

A COMMENT

on Angel and Salingaros's "CHRISTOPHER ALEXANDER'S ARCHITECTURAL INSIGHTS AND LIMITATIONS"*

Michael W. Mehaffy^{1†}, Shlomo Angel²

¹Structura Naturalis Inc., P.O. Box 2579, White Salmon, WA 98672, USA

²Marron Institute of Urban Management, New York University, New York, NY 10011, USA

MM: I am generally sympathetic with Solly's (Shlomo's) desire to penetrate to some of the complexities of our historic position today in design, architecture, technology, culture, etc. I think Nikos' narrative — in effect, of a set of demons that we must fight — doesn't take us far enough. I think that was a weakness in our brilliant friend Chris Alexander's view of the world: that essentially what is required is a kind of "purity of heart". Then we make good choices, and triumph over wickedness, and wicked people. These are the constructors and sustainers of "System B", the system resisting change towards good form in Alexander's own terminology.

SA: There are more than eight billion people in the world and by my estimate only a negligible minority can claim purity of heart. Unfortunately, we have to work with other people, many other people, to make anything happen. The 'purity of heart' test breeds suspicion of others and the result is an unwillingness to compromise or to listen to the great majority of people who are not staunch 'representatives' of the so-called System B. I, for one, believe that ignorance is a lot more prevalent than outright wickedness. Sure, personally we should always seek purity of heart, and that should strengthen us and make it possible for us to engage with others. I'm afraid that Christopher saw too much wickedness and evil around him. He would have gotten a lot further if he were more trusting.

MM: I think the problem is that history doesn't really work that way — that is, following a simple model of good or bad intentions. Often there is not one causative force, but several, or a web-network of interactions. And I suggest that perhaps both of you miss some of the forces that have been acting historically, in the account you each give. Yes, there are market dynamics, for example, as Solly notes; but these occur within the context of a "choice architecture" that others have already created. The suburban family seeking a better way of life doesn't do this in a vacuum, but in the context of Federal Highway funding, GI Bill financing [government assistance for US veterans], functionally segregated zoning, etc. In fact, free marketeers might consider that the suburbs were the result of a kind of a government plot! And there were other

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† Michael W. Mehaffy, *Structura Naturalis Inc.*, P.O. Box 2579, White Salmon, WA 98672, USA,
e-mail: michael.mehaffy@gmail.com

influences besides: e.g. copying a 19th Century English model of idealized estate ownership, etc.

SA: The suburbs predate the car, the freeway, and the GI Bill. Segregation predates the suburbs, of course. But there were streetcar suburbs before the car. Friedrich Engels writes about the bourgeoisie in Manchester leaving for the outskirts of Manchester in the middle of the 19th century, commuting to work by omnibus. Yes, of course, markets operate within a set of regulations, property rights, and technologies, not to mention cultural norms. The point is that the built environment is the outcome of all these forces, as you say, going well beyond simple 'market forces' and definitely beyond architectural prescriptions, norms and styles.

MM: Yes, I was referring to the particular form of a "modern" suburb, which is auto-dependent, rigidly zoned according to single uses and types, designed around the large-scale street geometries of the car and emergency vehicles, and so on. And the research is pretty clear that these structures produce many undesirable impacts, owing to their particular structure (not merely that they are "suburbs"). My point is that this wasn't the product of consumer choices in a vacuum, or "the market", but also of government policies and decisions, in turn reflecting beliefs in how the world worked and should work. (As Jane Jacobs wrote about so perceptively.)

SA: I agree. What we must remember when proposing change is that the built environment is both context dependent and path dependent, embedded in its history with all the chance happenings, the discoveries, the errors, and the human tragedies and comedies that brought it about. Given what humanity is, given its frailty and its limitations, given its ignorance, its conceits, its mendaciousness, but also given its insights, its genius, its spirit of solidarity and altruism, we cannot expect the built environment in its entirety to embody beauty. Yes, we might be able to discover it here and there. And, best of all, we might be able to discover it within ourselves and then it will make us more forgiving and more loving of that which is not and cannot attain beauty. Beware of *beautism*. Make room for the ordinary and the homely.

MM: Agreed on all points, but I'm especially interested in how our period of history has particular problems resulting from particular models of the world—and a way forward in addressing them must lie in part by re-examining those models and reforming them. (Again, this was where Jacobs was so lucid, I think.) Aesthetics is a manifestation of the problems—what Chris described as a "growing ugliness"—but the abstraction and commodification of aesthetics is a problem too. Jacobs also perceptively described this as "a confusion between art and life", which is neither art nor life, but "taxidermy". It's objectifying beauty, and seeing it as something separate from the processes of life that generally produce a mix of the beautiful and the homely. I gather that's what you mean by "beautism?"

Back to the origin of the suburbs, and I used the tongue-in-cheek phrase "government plot" to describe the rise of the modern suburb. Of course "plot" is not really the right word. We are dealing more of a "massive multiplayer game", where actions often have unintended consequences. So "architectural-industrial complex" might not be so far off

the mark, just as “military-industrial complex” doesn’t require a “plot”; only a complex of forces or an alignment of strategic interests. And I do see that in architecture.

SA: There is no plot. Yes, we see connections, and the more paranoid we are, the more connections we see, many of them invisible with evidence that is truly hard to find. There is no conspiracy. There is a resemblance of agreement on a common paradigm for doing architecture within a constantly changing political, financial, social, and cultural context. And that context, as you note, includes the way that people have been taught to perceive and interpret reality. Architects that want ‘work’ have to accept that context and can only change it at the margins. They are participants, or ‘players’ as you say, in a complex game, and they have to align themselves with other players to obtain and retain power, to have influence, and to get ‘work’.

MM: But as in any game, there are ways to “win” or “lose” (succeed or fail at goals) and sometimes those are at others’ expense (i.e. “zero-sum”). And sometimes there are strategic alignments between players, which I think do take the form of “complexes”, intentional or otherwise. And I think a group of very influential architects had such an alignment with industrial interests in the early 20th Century.

To be fair to those architects, technological changes were already under way in the late 1800s, and along with them, “changes in the mental models for probing the world”, in Jane Jacobs’ (and Warren Weaver’s) memorable phrase. These changes were fateful, but not deterministic. So we got the prodigious power of two-variable problem analysis, as well as statistical analysis brilliantly described in Jacobs’ last chapter of *The Death and Life of Great American Cities* (Jacobs, 1961). These greatly accelerated what was possible under industrialization. And we got a vast expansion of industrial power, and industrial change.

SA: I find it difficult to distinguish ‘fateful’ from ‘deterministic’. In my view, ‘fateful’ is adequate to create a path that is irreversible, in the sense of creating path dependency. In other words, nothing is ever the same anymore. We have moved to another state. That does not mean that we will continue to move in the same direction forever, as in ‘deterministic’, but it does mean that we cannot return to the state of innocence that prevailed before these fateful changes.

MM: Yes, perhaps “consequential” would be a better word than “fateful”—it created what I like to call an “architecture of possibility” (forgive the pun, but it’s apropos). Or, to borrow from behavioral economics again, it created a “choice architecture”. The architects essentially chose to become marketers of the industrialization of the built environment, certainly in image but also in structure, and they also greatly accelerated particular forms of change. Nikos and I have written about the fateful period when Le Corbusier, Ludwig Mies van der Rohe, and Walter Gropius were interns with Peter Behrens at the German industrial giant AEG (Mehaffy & Salingaros, 2021). Behrens is known now as the father of corporate branding, designing logos, stationery, products, and buildings. And the buildings were no longer about place, but about time, and the future—the powerful industrial future of concrete and towering grain silos and cruise ships and aeroplanes. Around the same time, Adolf Loos was writing about “ornament and crime”, suggesting that the path to political liberation and egalitarian society lay in

rejecting almost everything about the past, and embracing a radical simplicity—a kind of “architectural cleansing” (Mehaffy & Salingaros, 2013). Throwing out the baby with the bathwater!

SA: That ‘architectural cleansing’ was a terrible idea from the perspective of the resulting drab architecture, but it was a new aesthetic, a clear break from a past that was deemed corrupt. It was revolutionary. It connected with the emergent abstract and cubist art. I am by no means an adherent of that movement, but I can see and appreciate how it reverberated in the zeitgeist of the period.

MM: Yes, these were choices that human beings made on their best judgments, in the context of what was made possible by the complex dynamics of historical change. And one could concede that for many people, “it seemed like a good idea at the time”. Again, it wasn’t from some kind of “wickedness”. The destructive aspects of functionalism and functional segregation, going all in on a car-dominated urbanism, fleeing the problems of the city by going far into the suburbs, leaving behind “donut cities” with spiraling problems at their cores, embracing redlining and other racist policies, and going all in on the industrialization of habitat—with all their destructive consequences that we’re well aware of today—were not so visible at the time. While industrial production at the housebuilder end never materialized, it certainly materialized in the production of components, and in the stripped-down, boxy aesthetic that became permissible, even “cool”.

SA: I couldn’t agree more. These were bad ideas. And they got us to where we are now. This is the new urban reality. Not only that, urbanization—the movement of people from being closer to the ground to being closer to each other—has generally come to an end in the Global North. The urban population in the Global North is projected to increase by 12% between 2020 and 2050. In other words, the cities in the Global North have now largely been built. This is what we must contend with. This is what we must recycle and repair, while more mistakes are being made. Any change for the better must be founded on a total acceptance of the reality of the present, of the reality of the built environment of the present. ‘What is to be done?’ is a valid question, but an answer to that question that fails to acknowledge exactly where we are is of little value.

MM: I fully agree. Now the question is, what legacy have we, the industrialized Global North, left for the rapidly urbanizing Global South? What is our responsibility to share our mistakes, and atone for the damage we have caused? And of course a lot is bound up in that: the legacy of colonialism, and so on. And maybe a colonialism of ideas, about functional segregation, and about overly simplistic models of industrialization. It seems to me we are still perpetuating this kind of colonialism, when Global North consultants (like me to be honest) practice in these other parts of the world.

I’d like to go back to the question of whether Chris Alexander dealt sufficiently with the architecture profession as a force for positive change. His formative period was of course the era of Bernard Rudofsky and *Architecture Without Architects* (Rudofsky, 1987), and Chris—wrongly it seems, on the evidence—thought he could do an end run around the profession, by going to the (actually) larger community of ordinary designers and builders. This did have some results, as we can see in many vernacular places, and

the anecdotal evidence of ordinary designer-remodeler-builders who still use *A Pattern Language*, as I encounter quite often. But it was far from a revolution, of course. And it underestimated the degree to which architects still control much of the narrative of the broader building world, define what's "cool" (e.g. the buildings featured in *Dwell* magazine and other glossy and online architecture journals), and provide leadership, whether intentional or by neglect. Also, the degree to which architectural theory has influenced vernacular design, e.g. with minimalism, boxiness, etc. should not be underestimated.

So my view is that we do need to wade into the midst of the profession, and take on the discourse at a deep theoretical level. And yes, I also agree that Chris was an innovator in the modernist mode to a fault, and that caused him to overlook a lot of the power of the existing evolutionary patterns of revival—which is ironic, given his emphasis on evolutionary and generative processes, and the enduring patterns that they so often produced. On the other hand, his brilliance at invention can't be denied.

I think what you have your finger on, Solly, is actually one of the major barriers to the progress we need in better-quality settlement — the peculiar idea, advanced by modernists but now widely shared, that we mustn't "copy the past" — that, as Gropius said, we must "start from zero". Nonsense! Architectural history is full of revivals, recapitulations, evolutionary refinements adding the new to the old... constancy as well as change. So is nature, of course. And in both cases, that evolutionary mix can produce some of the richest, most well-adapted structures we know. It's not "the worship of the ashes", as Goethe put it, but "the tending of the fire". So I think we all suffer today from a very peculiar theory of modernity — and actually a very un-modern one! — that is causing us so much trouble in responding effectively to our challenges. We're caught up in a culture of novelty, where it has to be the work of an original genius, the latest shiny-new thing — which might be the antithesis of sustainability. And it's ironic, I think, that Chris himself was caught up in some of this thinking. (But maybe not so surprising, since he received the typical architectural training of his day.)

I'd like to turn to another force that is driving a lot of what is going wrong today, and that is one that I think Chris didn't deal with sufficiently, or directly enough: our economic processes. Specifically, I think we need to reexamine our ways of valuing and exchanging resources, and especially, our ways of commingling human capital (creative value) with natural capital (resources, land, etc.). Treating land and other resources as being the same as human capital has been catastrophic, and is a major driver of our affordability crisis. For it isn't so simple that when land prices go up, people have to build taller, for example. Land prices go up often *because* people can build taller, and the market prices in that potential profit.

SA: I agree with you that it is not that simple. We have built societies that, after long and protracted struggles, agreed to establish and protect property rights in general, and property rights in land in particular. The original preamble to the US Declaration of Independence, following John Locke, was 'life, liberty, and the pursuit of property.' Property rights in land create monopolies and allow landowners to reap monopoly profits when land is in high demand and limited supply. The price of land is, first and foremost, determined by the advantages it offers over other lands: access, view, fertility,

and so on. In cities, the more accessible lands command higher prices. This is, of course, moderated by regulations that limit what can be built. Restrictions on what can be built depress land prices.

MM: This is one reason that deregulatory up-zoning hasn't worked as an affordable housing strategy, as we see in Vancouver and elsewhere.

SA: You are right that deregulatory up-zoning is slow to work and because it is done in places that are highly desirable, it simply provides more room for luxury housing. But I believe that Minneapolis's recent abandonment of single-family zoning is of a different order of magnitude. It allows for tripling or quadrupling the number of dwelling units on 70% of the residential area of the city. That should certainly have an effect on affordability, sooner or later. Again, I think that we are stuck with private property rights in land. That does not mean that the public cannot capture a much larger share of the increase in value of lands that is due to actions other than those performed by landowners. There is plenty of scope for this and it is happening in places like Colombia or Ecuador.

MM: Yes, clearly there is a dynamic of too much demand and not enough supply, and that is driving prices. But as we see in these other examples, that's one of the factors, and not the only one. So it's wrong to deal with supply in isolation, and think of it as a "silver bullet".

I find myself increasingly fascinated by "the nature of economies", as Jacobs put it. She got much more interested in this topic later in her life, and I wish Chris had too. I did talk to him about it, but he never really seemed to grasp the importance of how we value and exchange goods and resources. And the need to separate human capital from resource capital, and treat them differently in terms of taxation, regulation, allocation, etc. Lately I have gotten interested in "distributism", related to Georgism, which is an approach that I think Christopher would have liked, but I don't think he ever explored it (<https://en.wikipedia.org/wiki/Distributism>).

SA: I too like Henry George and his treatment of land. Indeed, there is much to do about land reform, as I indicated earlier, but I believe that this is separate from architecture. I, for one, have come to the conclusion that the so-called 'housing problem' is largely a land problem. I elaborated on that in a book I edited in 1982 titled *Land for Housing the Poor* (Angel *et al.*, 1983). When the poor have access to land, they built their own homes, and architects are not in great demand there. So, if one is interested in affordability, one has to go beyond architecture and engage in community organizing, in municipal politics, or in legislative battles. I would shy away from thinking about land reform as a 'design' issue, trying to dream up just distributive land systems. Yes, under certain historical political conditions, radical land reform is possible. It happened in Taiwan under Chiang Kai-Shek, for example. The Communist revolution in China nationalized land, as did the revolution in Ethiopia. This is a broad and all-encompassing topic and certainly a relevant in societies where capital commands a greater and greater share of income. Still, I would not recommend waiting for just distributive systems of land to be put in place as a precondition for doing good architecture. Good architecture, urban design, and city planning can and should be

practiced within any property rights regime. It cannot wait for a just land distribution system to come about.

In this connection I note, however, that the proliferation of property rights in land in the U.S., for example, has made it difficult if not impossible to assemble land for large projects like high-speed rail or new airport runways, as documented by Michael Heller in his *The Gridlock Economy* (Heller, 2010). So while the U.S. has not built one mile of high speed rail, China—where there are no individual property rights—built 40,000 kilometers of high-speed rail between 1998 and 2020 (destroying everything in their path in the process) and giving China important economic advantages in coming decades as in “it’s the economy, stupid”. I do agree that the structure of the property rights system has a lot to do with the emerging built environment, and it always had. But it does change and evolve in response to need.

It might be worthwhile to articulate the formal patterns that are now needed to overcome pressing problems and the property rights reforms that are now required to facilitate their coming into existence. Eliminating single-family zoning, for example, is a valuable tool for improving housing affordability. Legislative moves towards a more appropriate interpretation of the “taking clause” in the U.S. Constitution to make it possible to assemble land for high-speed rail lines is another example. Tightening capital gains taxation to capture a larger share of the increased value of real estate is another. Putting mortgage finance for condominiums on a level playing field with finance for single-family homes is another. Removing off-street parking requirements from micro-apartment projects is yet another.

MM: Well, yes, economics is a different topic from architecture, and architects have to play the game according to the rules they have. But we as citizens and interdisciplinary scholars also have to ask deeper questions sometimes, as in “are we rearranging deck chairs on an urban Titanic?” And I think in many respects we are, if we don’t examine some of the economic forces that are shaping our world, and join with economists and others in calling for reforms. This isn’t “design” in the architect’s sense, but maybe it is in Herbert Simon’s old sense — we all design when we “devise courses of action aiming to change existing conditions into preferred ones”. I prefer a more durable, more survivable world!

So when it comes to Chris Alexander’s areas of weakness or incompleteness, which you both have noted well, I think in almost all cases, the answer is that we and others need to step in now and do more.

I asked Chris once why he didn’t explore his geometrical insights in *The Nature of Order* through patterns, and whether he had considered that. He said, “Yes, I did, but I chickened out!” So we have taken forward some of those, e.g. in the new pattern language you will see “Levels of Scale”, “Boundaries”, etc. (Mehaffy *et al.*, 2020).

Solly, you noted that patterns will never fully capture the Quality Without A Name — and I love that software people call it QWAN, thus giving it a name! Yes, that’s true — but it is true of all formal systems, and all formal knowledge, e.g. linguistically represented knowledge. I am working on a book on that topic right now, called *Notes on*

an Incomplete Architecture (allusions to Alexander are entirely intentional). Of course, there are forms of knowledge that are more useful and more meaningful, and those that are less so. A grocery list has limited usefulness (only if I happen to need groceries on that day) but a poem has richness of interconnections that can be life-enhancing at any point in my life. And this to me is the potential of patterns: their inherent web-networked structure, which is also what the software people found so useful and powerful. And the software folks didn't stick with 253 patterns in a bible-looking "sacred text" but have built thousands of patterns and pattern languages. And they invented wiki to share them. Importantly, wiki inventor Ward Cunningham says that wiki itself has an essentially pattern-like structure (Cunningham & Mehaffy, 2013).

SA: I find it interesting that the software folks could develop thousands of patterns and that the 'architecture folks' could not. Why? What exactly is the difference between these two systems? I remember that in one of the earlier incarnations of the pattern language, a pre-biblical one, we considered having the language in a three-ring binder with the idea that people would add patterns freely to keep the language alive. In my view of the pattern language, "the teachings are everywhere". I see patterns wherever I go, little structures of beauty as well as very large ones. I stopped noting them down systematically once I left the Center for Environmental Structure (Berkeley) and I got back to them when I did some housing or when working on urban expansion. It should have become a massive undertaking by thousands of people by now. Why hasn't it?

MM: I think you have your finger on it in your reference to "biblical". The book itself is a victim of its own success — in effect, "freezing" the original 253 patterns for all time in this bible-like volume. The software people had no such constraint, fortunately for them. Yet the introduction to your book did have clear language about the intent, if not what resulted: "we imagine this pattern language might be related to the countless thousands of other languages we hope that people will make for themselves, in the future... The fact is, that we have written this book as a first step... We hope, of course, that many of the people who read, and use this language, will try to improve these... You see then that the patterns are very much alive and evolving." Sadly, that is not what happened. But I and others aim to correct that!

For one thing, I think "pattern technology", if I can call it that, is an important advancement, as seen in wiki and other domains (Mehaffy & Salingaros, 2022). There is a very interesting and I think important connection to neural nets and Artificial Intelligence (AI) here. Patterns make possible "deeper nets": hyperlinked knowledge that has more verification, more citations, more self-consistency — one could even say, more wholeness. Wikipedia has a "deep net" structure. Whatever its flaws, it is generally a reliable source of information about the world, so much so that many AI programs use it as a database, as does Google search, et al. And note also that Wikipedia came directly from wiki, which came directly from pattern languages! But it is also possible to write "dumb pattern languages", with shallow nets and poor citations, with links to sham news sites and unsupported conjectures.

SA: I love Wikipedia and I agree with you that the Wikipedia model can serve as a foundation for a hyperlinked set of thousands of patterns, with effective editorial control to prevent dumb ones from proliferating. But the bar should be lowered. People need to

gain the confidence that they can do it, that they can discover patterns, and that they can articulate them. This is not rocket science.

MM: No, it's not! And I see a big horizon ahead not just for patterns but for "deeper nets" in our technologies. We are perhaps growing out of a crude infancy of technology, a period when we made horrific mistakes and almost destroyed ourselves. I think it's possible, and indeed I believe it's likely, that we will grow out of this technological infancy, with its catastrophically shallow nets and critical incompleteness, into a more mature stage with something more like the wholeness that other cultures have had, and that is ultimately our human birthright. I am a fan of Edward Sapir's seminal 1924 essay, "Culture, genuine and spurious", which we might rename, in light of the above, "Culture, deep-net, and shallow-net" (Sapir, 2004).

SA: I do share your hopes, Michael. People change. But they change only when they see the value of changing. The built environment will change, for the better, when people can be shown how to do it, given where they are, what they have, what they know, and what they aspire to. You cannot stray too far from the people and still expect them to hear you. More to the point, you cannot stray too far from the people and still expect to hear them.

MM: That's very true. Different people speak different languages and have different needs and goals, and collaboration with them has to be tailored to those differences. But there are also catalytic events that drive change, including crises. The COVID pandemic might be one example; that remains to be seen. Certainly pandemics have been catalysts of change in the past, but so have other crises. Right now, we have converging crises of resource depletion, emissions, environmental degradation, and a profoundly unecological form of industrial and economic technology, that all demand our attention and response. The world is clearly going to change, and the only question is, whether and to what degree it will be on humane terms.

For those of us in the pattern community, I think it's time to assess where we go in a "post-Alexandrian" era — transcending the problems of a perhaps too cult-like group with a charismatic leader, into a more mature period of collective development and broader collaboration. This has happened many times before in intellectual history.

SA: Well said. I left the 'pattern community' because I found the cult-like atmosphere too oppressive. I find the Seagram Building on Park Avenue, New York, designed by Ludwig Mies van der Rohe, aesthetically pleasing, well-built, still looking as fresh as it did when it was completed in 1958. If that is considered heretical, so be it.

MM: I think we can admire individual creations, and still understand that they were part of historical waves that have produced a lot of problems, and that demand reform. I for one cringe at the endless bad copies of Miesian boxes that have destroyed cityscapes around the world, for example.

SA: Roger Scruton made an interesting point in his short book *The Classical Vernacular* (Scruton, 1995). He pointed out that the styles that preceded Modernism could be copied badly and still look OK, while, as you pointed out, bad copies of

Miesian boxes look terrible. I am more forgiving of Mies, though, even though his followers and imitators have created innumerable monstrosities. There are things that Mies understood and did right. Can we articulate them as patterns? At the end of the day, patterns are about physical form, the physical form of the built environment and the man-made or man-modified countryside. That is what unifies them into a common language, the language of form or, more precisely, the verbal language that defines, articulates, and explains the world of physical forms. It is this language that has to be invented and re-invented in response to the challenges and opportunities facing us at any given historical period.

MM: Yes, I agree — it's an evolutionary process, adding the new to the old. But I also think there is a particular urgency today, that we are at a moment in history where our mistakes are catching up to us with potentially catastrophic consequences, in the built environment and in other fields. And we are either going to learn finally from our mistakes, or we are in very deep trouble as a species. (And without significant course corrections, that is where we are headed, I think.) For one thing, we need to be able to produce much more satisfactory buildings, cities, towns, and countrysides, that are healthier manifestations of what Jacobs called "organized complexity" — especially for our colleagues in the Global South, but also in our own back yards. As Jacobs argued, this is doable, if we come to better understand "the kind of problem a city is". (That is one thing that I think the New Urban Agenda and the Sustainable Development Goals both aim to do, imperfectly but importantly.)

And I think pattern technology, as one could call it in the broad sense, is a great resource in that endeavor. And I thank you and your colleagues for making that seminal contribution!

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