Social Space   Lien Centre for Social Innovation

2011

Of Spatial and Mindset Change: An interview with Tay Kheng Soon

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OF SPATIAL AND MINDSET CHANGE

An interview with Tay Kheng Soon

Tay Kheng Soon is a professional architect since 1964 and former chairman of the Singapore Planning and Urban Research Group and president of the Singapore Institute of Architects. Tay's passion is sustainable urbanisation and the evolution of a design process which embraces human dimensions in the Asian context. He has also served as chairman of the Task Force for the Long-term Development of the Singapore National Museum, and chairman of the Committee on Heritage for the Singapore Advisory Council on Culture and the Arts.

Amidst the gloom of the growing environmental crisis and unmet social needs, one man refuses to admit defeat. After 50 years advocating in civil society and the architectural space, **Tay Kheng Soon** has come up with yet another ground-breaking idea—Rubanisation—which re-imagines the city and countryside as a single organic whole. *Social Space* catches up with the social space maverick in his eco-office in the tranquil setting of a wooded area off Dairy Farm Road.

Social Space (SS): You have quite a hideout here—an office in a jungle just off the beaten track of the hustle bustle of the urban setting. This must be one of the last remaining areas of its kind in Singapore.

Tay Kheng Soon (TKS): Yes, I do some of my best thinking here. Unfortunately, we have to move out soon; the authorities are not renewing the lease. I will be based in Nanyang Technological University in Jurong. I hope I will like the academic environment.

SS: Activist, architect, intellectual, iconoclast—maybe, now, academic—there are many terms we can use to describe you. But how do you see yourself?

TKS: I see myself as a human being, quite an indignant one actually, because the urban industrial complex we are living in has made us less human.

This is what I struggle against.

SS: How have we become less human?

TKS: The urban industrial complex requires us to be as robotic as possible, even though that is never fully possible. Yet it tries very hard to do so because then, we become predictable, reliable and not troublesome in many sort of ways.

The head, heart and the hands have been disconnected. This created the urban industrial complex which resulted in the aggregation of human settlements and human enterprises into what we call the urban system. Over the past two hundred years, human life has, in this way, been transformed. Life has also been highly distorted because of this form of industrialism. The dual features of the hyper-production and hyper-consumption way of life have shaped our culture and nature, and it feeds upon this distortion.

The situation is spiralling out of control. In game theory, we have this notion of a reaction against a reaction against a reaction—in this case, reactions by human beings against the reactions of nature which are reactions against human beings' impact on nature. The wheels of the environmental crisis were set in motion 200 years ago when industrialisation started.

What we have now is a situation of continuous manufacturing of demand leading to two very worrying outcomes. First, the distortion of the human-to-natural resource relationship. Secondly, the distortion of the human-to-human relationship.

As a spatial thinker, I see my role in influencing this rethinking of what it will take for us to become more human again.

SS: And what does that rethinking involve?

TKS: I don't know if it is too late, because if you go by James Lovelock's Gaia hypothesis, the spiral of the dissolution of the ecosystem is unstoppable. Of course, we cannot lie down and accept that, even though actions may be futile. We have to do something.

One way out is to fundamentally change the human appetite, change our preoccupation with urbanism. Yes, cultural diversity in urban cities is good but our appetite for consumption is a problem that needs a paradigm shift.

It is not going to be easy. We need to recognise that social injustice is systemic. For example, factories need cheap labour. Hence, they deliberately or inadvertently do not pay attention to rural development. Consequently, rural poverty drives peasants into the cities in search of a job.

Every mega city in the world outside the Western metropolises is surrounded by perimeters of slums, abject degradation in every sense of the word. Failure in the countryside drives

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urbanisation of rural people into the big cities. And urban services such as cleaning and factories are benefitting from these poor people—that is, if they get a job in the first place.

So, unless we pay attention to rural development, we will not be able to address the prevalent social and environmental injustice. In fact, these two injustices need to be addressed concurrently for the intervention to even work. One way is through rubanisation.

SS: You invented the term "rubanisation" by combining "rural" and "urbanisation." Can you briefly explain what it is?

TKS: Rubanisation is the rethinking of the city and the countryside as one space, and not two. The continued consideration of the rural and the urban as two distinct realms is unsustainable in terms of social justice, cultural justice and environmental justice. In rubanisation, we reconceptualise human settlements as an integrated development that offers real viable choices for living, one that is supported by environmentally friendly technology and an ethical lifestyle.

A rubanised town is a 1 kilometre walking town. It should be dense, where children can walk to schools and where biodegradable waste can be collected from these perimeters and harnessed into energy. It is like a mini-city, but it will be a healthy city.

The impact of rubanisation goes beyond eradicating poverty in rural communities. It brings greater balance to working, living, learning, and playing activities by framing them within walkable distances. Children walk to school. Parents work nearby and are involved in their children's learning situations. Communities interact to imagine new ways to make life better and more secure. Everyone enjoys good clean organic food, knows farmers personally, knows how the food is grown and adjusts

their diet according to seasonable crops. The good life will be restored through real creative community action, fulfilling work and stronger family ties.

SS: You have this beef against urbanisation. Yet, could you not say that it is the magic of urban density that has allowed masses of people to come together and do great things. History has shown that most of mankind's cultural, economic, political and social accomplishments have occurred in cities. Would not going back to the countryside be setting back civilisation?

TKS: It is a matter of perspective and how history has been written to glorify urbanisation. For instance, if you are to understand Chinese history, inventions have traditionally come from the countryside. Well, you can say that, today, China's economic progress is based on Western models and technology. But then again, China is based on the democracy of consumption through the politics of control. In other words, we are witnessing democracy without elections.

SS: But can rubanisation really work?

TKS: Yes, it can. It really depends on the mindsets.

The boundaries of thinking need not be finite. But in order to be sustainable, rubanisation must go beyond geographical limitations. The Singaporean government, for example, is doing it right with the Agri-Food and Veterinary Authority of

Singapore exploring new farms in China and Sumatra, but it needs to expand its vision and establish more of such cooperative relationship with its neighbours.

I can offer my expertise and advice on rubanisation, but capital and finance are limitations. It would be good if there is a rubanisation bank to keep these efforts going. As it stands, I do not think governments will be the ones setting this up. They are generally not forward-looking people as far as I know. They are trapped between the economics of desire and politics of fear.

SS: It's been more than two years since you wrote your papers on rubanisation.[1] Has there been any take-up of this concept? Where have you implemented it?

TKS: There has been no completed full scale implementation. But we have projects underway in Hue, Vietnam and in Indonesia where rubanisation has been adopted as a state policy, and in Sri Lanka where a million people have been affected by the floods.

In Thailand, for the last few years, we have been working with the People and Community Development Association headed by Dr. Mechai Viravaidya. They have an enlightened rural development programme that's driven by social idealism and sound business management. One of their projects is a school in Lamplaimat, one of the poorest areas in north-east Thailand.

The school has a different teaching philosophy, a mix of Montessori, Waldorff and Buddhist educational thoughts. Next to the school, I designed and built a village community centre which accommodates a Rice Academy, a craft shop, an internet café, a library and a radio station. This programme led to a Village Bank which provides microcredits. We are now constructing a "green" secondary school near the community centre. In all these buildings, we use local materials such as treated bamboo and basic tools. Initially, the villagers greeted my ideas of using basic materials and methods with scepticism, but when they saw the final result, they changed.

SS: Have you taken this idea outside our neighbouring countries?

TKS: I have recently received a request from South Africa to go and discuss rubanisation there. One major reason is that their economists have come to the view that the urban industrial economy is not viable for them and they are beset

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Rubanisation will make for a much healthier environment, healthier people and healthier culture—when people meet and interact in public spaces, where farming and nature is nearby and **people become more human**.

by a huge raised expectation by the people for a better life. This is a recipe for disaster, and rubanisation can provide a viable approach for urgent intervention.

The Swiss Federal Institute of Technology's Professor Roland W. Scholz has approached me to do work on rubanisation in Asia. He is anticipating a gigantic food crisis because of the shortage of phosphorous, one of the three basic fertilisers. Sea-bed mining of phosphorous has to be developed, Sholz thinks. This technology is beyond the current scope of thinking, however.

SS: Can rubanisation apply to Singapore, a country which has embraced the urban model in full force? The former URA CEO Mrs Cheong Koon Hean was quoted in a 2007 interview as saying, "The city is the centre of innovation, creativity and information; it is here that the new economy will be incubated, not the heartland."

TKS: This is the usual mistake in thinking that disregards size. Cities, when they exceed a certain size, create more dis-benefits than benefits. To generalise is wrong. Her comment about the heartland reveals a city-centric bias. I am surprised at the statement and would need to understand better the context of her statement. But by "cities," she is probably referring to the downtown area and by "heartland," the housing estates. If so, the statement reflects a myopia that is based on a 19th-century spatial planning model that interprets the future in this manner; it is a non-sequitur.

Going by this false trajectory, we only end up being useful servants of the Western industrial model, where local peoples and their potentials will remain untapped. Singapore will then need to rethink its role in the world. Heartlands can be great incubators of new knowledge. How we turn our heartlands into campuses is how we can remake our full potential.

SS: So, you think rubanisation will work in Singapore? But how can we accommodate such a sizeable population on so little land. Don't we need all these high rise buildings that we see all around us?

TKS: You have been taken in by the propaganda of the urbanisation zealots. Let me give you some figures to illustrate my point.

Let's take Singapore's land space, which is approximately 700 sq km or 700 million sqm. Now, let's look at how much land is needed to house the population. At a fairly generous per capita floor space of 50 sqm, a population of 5 million will need 250 million sqm or slightly more than one third of the land space. Let's say we build an average of 4-storey buildings, the land space taken up for housing will only be one-twelfth of the land of Singapore. We can take this one-twelfth building land and distribute it across the island, with enough land to produce many land-use options available for amenities, facilities and recreation.

The same goes for the distribution of global land space. We have 17 million sq km of land space, net of planted crop land. Housing a global population of 6 billion at 35 sqm per capita in one storey buildings adds up to only 1% of the arable land space. Make it 2-storeys and only 0.5 percent of land space is taken up. Human impact from farming takes up only a small portion of farming land. All we need is to scatter the 1 km settlement in a sustainable manner. There is no need for mega cities.

SS: So, you can imagine rubanisation working in Singapore?

TKS: Yes, definitely—theoretically. But since we cannot tear down what we have built, we can only apply rubanisation where we can.

First, it can be applied in new developments in outlying areas such as Lim Chu Kang, Kranji, Pulau Ubin and Pulau Tekong.

Second, we can also do selective surgery to remodel some of our housing estates into walking towns, which currently, are too reliant on cars and public transport. Rubanisation will make for a much healthier environment, healthier people and healthier culture—when people meet and interact in public spaces, where farming and nature is nearby and people become more human.

Our study of the Bukit Panjang estate shows that, with small adjustments and some surgery, the town can be turned into a walking town and also be self-sufficient in vegetable production.

My students have also done a study of the possibility of rubanising the Tuas industrial estate. They found that it is possible to build six ruban settlements—high-technology industries with farms around them. JTC Corporation has asked the school to research the ideas further.

I and my students have done another study in MacPherson estate, and, again, we have calculated that it is possible to be self-sustainable in vegetables without destroying any building. This is a community design project that we have done together with the local MP, Matthias Yao, community organisations and the residents there. The older residents are excited about growing their own vegetables, but have problems bending over to do the farming. In response, we have proposed to build raised planting platforms. This is the kind of innovation that we need.

It is not just about building new ruban settlements in the countryside. Singapore will have to rethink the current urban industrial model.

Hypothetically, we will need 20 ruban settlements to house 5 million people. This is what I would call hypothetical Singapore.[2] For now, it is "hypothetical" since most mindsets are still entrenched in the old and outmoded way of planning our environment. However, in the near future, such a solution is inevitable when, say, a food crisis hits us and we become beset with high food prices. This is when we have to rethink and remodel the urban industrial context that we are working within and start thinking seriously about growing our own food.

SS: Let's move to the subject of activism and social change. What, to you, is important for a thriving society?

TKS: By "thriving society," I will take it that you are referring to a society that is resilient in a rapidly changing world.

The first thing that we need is creative thinking. In my view, our most creative thinker is Lee Kuan Yew. We need a million Lee Kuan Yew minds in Singapore.

But this is not to say that Lee Kuan Yew is always right. While I admire him, I am also critical of his blind spots.

SS: Such as?

TKS: His belief in genetic theory and his obsession that we are all born unequal. While it is true that it is inevitable to have different outcomes given the same opportunities, it does not all boil down to genes. We need to recognise multiple intelligences which add to a richer society. This is where we don't have enough environments to cultivate different potentials.

Envirogenetics has recently shown that the genetic endowment of an individual responds to different environmental impacts and these impacts switch on or off the genes in specific ways. And since the micro and macro environments are determined by chance and early childhood contexts quite unintended, the results can vary a lot.

I had a long chat with Lee Kuan Yew in 1968 about kampungs[3] and the gotong-royong[4] spirit. I was all for preserving the kampungs because of their positive developmental value but he thought kampungs are backward and against progress. And so all kampungs in Singapore have been obliterated. We now have the last existing kampung in Kampung Buangkok and it will soon be subject to economic forces and disappear. The increasing land prices and the creation of the economic elite may well be the killer of Singapore's creative spirit. Money that makes money does not reward enterprise and hard work.

Another blind spot is elitism. My own brother, the late Tay Eng Soon, who was then Senior Minister of State for Education had to fight to increase the number of polytechnics and Institutes of Technical Education. He had to fight against arguments along the lines of "Don't throw good money after bad rubbish." Fortunately, he prevailed. Now, look at how far these institutions have come along in creating a skilled and capable workforce. We would have had social unrest if not for these institutions.

SS: What else is important for a thriving society?

TKS: Identity, regardless of where or how you find it—be it in religion, civil society or human rights. As long as it gives you a sense of purpose, identity is important to drive society. But exaggerated and exploited, religion, especially, can be the sensitive underbelly of hyper-industrialism. The urban hyper-industrialism all around us has weakened family ties and civil society so much that the individual has to cling to religion and ethnicity as a counter-force to urban societies to give some support to loss of identity.

To illustrate this point, let me first share a neuroscience perspective about the left brain and the right brain. What has happened in human development is the shift to the left brain from the right brain in the interest of rationality and reason. The left brain is mathematical and logical while the right brain is discursive and intuitive. As we grow as a civilisation, we develop the left brain so that it has predominance over the right brain.

And this is where dualism arises i.e. the dualism of the human vs. the animal in us; it is commonly held as reason

> In the Confucian culture, the right brain is regarded as animalistic and should therefore be suppressed whilst reason should be formulated. But in suppressing this part of the brain, **many of the potentials of human insight and creativity are expunged.** This is the price we pay.

After all, human beings are not, and cannot be, robots; we seek to fill the emptiness created by industrialism. In fact, religion is on the rise everywhere as identity weakens. Religion as an identity marker is a powerful influence that appeals to weakened individuals and communities, and governments have not been able to find a theoretical counter-position to deal with this. Essentially, identity is a spiritual matter that each individual seeks in his own way. It can also be easily exploited and manipulated.

SS: The individual should sacrifice his personal interest for society's well-being; at least this is how we have been taught in Asian societies. Would you agree?

TKS: In Asian societies, individuals are seen to be troublesome and a collective identity is thought necessary to resist foreign domination. What is lost in this strategy are individual courage and confidence.

vs. passion. And different cultures express this duality in their own ways. In the Confucian culture, the right brain is regarded as animalistic and should therefore be suppressed whilst reason should be formulated. But in suppressing this part of the brain, many of the potentials of human insight and creativity are expunged. This is the price we pay.

SS: But doesn't that make us selfish when we put self above society?

TKS: That is a misreading in my view. Let me elaborate on what I mean by an emphasis on the individual and the identity of one. The identity of one is most pronounced when one is sure of oneself. In such a state, one does not need to assert oneself at all; neither is there a need to exclude others merely because they are different from oneself. The self-assured self is not prejudiced nor does it need to depress anyone to raise oneself. In this case, this kind of self-assuredness should not be mistaken for selfishness.

A kampung model does not limit the boundaries of learning or the learning tools available. Rather, it **empowers students in the learning process**. "

Along this line, I must say that the exclusivist model of the nation-state is out of date. We need a global consciousness that is attuned to environmental needs and global sustainability. Indeed, an enlightened inclusiveness.

SS: You are known to be vocal and stubborn. Is there any strong stand that you took before that you now think was a mistake? For example, you took a stand that the old National Library Building should go, but subsequently regretted it.

TKS: Many things, I would say!

In the case of the old National Library building, I still stand by my original opinion. I still think it was a bad building. But I hear what the young people are saying, I hear about how their sentiments are attached to the place. In this case, I accept that even though it was a poor piece of architecture, the building should have stayed for the sake of young sentiments whose fond memories are attached to the place.

SS: Until early 2000, you were a prolific writer and regular contributor to the Straits Times Forum, but we are hearing less from you lately. Why?

TKS: I still write, but some of the letters do not get published. I suspect this was after a 2004 letter that I wrote about Singapore's development being based on a dim view of human nature and that for Singapore to move forward, this view is obsolete as it dampens the human creative spirit.

SS: Earlier, you spoke about your work with rural schools in Thailand. What changes should we see to Singapore's education system?

TKS: Yes, we should turn the island into a campus city where education is the main driver and housing estates are turned into campuses.

It's a concept that I have thought and written about for some time now. In this vision, university campuses are decentralised and have branch campuses in housing estates so that students live and study in a community setting and are thus more grounded. They are also able to react and find solutions more intuitively and collaboratively with the residents. It's a different learning culture that has to be brought about. This is a plan that I feel can increase the intelligence of the people.

Early childhood education is another very important issue in Singapore. I was inspired by Patricia Kuhl's neuroscience lectures on how the language learning abilities of children drops drastically after a child turns eight and how fundamental it is to learn a language from native speakers in a socially interactive setting. Between the ages of two and eight, a child's ability to pick up languages is unlimited according to Kuhl's studies. Our schools are introducing a third language after the child is eight years old, so they are fighting the biological tendencies.

Now, if we implement this idea of getting children to pick up foreign languages from young, Singapore can become the language centre of the world. Every language can be mastered by the next generation. Imagine the impact of this idea on Singapore. We can be the communication centre and knowledge hub between east and west where information and findings can be easily translated from one language to another.

Combining these two ideas and several other ideas, I imagine that, in the housing estates, there will be many language centres of this kind. They are designed as playschools where old people caring for grand children can share with native language speakers and will form the new key educators. I call this the classroom without walls.

The next issue is the physical design of our schools today. My critique is that they are glorified factories; they are only appropriate in the industrialisation phase of Singapore. As Singapore moves into the information age, schools should, instead, become high-tech kampungs where the social and the environment are more important than having a geometrically regulated physical setting.

There is a reason for this: factory-like settings contain limited embedded data and information, while kampungs have maximum embedded data and information. The former operates a fixed left-brain biased curriculum with a set of outcomes that are pre-defined and easy for the Ministry of Education to evaluate. A kampung model does not limit the boundaries of learning or the learning tools available. Rather, it empowers students in the learning process.

Mechai's school that I mentioned earlier is proof that the kampung model works. There, students determine with their teachers the timetable. They do not use books, they use the internet. They study in real life situations. Maths is learnt through real life project work. They take no exams yet scored in the top 10% of Thai schools when compelled to by the Thai MOE.

SS: Is this what you are hoping to do at Kampung Temasek?[5]

TKS: Kampong Temasek is an experimental school of doing that I and many friends are developing in Ulu Tiram in neighbouring Johor. There is a strong feeling among Singaporean parents that their kids are growing up stressed out and narrow in their knowledge of the world, of nature and of people in general.

This is something they feel strongly about, but they feel helpless to do anything about it. And so, yes. It is time we do something about the situation before we kampung-ise our schools and counter the minimalism of education in place.

We start in low cost Johor, and then we hope to come back to Singapore. Abstraction and minimalism in education are crimes against humanity and the learning process. We need to cultivate the appetite for learning rather than the duty to learn. In this kampung environment, parent involvement is important because it involves mindset change.

Parents must be involved in the learning situation of their children. Parent-teacher annual meetings are meaningless when limited to a formal meeting twice a year. Schools have to become more than just a school building; they will have banks, stationery shops and other real life settings. School fences will become unnecessary. The vision is to move away from dependent administrative structures and models towards a community that is more self-reliant and resilient.

This is Singapore's new challenge.

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1. Tay Kheng Soon, "Rubanisation: The re-conceptualisation of human settlements in harmony with its environment," 11 November 2008 on www.rubanisation.org/2008/11/rubanisation-re-conceptualisation-of.html. Also, refer to Tay Kheng Soon, "Behold the countryside: The urban/rural divide," *Global Asia*, Volume 3, No 3 (Fall 2008).

2. The map of "Hypothetical Singapore" is in the background of the picture of Tay Kheng Soon accompanying this article.

3. A Malay word meaning villages.

4. A Malay word that refers to the ethos of helping each other.

5. Kampung Temasek is a 10-acre piece of land in Ulu Tiram, Johor, Malaysia that Tay Kheng Soon is developing with social entrepreneur, Jack Sim. The vision of Kampung Temasek is to design a space in which youths can learn about nature, culture, heritage, entrepreneurship and many other subjects by doing, and it aims to realise this through an eco-education centre that breathes and lives the authentic kampung-style living.