

Sustainability Essentials: Take 6

ROAD WITHOUT END: ADAPTIVE COMMUNITY LEARNING

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We know what Adaptive Management is. Policy therein fulfills two functions: to probe the behavior of the environmental system in a manner designed to reduce uncertainty about that behavior, i.e., to enhance learning about the nature of the physical system; and to bring about some form of desired behavior in the system. It is how smart guided missiles once worked their way towards their targets (in the 1960s/70s) — under uncertainty and the changing dynamics of their self-environment relationship. Today's missiles are doubtless vastly smarter in performance, if not in principle. There is more too, in principle, to acting in respect of Sustainability.

Ask people in the street: “What are your greatest hopes and worst fears for the future of your Environment?”; or “How should the city of Atlanta, Georgia, be made less unsustainable?”. And you will not get a consensus.

This is life: brim full of diversity and plurality. We do not *need* consensus in vision (though some of us might greatly want it). On the contrary, diversity therein is to be celebrated. Yet in order to take action, the crisp singularity of one routine step in the here and now is inescapable. Under the Triple Bottom Line, determining that single step will oblige us to acknowledge how the social legitimacy accorded to it will fall or rise with the disdain or respect we accord that very plurality itself.

Of Society we expect expression, albeit perhaps vague, of the plurality of visions, hopes, and fears for the future of Nature (Environment) in Figure 1: “my *needs*”, “your *wants*”, “their luxuries”. Of Engineers is much expected: knowledges of the science bases and their panoply of uncertainties; computational models for foresight generation; and, above all, a plurality of candidate technological trajectories for getting us from the here and now to the possibly distant there and then. Of governance we expect singularity of effective action in stepping out, even a little, from where we stand rooted today.

Scanning across the spread of green oval domains imagined 25-75 years hence in Figure 1, we may ask: Which elements in the portfolio of candidate technologies foreseen for the next 5-20 years — *ergo*

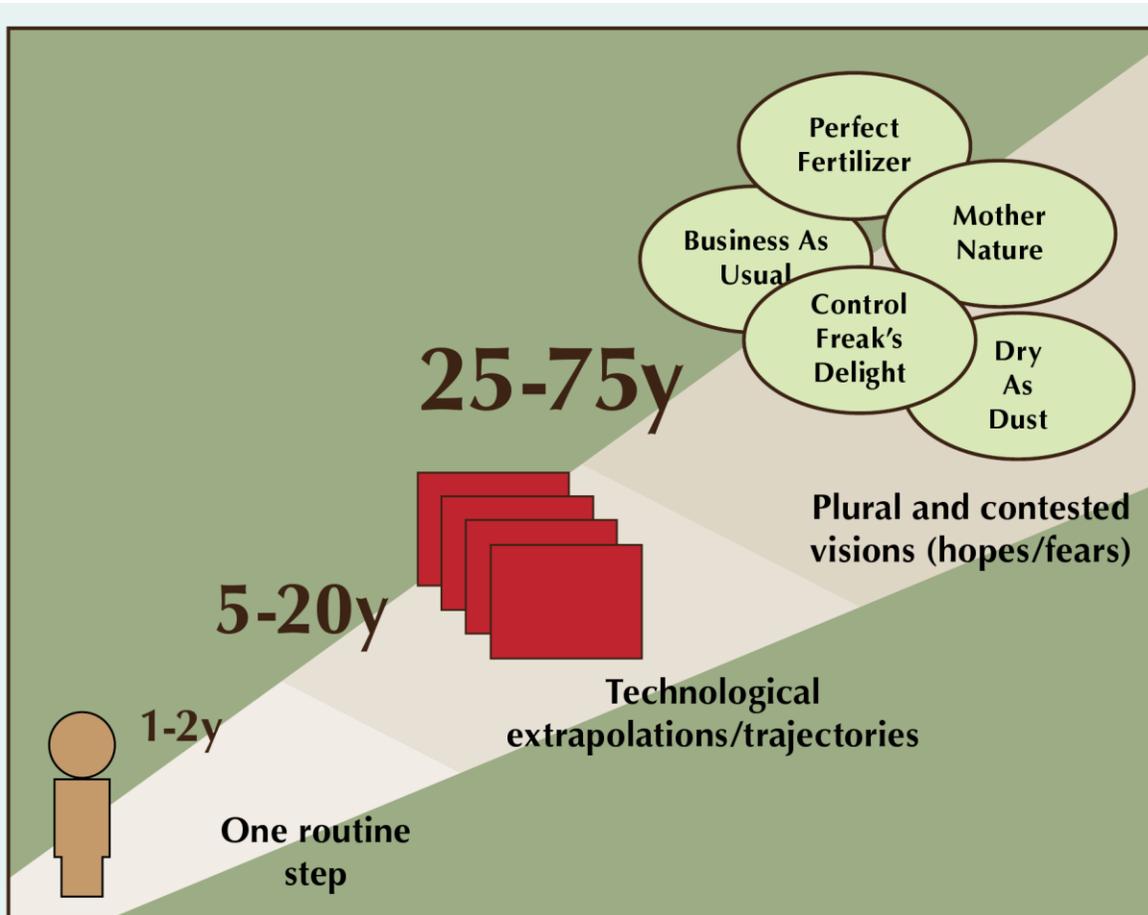


Figure 1

Framing the "big picture" of how the city might evolve to become a force for good in its environment with, first, the plural (and contested) visions of the distant, inter-generational futures for the city's water infrastructure (green oval domains), second, the technological alternatives (red rectangles) as possible paths towards those futures from, third, the determination and implementation of one routine step "tomorrow".

which elements of which candidate policies — are key to the “reachability” of these green domains of target behaviors for the Environment? And who pays and who benefits under any such attainment of any one of them? More specifically, who pays/who gains in the event my needs might be met, or your wants perhaps satisfied, or their luxuries possibly lavished upon them, even if I were to agree with your (or their) economics in valuing your wants and their luxuries ([Take 3](#))?

What we prize in this will be a spread indeed of the hopes and fears pushing out to the periphery of our foresight-seeking vision. Consensus and the average are anathema to the expectation of the unexpected. It matters which elements of technology might underpin the plausibility of the seemingly outlandish and bizarre vision of the distant future (as expressed by those whom some may consider to be of the lunatic fringe).

We prize also the capacity to identify those elements of the candidate technologies (and policies) which maximally do not foreclose on the attainability of any of anyone's cherished hopes for the future. Visions are cherished because they stem from your and my convictions about the way the world is. They are close to the core of our being; and they are vigorously contested accordingly ("[Sustainability is an Essentially Contested Concept](#)"). What we are about, however, is not (necessarily) overturning convictions.

Then there is governance, its deliberative quality, hence the social legitimacy (or not) witnessed by all in hammering out the singularity: the assembly of key technologies entailed in the one policy, enacted now and for the coming handful of years.

Some will get more of what they need from the policy, less of what they do not want, for that is what the others say they need. Some may get more of what they need than the very little they might otherwise have got, had they tried to shout down, exclude, ignore all the rest, and gone it alone. Others will get but the crumbs that fell from the table of the debate. They will be the disgruntled. They will have to "lump it" and go along with the quite unwelcome decision ... for a while. Their comfort is in knowing that their cherished hopes for the distant future have been minimally foreclosed upon — and that they may upset the "apple cart" of this policy-for-now in the not-too-distant future.

Adaptive management sought to probe the behavior of the environmental system in a manner designed to reduce uncertainty about that behavior, i.e., to enhance

learning about Nature. This now — Adaptive Community Learning — should include deliberate probing actions, whereby the community of stakeholders experiences learning about *itself* and its forms of governance — how Man rubs along with Man in Society, not merely how Man can get along with Nature. And these, on all fronts, would be the richness of a plurality of wisdoms, with which to form policy.

Out of vagueness and plurality of perspective *must* be wrung specificity and singularity of action, with the ever "tighter grip" of ever higher deliberative quality in governance. This has been entry into Figure 1 at its upper right-hand corner, exit at its lower left. We have proceeded from the distant, plural futures back to the singular actionable present, to ground us at the origin of time — t_1 , let us say.

What goes around comes around. Plurality and disgruntlement have not somehow been banished, exiled, or eliminated. The disgruntled should only be willing to go along with things for a while. They may even have spread their influence into a more effective alliance, a broader church of the disgruntled. There will come a time t_2 when, in Figure 2, the pieces on the board — the green ovals of aspirations; the red rectangles of the technology portfolio — are different, differently juxtaposed one to another, and changed, in part (perhaps), by the prudent experimentation subsumed under the actionable step taken at t_1 .

Then will come t_3 and so on: a Road Without End, most surely with bumps along the way sufficient to upset the apple cart — "Always Learning, Never Getting It Right".

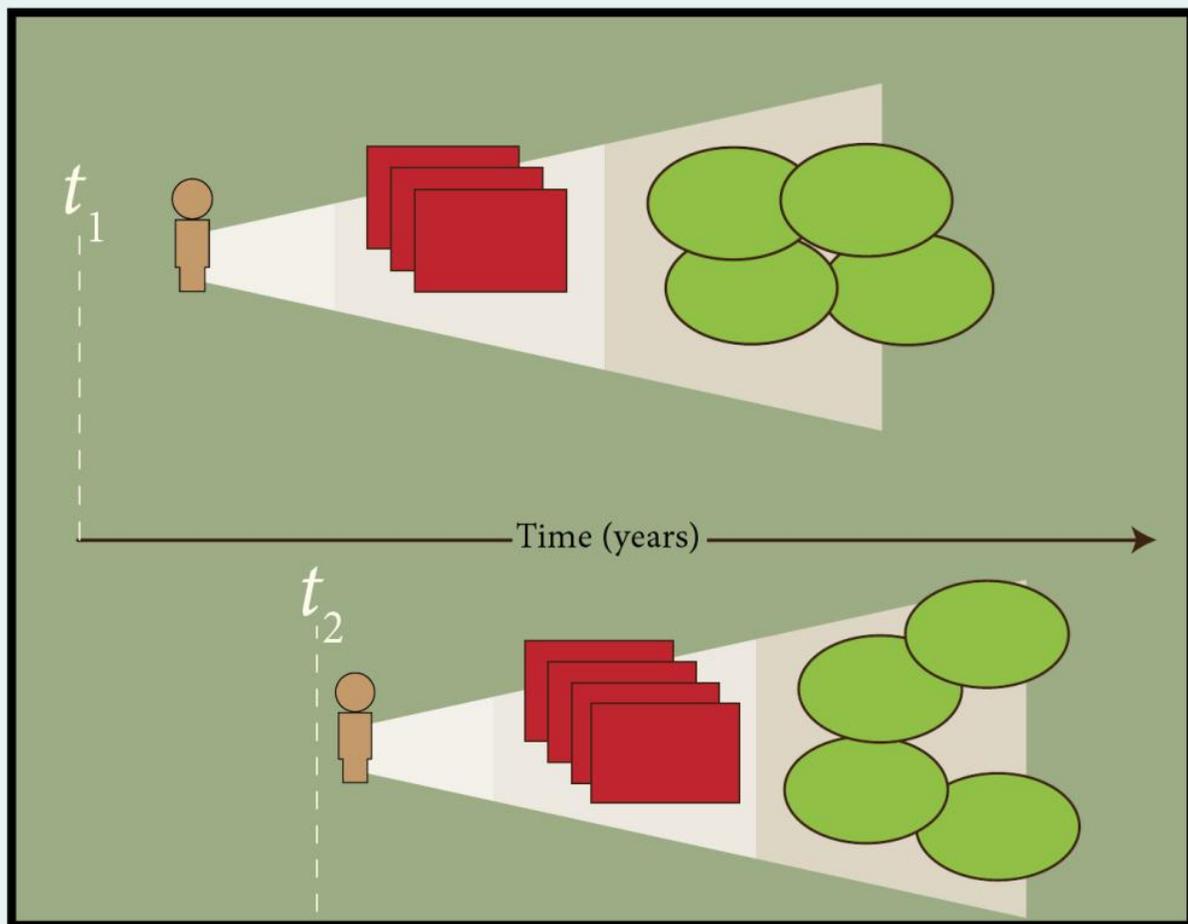


Figure 2

Two frames in the evolution of the "big picture" of Figure 1 frozen in time at t_1 and t_2 , with different numbers of distant, inter-generational futures (green ovals) and alternative technological paths (red rectangles), all with their contents changing over time.

