner is claiming. In protecting an irrational belief, the subject is therefore hardly able to go against his or her bodily signals confirming that something is intuitively true, even in the face of rational evidence to the contrary. Reaction to having a basic belief questioned by the group majority.]

8. The “Ostrich” technique involves attacking the questioner while ignoring the question. This action can range from politely disputing the questioner’s credentials and expertise, to implying a corrupt or dishonest motive (i.e. a deliberate ploy), to outright insults and violence. The questioner can be accused of being brainwashed, even though the subject is more likely the one holding onto mistaken beliefs in this instance. Any pretext that can justify a personal attack on the questioner is useful. A real or imagined social, religious, or racial difference between the questioner and subject can be brought up in a classic prejudicial attack: for example, the questioner is accused of being fascist, totalitarian, communist, anarchist, etc. [When annoyed or threatened in any way, the Ostrich just puts its head down and changes the source of annoyance.]

9. The “Deception” technique is a response that engages at some minimal level, but the response is founded upon irrationality. The person holding the false belief— the subject — answers that the issue does not depend upon facts, but is instead purely a matter of opinion. Clinging to this absurdity, however, any rational discussion would be extraneous to the logic and logical argument is futile. There is some minimal engagement but no analysis. The existing false belief is maintained intact and free of any threat from revision because it has been displaced into the realm of opinion as far as the subject is concerned. [The skin of an Eel is covered by slimy mucus so that when someone tries to catch it, it slips out of grasp.]

10. The “Lizard” technique is a method of ignoring the evidence presented against the belief, and instead bringing in other peripheral and distracting pieces of information that might seem to support the false belief. Here the subject tries to build up a logical but tangential edifice for supporting his or her false belief, skirting around the main logical objections to the belief itself, and employing a diversionary tactics. There is no direct engagement on the fundamental issue, only clever side-stepping. [The Lizard drops its still-wiggling tail to divert attention elsewhere while it escapes.]

Encoding misinformation into permanent memory

The physical, visceral, and emotional feeling of knowing something to be true (Lakoff & Johnson, 1999) is worth discussing. The neural path that stores a packet of knowledge in the brain (even if that knowledge is false) becomes part of someone’s physical being, and is henceforth associated with a precise emotion. After neural encoding, a piece of misinformation is registered as “true,” and any subsequent reference to that misinformation can evoke the characteristic “true” physical and emotional response. The subject is therefore hardly able to go against his or her bodily signals confirming that something is intuitively true, even in the face of rational evidence to the contrary. Reaction to having a basic belief questioned by another person can only be irrational, since it is based upon an emotional state generated by cognitive dissonance. Another point has to do with the evolution of both complex neural circuits and software. When a piece of software, or a neural net evolves to “learn” something that is set as the goal of the exercise (i.e. to solve a particular task in the case of software code), the system goes through an evolutionary process involving many steps. Each step in the evolution of a neural circuit or genetic program generates many alternative choices via some random algorithm, and a selection process chooses the result that comes closer to satisfying the desired conditions. The end result is a circuit or program that works, but without someone understanding how it does what it is supposed to do. Here the crucial feature is that evolved circuits and programs are very difficult if not impossible to understand, since they were not built according to a rational plan (Hillis, 1988). One cannot analyze the process that generated them.

Conjecturing, the same evolved neurological mechanism applied to the brain’s circuits “grows” a spurious explanation for a particular piece of misinformation. Neither the subject nor anyone else can explain or make sense of the physical neural circuit encoding misinformation, because it was never grown logically. It evolved a posteriori and no one can guess what associations in the subject’s brain were used to anchor it to the permanent memory. Nevertheless, a piece of assimilated misinformation FEELS true and is definitely associated with the visceral emotion of something that is indeed true. Misinformation stored in this manner becomes embedded in a pre-human consciousness: it becomes intuitive, one’s “gut feeling”, something that cannot possibly be argued with logically or rationally. And here lies the great obstacle to learning once false beliefs have become embedded.

Some examples from the author’s experience

The innate defensive strategy for maintaining misinformation explains the illogical and sometimes bizarre reactions my friends and I come across when presenting innovative work on architecture and urbanism. In
developing a theoretical basis for designing buildings and cities, we have had to fight against a profession that lacks a rigorous logical and rational basis, a curious anomaly indeed. Scientific results inevitably contradict accepted twentieth-century visual typologies and models of what architecture has come to mean (Alexander, 2001-2005; Salingaros, 2005; 2006; 2008). What is considered appropriate in design is now defined in a circular manner by what is currently fashionable, and this illusory model is supported by a group of architects, architecture critics, architectural magazines, architecture prize boards, etc. Arguing against the establishment involves challenging an organizational structure that has been formed by conforming to accepted images and a group belief system.

Mentioning that some architectural or urban typology is dysfunctional, and that a particular famous architect who applies it has made a serious mistake triggers cognitive dissonance. The student who has been socialized and that a particular famous architect who applies it has made a serious mistake triggers cognitive dissonance. The student who has been socialized into unquestioningly accepting everything that famous architects do as valid — moreover, as the highest possible example to aspire to — simply does not know what to do in this situation, hence tunes out. The students’ eyes show a frightened look characteristic of a fight-or-flight response: this happens because the students are desperate of losing their worldview. Their body reacts viscerally on a more primitive level than rational conversation.

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In discussing architecture with architects, nothing is ever clariﬁed simply because they are forced to present irrelevant material. Many deny the very existence of a scientiﬁc basis for architectural and urban design, dismissing diﬀuse all the published literature on the topic. This defensive strategy ignores the experimental basis for architecture, by asserting that this discovered body of knowledge is personal preference and thus not rational practices and non-adaptive built forms are all around us, but cannot be articulated. Indeed, they cause the students to tune out.

We have also experienced Tuning Out with architects, where it takes the form of rudely cutting oﬀ the dialogue. With a more senior architect or faculty member, the typical reactions are the form of rudely cutting oﬀ the dialogue. With a more senior architect or faculty member, the typical reactions are the form of rudely cutting oﬀ the dialogue. With a more senior architect or faculty member, the typical reactions are.

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Another recent and disturbing trend concerns architects who have learned the principles of adaptive design on the human scale from our publications and lectures. But instead of implementing them to create biophilic and sustainable buildings and urban fabric, they practice those techniques in a superficial manner to camouflage the old inhuman industrial paradigm! They don’t see the contradiction, or if they do, their allegiance to ideology overrides logic and rationality. Every genuine advance in understanding is applied ideologically, not towards a better built environment, but to continue the existing system. Famous architects have learned how to successfully use the media and promote a fadistic paradigm shift, supposedly from nonsensical post-modern models to a new “green” architecture.

Look-out and the wall of mistrust

A turn towards a more sustainable future for our world needs to apply technology on the small, local scale, and become very suspicious of existence of a scientific basis for architectural and urban design, dismissing diﬀuse all the published literature on the topic. This defensive strategy ignores the experimental basis for architecture, by asserting that this discovered body of knowledge is personal preference and thus not rational practices and non-adaptive built forms are all around us, but cannot be articulated. Indeed, they cause the students to tune out.

It is true that contemporary architecture willfully eschews rationality in design so as to achieve a shocking brand of visual innovation; therefore this intentionality is not the primary source for the architects’ own cognitive dissonance. What is essential but never stated is the assumption that this practice is just an innocent game without serious consequences. But this is false, because the preferred forms, spaces, and textures used by architectural cult heroes to achieve distinction have a direct psychological and physiological effect on their users. Therefore, the deceit lies not in applying irrationality to design (which is admitted) but in claiming that it is not only valid but also harmless to do so.

The disturbing reaction to questioning global consumerism tied to non-adaptive, dysfunctional, and unsustainable city form approaches religious conviction. Architects are trained to see the world diﬀerently than normal people: as a collection of detached objects instead of as contextual relations. The “Chameleon” technique is wonderfully described in a short story by Aleksandr Solzhenitsyn (Solzhenitsyn, 2006: 73-84). A high government oﬃcial goes on a boat ride along a beautiful river that is scheduled to be destroyed by some monstrous and ill-conceived industrial project. He allows himself to be convinced by sound arguments against this folly; but, as Solzhenitsyn concludes, once back in the corridors of power, the oﬃcial will go along with what was already decided. In our experience, we have talked with architects, politicians, and journalists who understood — or pretended to understand — our arguments for adaptive architecture; who then went on to promote and sponsor non-adaptive projects conﬁrming to the worst that the global consumerist system is promoting. Fashionable images and cult heroes deeply ingrained in their subconscious, as well as the overriding authority of entrenched power, undermined our efforts.

It is very easy to prejudice a person’s opinion about a subject or event by saying something positive or negative before that person comes into contact with the event. This effect is well known to political lobbyists, who will rush to be the first to talk to an incoming politician. Whoever has the first word can implant either positive or negative thoughts in the politician’s
mind, and those subconscious thoughts will influence decisions during the rest of that person’s career. Some authors refer to this negative application as “lock-out” (McFadyen, 2000), a technique used in character assassination. Say something nasty about person A to person B before A and B meet, and person B will be forever aligned negatively against A, who is the target of this “lock-out.” The same technique works to discredit an idea or person by making a derogatory comment before either comes up for evaluation. Lock-out works to insulate a group’s beliefs from outside influence. A society is defined by a set of mutually shared beliefs, whether those are factually correct or not. At the same time, this commonality actually defines a group in terms of its particular beliefs. Hence the seeming paradox of groups of people living in close physical proximity to each other, but very distant in terms of belief overlap. Generations occur in which people who have lived together for generations, but who belong to socially distant sets of beliefs, turn upon and kill each other. Or the parallel phenomenon is seen, where architects call for the destruction of all vestiges of the past because those disturb their vision of modernity.

Every social group maintains cohesion through its beliefs, and therefore wishes to protect existing beliefs from external influence. Binding together is essential in maintaining the group’s power base. If beliefs are verifiable, then education and openness are the best policy for attracting new members. If not, then a wall of mistrust is erected towards any competing beliefs. If not, then a wall of mistrust is erected towards any competing beliefs. If not, then a wall of mistrust is erected towards any competing beliefs. The reason is that absurd beliefs are “true” only within the social context of the group but dangerously false outside, which makes life outside the group problematical for persons holding such beliefs. In this polarizing scenario, true knowledge freely available in the outside world threatens the essence of a believer’s worldview and sense of self. The implications turn out to be as pessimistic as they are unexpected: people holding the most erroneous beliefs are the most difficult to approach, and certainly the most difficult to educate (Nathan & Reiffer, 2010).

Cognitive dissonance and the urge to proselytize

It would be a mistake to underestimate the disturbing effect that cognitive dissonance has on the emotional state of the human body. A person holding misinformation cannot insulate himself or herself from the contradictions arising from everyday life and encounters with the real world. Even so, the believer is not driven to reconsider erroneous beliefs, but instead employs considerable ingenuity to justify already-held beliefs. Another means of lessening doubt and reassure arising from a state of cognitive dissonance is to spread the misinformation so as to find comfort in numbers. The more persons in immediate contact with the individual holding erroneous beliefs, and who share those beliefs, the more reassuring there is that not everything is amiss.

The believer of misinformation derives a false sense of validation from the number of other similarly sympathetic believers and the social effect they provide. Expanding the wall of isolation by including others inside it manufactures the comforting illusion of an immutable reality. Security is numbers, as is the cultural surrogate for validating the false belief itself (which is impossible). The need to proselytize and convince others to adopt the same erroneous beliefs arises out of an intrinsic need to increase the emotional buffer that would counteract the unease of cognitive dissonance. This helps to support an untenable worldview.

Pseudo-religious sects expend considerable resources on proselytism, sending their acolytes out into society at large with the mission of converting everyone else to the beliefs of the sect. Initiation into the sect’s beliefs occurs hand-in-hand with the stated objective of training the convert into becoming a minister for recruiting new members. Just as much effort is spent in brainwashing the sect member to assimilate irrational beliefs and misinformation that the sect is promoting as part of its agenda, as in acquiring practical training in techniques of persuasion which can be used for converting others. Training oftentimes insculpts a culture of deceit that presents both the sect’s dogma, and the proselytizer, as being reasonable and attractive.

The classic study of people who refuse to abandon misinformation — in this case, their belief in an apocalyptic event that never occurred — was done by Festinger, Riecken, and Schachter (Festinger, Riecken & Schachter, 2008). It was discovered in this study that far from discrediting the sect’s dogma, and the proselytizer, as being reasonable and attractive.

The existence of a complex organizational structure, the hierarchy’s exclusive possession of charisma, its control of power and information within the organization, and its expansive ideological logic (internal commitment to the sect’s beliefs). The existence of a complex organizational structure, the hierarchy’s exclusive possession of charisma, its control of power and information within the organization, and its expansive ideological logic (internal commitment to the sect’s beliefs) provides the necessary support for the ideology, which might otherwise exert too weak an effect for it to sustain the failure of its predictions. These characteristics are a key attribute of architectural education and student training as practiced today.

One can identify disciplines that are founded upon misinformation rather than on a verifiable body of knowledge. Conditioning students involves imprinting dogmas, statements, images, and cult heroes without any justification, while at the same time teaching a cultural mythology of moral superiority, ethical purpose, the mission to change the world, etc. (Salimargos, 2008). The negative side of this indoctrination is also essential: to condemn using apocalyptic terms that messages that would question the misinformation. “Education” is done strictly within an ideological context, so that any threat to the misconceived ideology will always be perceived as an attack on the sect’s morally superior principles; a reactionary move to arrest progress; an attempt to set the clock back, etc. This indoctrination strategy succeeds in making an acutely imperative to future generation of the dogma he or she has acquired during their training.
The urge to proselytize characterizes architects who have accepted the abstract thinking of contemporary architecture as pseudo-religious dogma. This group is absolutely convinced it is right and that its work is what is best for society. So strong is the institution of these false beliefs that those within this paradigm simply cannot allow themselves to reconsider their thinking, despite valid research showing the innate value of biophilic structures, ornamentation, comfortable spaces, and buildings on the human scale (Alexander, 2001-2005; Salaman, 2005; 2006; 2008; 2010). Cognitive dissonance is wrested through the fiction that the rest of the population is ignorant. Hence, those architects’ repeated and insistent calls to “educate” the public so that it appreciates contemporary architecture forms because of their supposed intellectual if not moral superiority. Even after a century of failing to convince common people to love such alien forms and surfaces, the architectural movement to contemporary building in a non-adaptive style transforms a city into a tourist attraction. Reprinting the story assures that the message spreads as guides to tourism, promote ideology under the guise of innocent reporting. They propagate a discredited dogma: that a propaganda. News features entitled “Places one has to visit” inevitably include some cities solely because of a single building designed by an architectural cult hero. Such articles, written by advertising agencies to convince its followers to switch to something else, and rational arguments during the period when one fashion holds reign, it is nearly impossible to switch from one belief to another under the mechanism of groupthink. In this case, there is rarely no basis for rationality: a segment of the population may switch political alliances, or popular beliefs, or some key aspect of cultural behavior. Fashions take over the minds of a nation, run their course, and then give way to yet another fashion. The point is that during the period when one fashion holds reign, it is nearly impossible to convince its followers to switch to something else, and rational arguments have no effect. When change eventually comes, is it sudden.

Kuhn and his paradigm shifts

When Thomas Kuhn introduced his famous “paradigm shifts” (Kuhn, 1970), he described a discontinuous process whereby a scientific theory is suddenly accepted by the majority of researchers, after a long period in which it is neglected despite its correct basis of evidence. Kuhn theorized that it is necessary to build up some sort of “momentum” before one theory can replace another, even if the newer theory has a perfectly rational scientific base and inevitably explains observed phenomena better than the theory it will eventually replace. This is not the way science is supposed to work, however. Ideally, a better explanation supported by scientific data ought to easily displace an older and cruder theoretical formulation of the same observed phenomenon. But it doesn’t happen that way.

All too often in the history of science, a much superior explanation is resisted by the contemporary scientific community and is marginalized and forgotten, to be re-discovered and appreciated only much later. This phenomenon sounds very much like the behavior of non-scientists who switch from one belief to another under the mechanism of groupthink. In this latter case, there is frequently no basis for rationality: a segment of the population may switch political alliances, or popular beliefs, or some key aspect of cultural behavior. Fashions take over the minds of a nation, run their course, and then give way to yet another fashion. The point is that during the period when one fashion holds reign, it is nearly impossible to convince its followers to switch to something else, and rational arguments have no effect. When change eventually comes, is it sudden.

Kuhn was talking about scientists, who naturally represent one of the most intelligent and rational segments of any population. Yet scientists, apparently in an irrational manner when it comes to accepting beliefs about their own discipline, which itself is supposed to explain natural phenomena rationally. Science after all has an experimental basis: researchers measure phenomena in the laboratory, and then analyze observations rationally and not as mere philosophical speculations. Nevertheless, if scientists are not immune to irrationality, how then are we to expect non-scientists to be influenced by rational arguments? Kuhn introduced a term that has been talked about steadily for several decades, but unfortunately he did not indicate how the paradigm shift occurs, and, more importantly, how it could be speeded up. The pieces to answer this question lie in understanding cognitive dissonance.

Conclusion

One of the immediate dimensions of the global crisis, which is complicated by the inertia of a group mentality, is a reluctance to let go of the industrial model of consumption and its allied design ideology. The material expectations of our modern society continue; coupled with the continued desire for new, supposedly better products — aggressively waste energy and natural resources. Designing on the basis of substantive quality rather than quantitative measure could have a positive effect on our environment. Two conditions keep this process from moving forward, however: (i) the unshaken belief in the industrial model to solve the problems it has itself created; and (ii) the methods of practice, reliance upon misinformation, and controlling interest of today’s architectural community. Even if the desires of the world’s citizens were to become more realistic, there is still the effect of contemporary design thinking that would need to be overcome.

While the primary interest here lies with contemporary architecture and urbanism, the mechanisms for maintaining irrational beliefs are universally applicable. This paper reviewed the strategy — here classified as seven tactics for denying the truth — which people habitually employ to maintain their false beliefs against evidence that refutes them. Individuals holding a worldview founded upon misinformation occasionally come to an enlightening breakthrough all by themselves, and then they turn to the available sources of true information to enrich their knowledge base. The literature reveals only little direct success in converting someone who has been following groupthink, however. This pessimistic assessment is borne out by professional psychologists who deprogram members of dangerous cults, where unfortunately a very small percentage of former followers are ever successful in resuming normal life.

A little investigation reveals why the situation in architecture is so terribly polarized. Currently, architects go through an educational system that instills conformity to ideology, and which trains young architects in a way of thinking that accepts no revision of certain pre-formed beliefs about their discipline. The professional milieu is no better, as it continues to operate on the basis of never questioning a body of dogma (the “canons” of modernist architecture and urbanism, which are only a century old). Any non-architect can readily verify these conditions by attempting to debate architects about the soundness of their fundamental core beliefs. Since our built environment and the sustainability of our world depend upon constructing buildings and cities according to scientific knowledge that revises prejudices, this narrowness of thought poses a serious obstacle to progress.

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