

Identifying perception of leverage: Where do managers point to for fixing issues, and for explaining what/where to change.

12 PLACES OF INTERVENTION IN A SYSTEM:

(In increasing order of effectiveness).

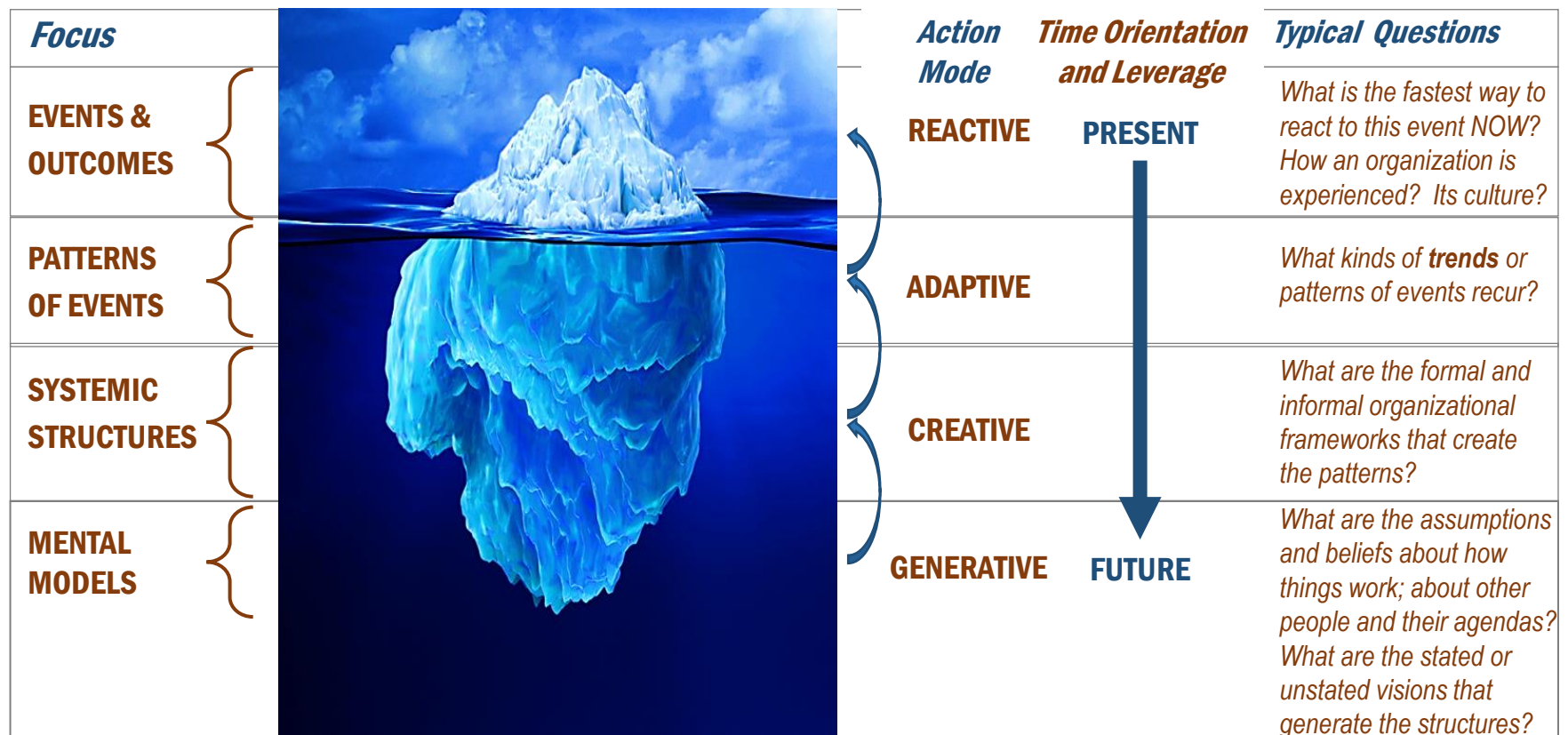
- | | T | M | F |
|--|--------------------------|--------------------------|--------------------------|
| 1. Constants, numbers, parameters (e.g., discounts, interest rates, rewards, subsidies, standards, taxes, etc.). | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Sizes of buffers and other stabilizing stocks (relative to their flows). | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Structure of material stocks and flows (e.g., customer segments, employee morale, inventory levels, population groups, transport networks, etc.). | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Delays – how long it takes for things to change relative to system change rate. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Strength of negative feedback loops – relative to the impacts they are trying to correct against. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. The gain(s) around driving positive feedback loops. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Structure of information flow – who does and does not have access to information flow, and who can and cannot act on that information. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. The rules of the system (e.g., constraints, incentives, punishments, etc.). | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. The power to add, change, evolve, or self-organize system structure. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. The goals of the system. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. The mindset (i.e., paradigm) out of which the system arises (including its goals, rules, delays, structure, parameters, etc.). | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. The power to transcend paradigms. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Adapted and modified from Donella Meadows, The Sustainability Institute, 1999.

Clarifying focus for systemic leverage: A metaphorical depiction of where deeper, futuristic focus secures highest rewards.

4 LEVELS OF INFLUENCE TO CHANGE A SYSTEM:

(In increasing order of effectiveness as we go deeper).

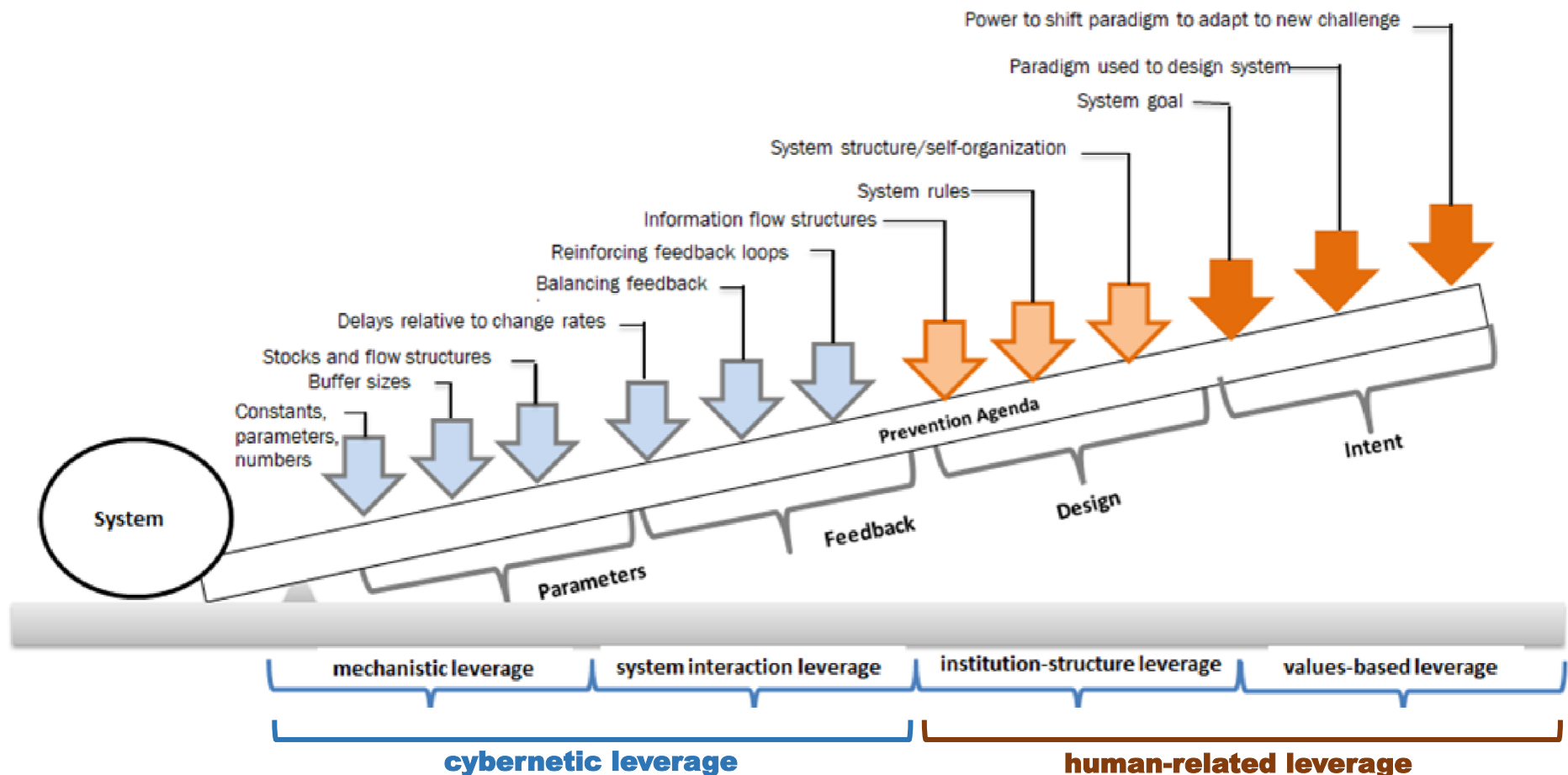


Adapted and modified from various parts of *The Fifth Discipline Fieldbook*, by Peter Senge, Currency, 1994.

Systemic leverage has 3 places: system interaction, institution-structure, and values-based – ranging feedback, design, intent.

TYPICAL & DYNAMIC INTERVENTIONS:

(Moving onward and upward for greater impact).



Adapted from Donella Meadows and modified from Jacobus Van't Hoff, *Thinking in Systems*. 2014. <https://csl4d.wordpress.com/2014/03/19/thinking-in-systems>.