Streams and crossings in the development of systems thinking

Many traditions. Shared questions. Real-world impact.

A historical and contemporary perspective for a more just and sustainable future

Ideas People Practice Impact

SystPrac 26
SYSTEMS PRACTICE FOR A BETTER TOMORROW
PEOPLE • PLACES • POSSIBILITIES
21–22 September 2026
Cranfield University, UK

Systems in action for a better tomorrow

Precedents (≤ 1900)	Foundations (1900–1950)	Methods and modelling (1950–1980)	Critical and human dimensions (1980–2000)	Complexity and integration (2000–2010)	Digital transformation and societal challenges (2010–2020)	Emerging futures (2020–)
Early ideas of wholes, organisation and interdependence	*General systems theory, cybernetics and organisational thinking*	*Operationalising systems thinking*	*Broadening the agenda: people, organisations, ethics and power*	*Nonlinearity, adaptation and emergence*	*Socio-technical, data-driven and global systems*	*Toward regenerative, intelligent and just systems*

INTELLECTUAL STREAMS

- **Philosophical and scientific foundations**: Aristotle; Plato; Bacon; Kant; Hegel; Whitehead; Capra
- **General systems theory**: Bogdanov (1920s); von Bertalanffy (1968); Maturana & Varela (1980s)
- **Cybernetics and control**: Wiener (1948); Ashby (1956); Beer (1972, 1979); von Foerster (1981)
- **Systems dynamics and modelling**: Forrester (1961); Meadows et al. (1972); Sterman (2000)
- **Soft systems and interpretive approaches**: Churchman (1968); Checkland (1981); Scholes (1990); Senge (1990)
- **Critical systems thinking and emancipation**: Ulrich (1983); Midgley (2000); Jackson (2003, 2019, 2024)
- **Complexity science**: Prigogine (1977); Holland (1995); Stacey (1996)
- **Socio-technical systems**: Trist & Bamforth (1951); Emery (1960s); Burns & Stalker (1961); Van de Ven (1992)
- **Sustainability and global systems**: Club of Rome (1972); Elkington (1997); Rockström et al. (2009)
- **Digital systems, AI and data-driven approaches**: Big data era (2000s); AI and machine learning (2010s); Digital twins (2010s–2020s)

TOWARD MORE INTEGRATIVE AND RESPONSIBLE PRACTICE

- Thriving people and planet
- Inclusive governance and just transitions
- Responsible and human-centred AI
- Resilient socio-technical ecosystems
- Regenerative and sustainable futures
- Systems literacy and reflective practice

CROSS-CUTTING DRIVERS

- Inadequacy of reductionism
- Need for integration across disciplines
- Managing complexity and dynamic behaviour
- Recognition of human values and power
- Embrace of emergence and uncertainty
- Digitalisation, AI and global interdependence
- Toward transformative action

From fragmented perspectives to more integrated, reflexive and purposeful systems thinking

People Systems Change Together

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Practitioners | Researchers | Policy makers | Change makers
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