Systems Thinking: 
Dealing with Time Scales

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The UK Systems Society spans many disciplines that combine to create our intellectual milieu. The areas of interest expressed by members range from academic studies into the philosophies underlying the methodologies employed within systems thinking through to the minutiae of implementing participative techniques of inquiry with “real people in real situations”: It is theory through to practice in a seamless weave.

This richness of perspectives requires an ability to zoom in and out; to look closely at fine granular details, the brush strokes, and then step back to see the ‘big picture’. The overlapping and nested scales with which we look at the world suggest plural approaches. We need to select tools appropriate to the scale of the focus and, most importantly, appropriate to work across the boundaries of scale.

One of the values of reflection on system practice is an appreciation that systems change, indeed the reason we practice systems thinking is to affect change, directly or indirectly, in ways we hope are beneficial (the ethics of who benefits at what expense is a separate question and not addressed here). When we realise that at different times a system is different we create a time boundary and therefore a time scale. But the time scale in any systems thinking practice maybe seconds (the impact of a TV advertisement) or it may be generations (strategies to reduce carbon dioxide emissions). We have nested scales of time that demand equal skills of zooming in and out to appreciate how a system changes from its past to its future.

Working well with time scale is vital when looking at complex global issues (CGIs). The really big picture issues like climate change, food security, resource depletion, and so on, manifest at physical scales from the individual through nations to the whole world and at temporal scales they range from daily actions to centuries in terms of the degradations of ecosystems.

One of the most important framings for CGIs, which demonstrates the need for systemic, cross scalar thinking, is the population trajectories for the rest of this century. The mid-range forecast from the UN shows global population peaking around 2050 and then declining but within that some countries exhibit much earlier
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