

THE PHYSICS LAW BEHIND ANY SUCCESSFUL SYSTEM

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If you want to truly understand how society works, you need to think of it as a flow system, one that follows the rules of the Constructal Law, which I formulated in 1995:

“For a finite-size system to persist in time (to live), it must evolve with freedom such that it provides easier and greater access to what flows.”

This law of physics predicts the evolution of any type of flow system, which is always inclined to liberate its stream and remove any type of obstacle to keep moving and, thus, surviving: from rivers and lightning bolts to trees, veins, streets, animals, technology, knowledge, language, culture, organizations and even innovation.

people rarely think about society as a flow system. And that Yet, even though we all agree that it is permanently evolving, people rarely think about society as a flow system. And that might exactly be the root of many of our current problems: like our mismanagement of migration, the dysfunctional nature of many of our social media structures or the repression of freedom in the growing number of dictatorial regimes. All these failures are in some way or other caused by the obstruction of the movement in their flow system.

Facebook, for instance, would have had a completely different effect on society, had it not been designed to block the natural diffusion (flow, spreading) of information, by means of algorithms inclined towards mostly pushing the more extreme forms of content, to trigger extreme responses. The result was polarization, of course, which is something that the Constructal law would have easily predicted.

The same goes with any type of political regime that obstructs any type of change and movement - of objects (trade), bodies (like migration), information or ideas. Some of these restraints might offer very short term benefits, but in the long run, a system that prevents freedom of mobility will ossify and eventually perish: bright minds leave the country (or are forbidden to enter it), diversity dies, innovation stops and, trapped in a world that is itself continuously changing, the regime that stimulates the status quo can only experience severe stagnation and cease to exist.

The good news is that the obstacle - like the dictatorial regime or the platform that mismanages flows of information - will always be removed at some point, one way or another. The bad news is that, if you are part of that obstacle in any way, you too will eventually run into trouble.

It doesn't matter if you are a popular politician or company leader: if you obstruct the flow of the system, you function in, you will be part of its demise.

My advice for those who want to build a better society (or company): always keep the flow in mind. Always stimulate freedom of movement - be it physical or conceptional - and locate the obstructions to remove them. That is how you design and stimulate successful systems: political, societal, professional, scientific, and technological.